Chance of line rupture is on rise

Only luck foiled gas blast here

This is the third installment of a series on pipelines under Nueces County, continuing in the Times through Friday.

Tomorrow: Pipelines under you can restrict what you do with your land on the surface, as some people in western Corpus Christi are finding out the hard way — in the courts.

By HAL BROWN
Staff Writer

One spark might have turned a pipeline fracture in northwest Corpus Christi last October into fiery disaster. No one struck that spark.

The cause of the pipeline break, the Railroad Commission staff decided, was improper surveillance of the line while a backhoe dug a trench for a new line. But it may have happened as much because there is no central mapping here of pipelines; because no one knows where all the older lines are buried; because pipelines so thickly crisscross some areas, and because even what charts there are of pipeline locations here may be imprecise.

Industry people here say the potential for such breaks may increase, because there are going to be still more pipelines here as the petrochemical industry expands and because houses are being built in formerly rural areas honeycombed with lines.

□

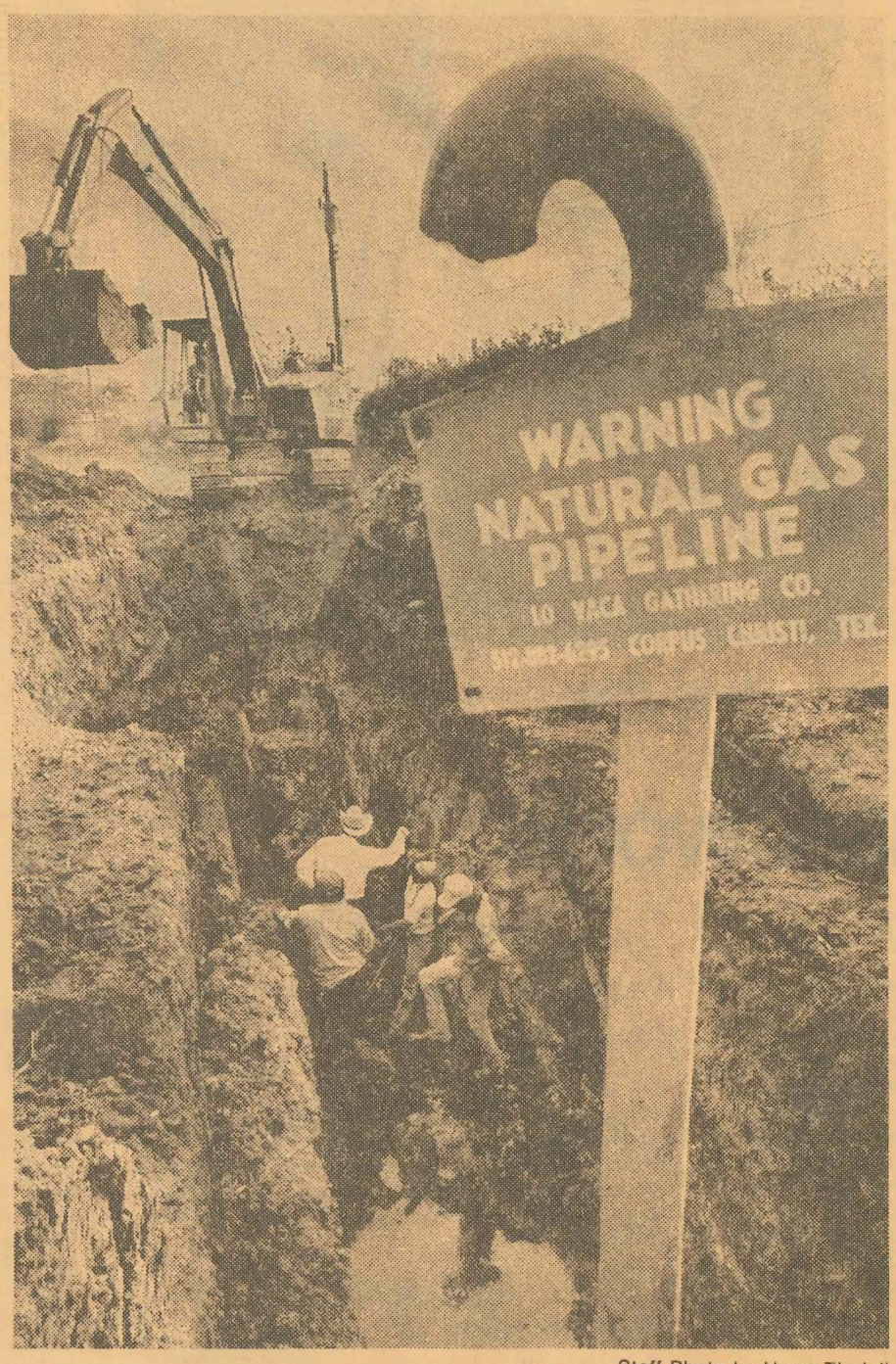
Things were going well Oct. 22 for the Refinery Maintenance Co. crew digging a ditch for a new nitrogen line into the Coastal States Gas Corp. plant on Up River Road.

The backhoe scooped steadily into the earth of a pipeline easement next door to Buena Vista Trailer Park. It was routine. Even pipeline company officials who might be expected at such excavations hadn't been around that day.

As the digging got near high-pressure gas pipelines in the area, workers with shovels probed for them.

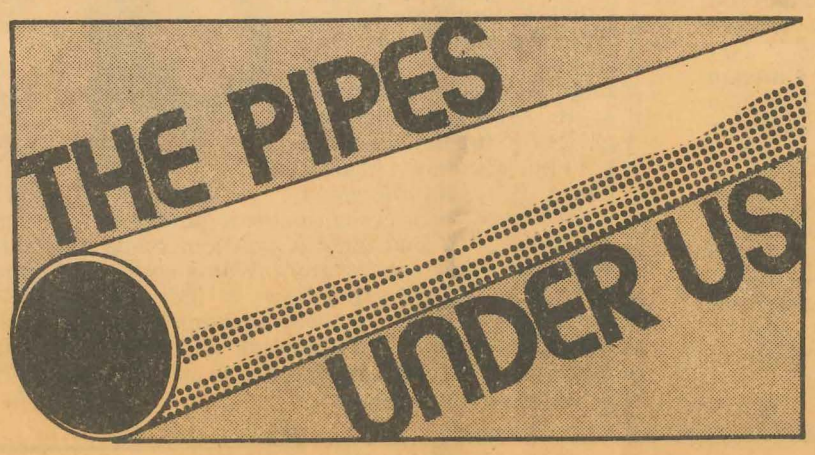
Despite the care the crew took, the backhoe hit a 16-inch natural gas feeder line owned by Lo-Vaca Gathering Co., rupturing it. Workers scrambled from the 20-foot pit, afraid an errant spark might touch off an inferno. The line carried a pressure of 650 pounds per square inch, higher than that in a 30-inch line, which just a year earlier ex-

See Rupture, Page 6A



Staff Photo by Norm Tindell

Crews checked ruptured line on Up River Road in October



More tests may catch problems

By KRIS IMHERR
Staff Writer

Pipelines "kill a heck of a lot fewer people than automobiles," Texas pipeline safety regulator Milton L. Fegenbush Jr. says in their defense.

Even the federal government sees that correlation. Federal officials classify pipelines as a "mode of transportation," and as such, they have a better safety record than not only their brother automobiles but also airplanes, boats and trains.

U.S. Department of Transportation statistics for the first half of last year attribute more than 20,000 fatalities nationwide to motor vehicle traffic, hundreds apiece to airplanes, boats and trains — and 30 to pipelines.

Despite that proportionately low figure, pipelines aren't perfect, a fact attested not only by fatalities but also by more than the 1,100 accidents that occurred on pipelines nationwide in the first six months of 1979.

Oil and gas lines still rupture, sometimes fierily. A metallurgist who studied those explosions says we need more frequent inspections of pipelines. But the staff of the Texas agency that enforces federal safety regulations has not yet made a basic inspection of all gas systems in the state. Nor has that agency penalized any of the private pipeline companies for safety deficiencies.

Complete safety evades the country's 1.7-million mile pipeline network for several reasons: Sometimes pipes corrode, or they leak, or their safety equipment fails. Sometimes construction workers run backhoes smack into lines, either because the workers ignore pipeline maps or the maps don't offer diggers enough details on their whereabouts. A backhoe dug into a pipeline here late last year on Up River Road.

The metallurgist at Texas A&M University who has studied pipeline failures, Dr. Walter Bradley, contends we could overcome all these shortcomings to build and maintain an accident-proof pipeline. But we don't because the high price of perfection would knock most little oil and gas consumers out of the market, Bradley theorizes.

See Inspections, Page 6A

area is streaked with other, similar pipeline easements. Clusters of warning signs beside the road mark the jumble of pipes that serve the refinery complex there.

Mistrot said Robert Parker, president of Refinery Maintenance Co., said nine pipeline operators in the area were telephoned before work on the ditch was begun. Lo-Vaca was called specifically, Mistrot said, because there is a requirement for a 2-foot clearance on each side of the 16-inch line that was cut.

Lo-Vaca officials deny receiving a telephone call concerning the excavation.

In the background is Buena Vista Trailer Park, which was evacuated as a precaution.

Staff Photo by George Gongora

decades, Parker said, and "a whole lot of housing has come up that wasn't there 20 years ago." Much more housing is planned for that once-wide-open area.

"People," Parker said, "didn't lay lines with a great deal of care then."

Parker says that if a strict system of accounting for lines' positions were instituted now, "20 years from now people would have a pretty good idea where the lines are."

"To start up a new system," though, he said, "you would have to gather all existing maps, and there's not a guarantee that they are accurate."

. . . Inspections may prevent failures

from 1a

Despite that theory, Bradley recommends we try for a better pipeline safety record through more frequent tests and inspections, particularly where lines underground 20 years or longer traverse densely populated areas.

Bradley bases his call for more inspections on his study of an Oct. 24, 1978, pipeline explosion at Pearland near Houston that killed six persons and injured 47 others. Bradley attributes that explosion to "fortuitous bad luck," a double whammy on a 26-year-old natural gas pipeline: Corrosion ate through protective coating on the 30-inch-diameter steel pipe at the same place that a manufacturing defect made that steel very brittle.

Operators and regulators ultimately will have to 'determine a sensible scheme that balances off economics against the risks' of explosions.

— Walter Bradley

Although Bradley concedes the line was in good condition except for its critical blemish, he declines to dismiss the Houston explosion as a fluke. He estimates 30 to 40 pipelines in the past decade have blown up under similar circumstances.

One test method Bradley suggests calls for water to be run through emptied pipe at normal and higher-than-normal operating pressures. Regulations now require this hydrostatic testing only in advance of a permanent increase in operating pressure, Bradley says.

"To do this (testing) at very short intervals is quite costly," Bradley concedes. But, he said, operators and regulators ultimately will have to "determine a sensible scheme that balances off economics against the risks" of explosions.

Economics aside, state and federal regulators lament they don't have the manpower to increase pipeline reviews.

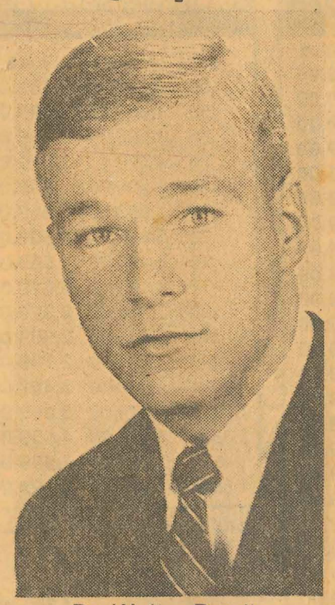
Inspectors for the Gas Utilities Division of the Texas Railroad Commission started visiting intrastate gas pipeline facilities in 1976, shortly after the commission began to monitor pipeline safety closely. (Lines carrying gas are watched more closely than those carrying oil and other liquids because the damage potential is higher.) But the inspectors have yet to make an initial visit to all 1,500 gas systems run by an estimated 500 operators in the state.

Fegenbush, who supervises the commission inspectors, recently said nine inspectors for the whole state, plus seven office staffers (including him), "hardly scratch the surface" of their safety job. That job is to make sure Texas operators comply with a national pipeline safety act.

The Utilities Division's assistant director for safety and engineering, Fegenbush said he once calculated the safety staff could provide fairly thorough compliance coverage with about twice its present employees. But what good could or would more inspectors do?

Fegenbush and other regulators consistently peg small, municipally owned gas systems as those most likely to have deficiencies — that is, violations punishable by fines of up to $1,000 per day or by stiffer penalties.

Only two weeks ago, the commission ordered the East Texas town of Hemphill to shut portions of its gas system because high concentrations of gas were found in, under and around several buildings in the town's business district, Fegenbush said. He said the commission is in litigation with Hemphill officials.



Dr. Walter Bradley

. . . Texas A&M metallurgist

Tenaha, another small East Texas community.

Despite those regulatory steps, larger, private pipeline concerns have gone virtually unpunished, even though commission inspectors have discovered faults in their systems, too.

Asked why there have been no penalties, Fegenbush said it so far has been sufficient to call offenders to task in numerous conference calls and show-cause hearings. He lavishly compliments the cooperation and safety record of the companies he oversees.

Federal regulators who monitor interstate pipelines have taken a slightly tougher, but hardly purging, stance. In 1977, the last year for which complete investigation data were available, Federal Office of Pipeline Safety Operations reported 36 persons killed and 450 injured in nearly 2,000 pipeline accidents across the nation. That same year, DOT assessed $16,000 in fines against seven operators nationwide.

Despite such statistics, Fegenbush defends all the regulatory snow-shoveling in avalanches. "Reportedly, we have been an asset in that sometimes we force management to do things they have been sidetracking," he said.

Another regulator, David J. Mistrot, maintained, though, that pipeline operators no longer can afford to "sidetrack" safety. The same rising oil and gas prices that Bradley saw as keeping consumers from demanding more hazard-free pipelines Mistrot sees as pushing operators to provide safer carriers.

When gas was less than 10 cents per thousand cubic feet, nobody bothered to fix a leaking line, Mistrot, the Railroad Commission's district engineer in Corpus Christi, said. Now that gas prices have risen above $2 per thousand cubic feet, "there's a good economic incentive that's helped the safety of the public tremendously," he said.

Mistrot troubleshoots for the Railroad Commission from a Corpus Christi office that he opened late last year. He in effect is the only pipeline safety enforcement officer here, because Corpus Christi's city oil and gas ordinances deal with drilling and wells rather than pipelines.

The city's Petroleum Inspection Division tries to chart routes of local pipelines on a giant map. In doing that, City Petroleum Superintendent James Conn is one of a sparse few anywhere who attempts to keep a comprehensive chart of pipelines and most pipeline charts, though, because they show only the approximate above-ground paths of the lines. He makes the same complaint about markers pipeline operators are required by law to post along such strategic route points as road crossings.

The imprecision of markers and maps in pinpointing the subterranean whereabouts of pipelines makes them less than 100 percent reliable. Excavators need that 100 percent though, a Transportation Department summary on pipeline safety in 1977 indicated.

That summary stated that damage by outside forces, "particularly from excavation work and other underground construction," caused by far the largest share — 58.5 percent — of pipeline failures throughout the country in 1977.

'Reportedly, we have been an asset in that sometimes we force management to do things they have been sidetracking.'

— Milton L. Fegenbush, safety regulator

That year, the Transportation Department's Office of Pipeline Safety received reports on 1,996 line failures — recorded only because, in each instance, someone was injured or killed or a damage threshold of $1,000 was crossed.

The most recent line failure in Corpus Christi attributable to construction workers came on Oct. 22 of last year. A backhoe being used to lay a nitrogen pipeline to the Coastal Corp. (formerly Coastal States Gas. Corp.) plant in the 5200 block of Up River Road struck a 16-inch natural gas line belonging to Va[illegible]

nearby mobile home park were evacuated.

Congress registered its concern over construction accidents when it revised the national pipeline safety act last November. The act now instructs Transportation Secretary Neil Goldschmidt to create the backbone of a program that can be adapted nationwide. Under it, pipeline operators would be required to notify authorities of construction, even if only proposed, near their lines.

Houston utility companies whose pipes, conduits and cables long were victimized by excavators beat that congressional mandate by more than a decade. The companies established a telephone-call system construction companies can use to warn affected utilities they plan to go underground.

Does the need for early-warning programs suggest we may have reached pipeline saturation? Railroad Commission engineer Mistrot said the Corpus Christi area really doesn't have a heavy concentration of lines except near the port, where more industries sprouted than anyone anticipated when the ship channel was completed in the 1920s.

At the port, "it's the old industrial growth problem. How many lines can you put through safely?" Mistrot said. ". . . The question is where do you stop."

The question also could be: Where can pipelines begin? As Fegenbush sees the situation, "it probably would be better if we could keep them (pipelines) confined in one small area. That way we could keep track of them and keep them under control — instead of this spiderwork."

But Fegenbush said he knows of little or no pipeline planning, even though "counties all along th[illegible]

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...ed in a Houston suburb to ... six persons and injure 47.

...n investigation later would ...ow that where the backhoe op... ...ator on Up River Road nicked ...e line there was a rise in ele... ...ation not shown on the charts ...he crew was using.

No one was hurt on Up River Road. But the rupture was treated as a serious situation.

Police shut off Up River Road several blocks in each direction from the break. Residents of 10 mobile homes in the trailer park were evacuated. Students at nearby Savage Elementary School were kept in class a few extra minutes until their principal could determine who lived near the line and what dangers they might face on their way home.

Fire department officials shifted four additional units to the station at 501 Navigation — just in case.

Crews shut down 3,000 feet of the line and then spent several hours bleeding pressure off so they could work on it. No sparks were struck, and the gas never ignited.

The next day, with the smell of natural gas still heavy in the air, the line was cut and a 6-foot section of pipe welded into place to repair the damage. □

The Up River Road rupture was the most common type of pipeline accident, said David J. Mistrot, district engineer here for the Texas Railroad Commission's gas utilities division. But, he said, "it borders on irresponsibility" that the line was cut.

Mistrot wrote his superiors with the Railroad Commission asking that Lo-Vaca (since restructured as Valero Energy Corp.) be cited for what is called in commission jargon an "alleged violation" — improper surveillance of the line while the work was in progress. After an exchange of letters between commission authorities in Austin and Lo-Vaca, the firm promised to instigate new procedures for dealing with such excavations.

The excavation crew on Up River Road was working in an area honeycombed with pipelines. The nitrogen line they were installing was going into an easement with several other pipelines. The Up River Road area is streaked with other, similar pipeline easements. Clusters of warning signs beside the road mark the jumble of pipes that serve the refinery complex there.

Mistrot said Robert Parker, president of Refinery Maintenance Co., said nine pipeline operators in the area were telephoned before work on the ditch was begun. Lo-Vaca was called specifically, Mistrot said, because there is a requirement for a 2-foot clearance on each side of the 16-inch line that was cut.

Lo-Vaca officials deny receiving a telephone call concerning the excavation.

"you can't mark a line every two feet."

It's hard to keep from nicking pipelines in some areas in Corpus Christi. As Mistrot says,

No one knows with absolute certainty where all the pipelines in the Corpus Christi area are buried. That includes the Railroad Commission, the state agency charged with regulating

'You have to depend on the companies. There is no composite map I know of that shows the positions of these lines.'

— Robert Parker, maintenance company president

the pipeline industry, and the companies that excavate in the area.

Parker said standard practice when digging in a congested pipeline easement like the one on Up River Road is to contact all the companies with line markers in the area. The firm, he said, usually will send out someone with engineering data about how the lines were laid.

"You have to depend on the companies," Parker said. "There is no composite map I know of that shows the positions of these lines. Sometimes you can find someone who's opened the easement up previously and made drawings of the excavation."

Coastal States Gas Corp. had a map of the easement on Up River Road that they loaned to Refinery Maintenance, Parker said. But maps alone aren't the answer, he said. Companies may go into easements and make changes in the lines that don't show up on maps.

Some of the maps of the Corpus Christi area are old, Parker said, drawn in the 1940s and 1950s. It's possible other lines have been buried in an easement since the initial drawings were made, he said, and that may not show up on any maps.

"Any time you're digging you have to be real careful," he said. "Dig a little, probe a little, dig a little, probe a little."

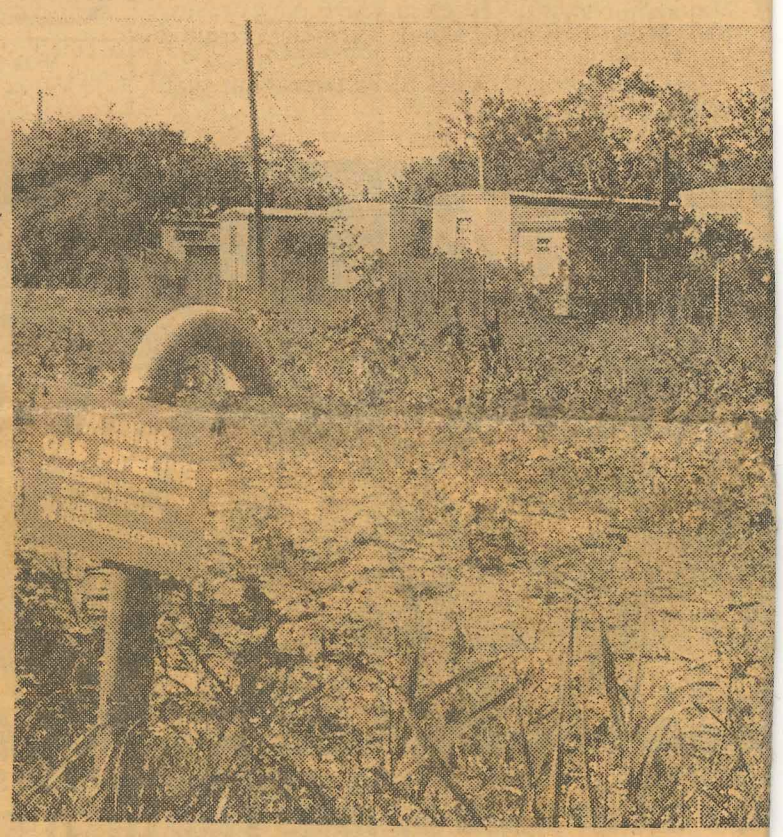
Crews have to be especially careful in urbanized areas — "especially on Up River Road there is a maze of pipelines," Parker said. "A lot of those lines are not on any map." That mass of pipelines, he said, slows excavation, because digging crews must treat all lines as if they were live. "We don't know if there's anything in them or not," he said.

Near lines, the shovels come out.

"We do a lot of hand work in a lot of areas," Parker said, "especially on high-pressure lines. That's a dangerous deal."

The City of Corpus Christi petroleum department probably has the best pipeline map in the area. City Petroleum Superintendent Jim Conn has spent hours walking the lines, spotting pipeline markers for the various lines. His is apparently the only such map here.

But even Conn's painfully assembled map marks only the general surface positions of the lines.



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The Railroad Commission has required a permit for each pipeline laid in the state since 1917. But those permits are often not sufficient to locate a line.

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Pipeline permits are on file only in Railroad Commission headquarters in Austin and show only the location, type and design of pipelines built since 1972. Pre-1972 records have been destroyed.

Alice Miller, permit official

1972. Alice Miller, the Railroad Commission employee charged with keeping the pipeline permits, said pre-1972 records have been destroyed. A great deal of pipelines was constructed before 1972.

At the Up River Road site, a Railroad Commission special investigation indicated one factor contributing to the line's being cut appeared to be an uncharted rise in elevation of the line near the road crossing.

Lo-Vaca was chided by the commission for not having enough surveillance on the scene on Up River Road. Milton Fegenbush, assistant director of the commission's Gas Utilities Division in charge of safety and engineering, requested the company submit a plan for correcting the violation.

Lo-Vaca did, promising to "re-emphasize . . . the need for close surveillance when construction or excavation is being done near our facilities." Lo Vaca said it "anticipates that procedures will be established" for "meeting with contractors before beginning construction," "probing or staking lines where necessary" and "having the district superintendent determine the necessity of having Lo-Vaca personnel present during construction and excavation activities of third parties."

Lo-Vaca spokesman Mike Long said yesterday a manual detailing operating and maintenance procedures has been completed and is on file at the Railroad Commission. Road crossing signs have been updated and installed in the area on Up River Road. The signs give the firm's name and urge people to call collect to report irregularities with the pipeline operation or if excavations are being made near the line. The signs are standard industry practice, Long said.

The Lo-Vaca agreement reached with the Railroad Commission applies to the restructured Valero Energy Corp. that replaced Lo-Vaca. Mistrot says the firm "has a pretty good operating and maintenance plan," in the wake of the accident.

"I think we let them know they'll be expected to closely surveil these things and not let these things go unwatched," he said.

Mistrot thinks most accidents like the Up River Road incident could be avoided. There are metal detector-type devices, he said, that could find the lines. He also thinks Corpus Christi could use a central number for a contractor to call before making an excavation like the one that cut the Lo-Vaca line.

"The City of Houston has one of these," Mistrot said. "So do some of the other major cities, but the city has to support it. Sometimes it takes a catastrophe to instigate something like that."

"I've been told it's been rec-

'The city has to support it (a central number). Sometimes it takes a catastrophe to instigate something like that.'

— David J. Mistrot, district engineer

ommended to the City Council in the past," he said, "But no action has been taken on it."

"It's not a cheap thing to do. It takes money, and it takes some work" because the location of many pipelines isn't recorded.

City gas system Superintendent B.P. "Tiny" Ledbetter said he has encouraged city management to install a system like that in Houston, but nothing has come of it. Ledbetter said costs were estimated at $100,000 to $330,000 to install a one-call system.

Ledbetter said he doubts that in the wake of tax-cutting fever, emphasized by the recent passage of the tax-cutting Proposition 14 amendment to the Corpus Christi City Charter, that the money could be appropriated for the system. Even if the money were available, he said, the one-call system would not be high on a priority list.

The system also might have accuracy problems.

Refinery Maintenance's Parker, while agreeing that it would be good to have one location of information, thinks putting the system into operation would be difficult.

"If it had been started 30 years ago, it might be all right," he said. But "old lines were buried when this was wide-open country," he said. "Lines were installed according pretty much to standard industry practice, which called for about three or four feet of cover."

New refineries have moved into the region in the past two decades, Parker said, and "a whole lot of housing has come up that wasn't there 20 years ago." Much more housing is planned for that once-wide-open area.

"People," Parker said, "didn't lay lines with a great deal of care then."

Parker says that if a strict system of accounting for lines' positions were instituted now, "20 years from now people would have a pretty good idea where the lines are."

"To start up a new system," though, he said, "you would have to gather all existing maps, and there's not a guarantee that

Course marked

Valero signs today the mark the course of an Up River Road pipeline that ruptured last October. In the background is Buena Vista Trailer Park, which was evacuated as a precaution.

Staff Photo by George Gongora

LEARNING TO SWIM AT CLUB MIMI'S

Submitted by Patrick & Judy Owens, N15

There are numerous opportunities for grandchildren to assert their independence and face new challenges and we have been fortunate to witness many of them. Most memorable is the summer when our swimming pool was built. Great anticipation during construction quickly turned to great trepidation as the day came for everyone to take the plunge. The girls, Emily, five, Erica, three and Elise, two, had never been in water deeper than a backyard wading pool and this must have seemed like they were venturing into the ocean.

Equipped with arm floaties, inflatable cars and various sorts of sea creatures, they finally succumbed to their sense of curiosity and gently became one with the water. Each girl became excited to race several laps in their cars using "Papa power" to propel them.

As summer passed, the girls' courage and confidence grew and before long, Erica shunned her arm floaties as she took a breath, submerged, then resurfaced, spewing water between her teeth like a human fountain. Not to be outdone, Emily decided she was ready to swim under water from one side to the other and each wanted turns being thrust into the air above Papa's head, splash landing several feet away.

From left to right: Erica, Elise and Emily pause to enjoy suckers at Club Mimi's.

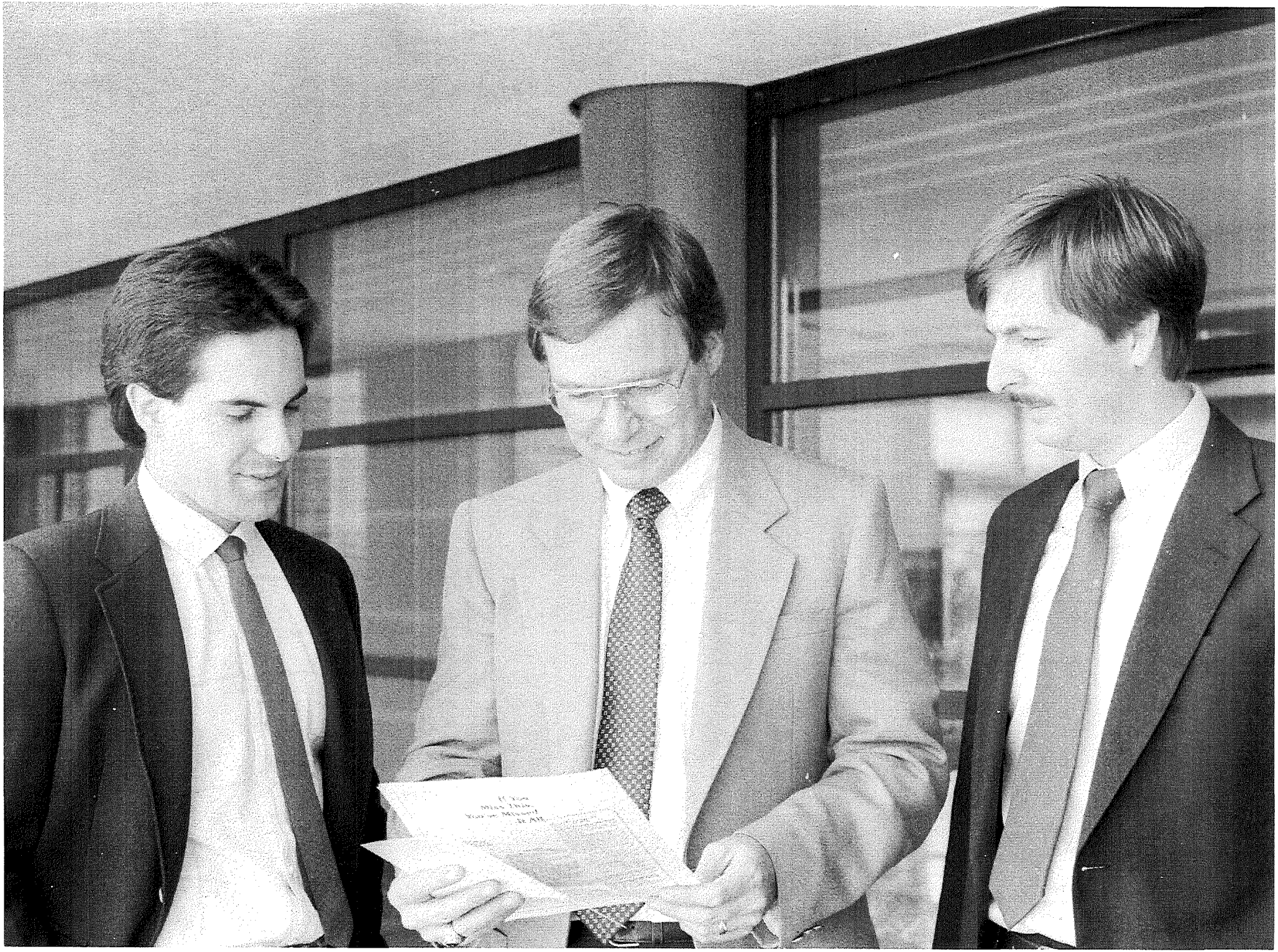
The girls started referring to our home as "Club Mimi" since swim time included meals served poolside or favorite treats consumed in the water. By summer's end, all three girls became accomplished swimmers and jumping into the pool was their new favorite pastime.

A TRUE CELEBRATION

Submitted by Walter Bradley, N50

n April of 2013, I was preparing to ave a stem cell transplant for my leuemia, with only a 30 percent chance of urvival. My wife, Ann, and I decided o take four grandchildren on an Alasan cruise, thinking that the summer 2013 might be my last opportunity. appily, the preparatory blood tests for y stem-cell transplant revealed that y chemotherapy in 2011 had worked a very unexpected (and miraculous) y, eliminating the most dangerous of white cell mutations. Consequently, id not need to rush to have a stem-cell nsplant after all. I called each grandld, indicating that I had good news bad news. The good news was that I ld likely be around much longer than ought—the bad news was that there no rush to take them on a cruise. r replies were both happy and sad... l I indicated that I was just kid- ! The cruise would be "celebratory" er than "Sayonara." We ziplined, whale watched, glacier walked, and had many wonderful meals together filled with great conversations. The highlight of the trip was my winning the "Dancing with the Stars" competition before 900 passengers, with the assistance of my wildly cheering grandchildren. It was truly the trip of a lifetime for all of us!

Pictured: Ann Bradley, grandchildren Hudson, Caroline, Elizabeth, and Daniel. Walter Bradley holds the star, and the professional dancer from the cruise who chose him to be her dancing partner is on the far right.



Evaluations from SF Bay Area/Palo Alto "A Common Call"

What they appreciated most about their overall ACC conference experience:

Getting to meet Christian profs and hear their experiences in academia. I am encouraged to see how missional professors can be.

It was incredibly encouraging to hear stories from the field from professors who've lived missionally for decades. As someone in her twenties, I just absorbed all of the ideas, counsel and affirmations of those who are much more experienced. That wisdom is precious. I'm excited to be a faithful presence on campus long term.

Hearing from Walter about the many ways he and Ann sought to be salt and light on the campuses was so encouraging.....Getting the Book! Key resource; Nice to be given such an important source of information that directly relates to the matters discussed.

I loved the chance to meet people at the Lee's (reception). It was so valuable. Dr. Bradley's experiences and anecdotes were invaluable.

Having the opportunity to make space to think about these issues.

Walter's sharing (practical and inspiring); candid, genuine fellowship and sharing among participants (including speakers).

Great time to be inspired to keep running the race and good ideas. Nice to connect with others-networking.

Having senior faculty and future faculty (grad students) seems like a good thing. Panel discussions and opportunity for questions; opportunity to meet other faculty Just the opportunity to meet with fellow believers "who happen to be academics" Content of talks/experience & wisdom shared by Bradleys/Q & A/Food!

It reminded me of how much work I need to do how little I share, how little I know my community or neighbors.

Panels were great; lots of good ideas from the Bradleys

Well organized, excellent speakers, relevant messages

It triggers me to do something in the University since I have not done so far.

Opportunity to openly discuss challenges and best practices for Christian faculty members.

I could think about Christian professor life deeply, more specifically a balance of life and work; I also got an insight about (the) "publish or perish" issue

The clarity I gained in the need tofocus on spending time in my relationship with God; The fellowship with other believer-academics; practical advice; many inspiring stories and experiences

Inspiration from Walter and John; Experiences of colleagues from several universities

Meeting other Christian faculty from across NorCal; Learning some concrete ideas and best practices from others, in particular Walter Bradley

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That I am not alone, there are many faithful Christian faculty (sketch of smiley face w/halo over it)

Hearing from those further along in this journey; especially about how we set our priorities as Christian faculty, and the encouragement to share our identities and interact more deeply with students.

Great to have the opportunity to meet other Christian faculty, hear so many thoughtful reflections about our unique calling; This event has been a huge blessing and inspiration.

Providing a Christian perspective specific to the academic environment-especially highlighting the latitude and opportunities professors have. Personal examples and stories were great. I wasn't surewhat to expect and enjoyed the gathering.

So much thoughtful information was shared. My heart and spirit and mind are full; Thank you to the Bradleys and all the speakers; Good amount of time for sharing and networking with all.

Reminder of our Christian identity in the academic setting and the need to self-identify as a Christian to students and colleagues; personal sharing of how they bear the witness for Christ.

I really appreciate being able to meet with many Christian faculty who are committed to being witnesses. I have been inspired by the real examples from the Bradleys as well as all of those who shared; It gave me lots of practical ideas about how to minister, as well as the heart for being a light in darkness.

What suggestions would you offer to improve future conferences?

Read-ahead material would provide for deeper discussions on specific topics; questions should be collected for use in other groups.

Great format, but maybe have breakout groups or tgable discussion with very specificQuestions; also, let's leave with at least one specific commitment to use our campuses as an opportunity to spread the word of Christ.

A list of the conference attendees thqt we can use to contact one another (will be provided)

I appreciated Ann, but found most of her info was already discussed by Walter, or irrelevant to a female academic or single person (no spouse).

More attention to different challenges for female faculty (assumption was often that that faculty isA man with a stay at home wife; More time to meet and fellowship with others, maybe at lunch break.

Maybe more opportunity to interact with others in table discuission; May have been interesting to do a quick round of introductions among the attendees; Maybe some group discussions based on our fields or roles.

So much good information –was very well presented; With 3 major universities in the area there should be more campuses present (note: there were reps from 9 campuses in total) to get this information.Let the attendees change their tables between talks to meet more people and have new conversations; Maybe distribute the list of attendees with contact info for future contact/fellowship.

Maybe it would also be nice to gather by the academic disciplines and talk about how we see faith integrate with our fields; I would not have been able to hear about the conference if not for my roommate who goes to PBC (Peninsula Bible Church); You can publicize this event more throughgraduate campus fellowships and local churches more! (note: I did inform the IVCF grad fellowship at Stanford plus both PBC and Menlo Church, two major local churches).

It would really be neat to have more intentional introduction and networking time for everyone in attendance for the sake of fellowship and equipping one another after the conference.

One topic that could be discussed further is balancing the demands of family (esp. young families with kids) where both parents are working; another is balancing the career callings of two people as a couple with both working and what it looks like to decide about location, work load, etc.Slightly shorter day-;afternoon could have been compressed to end earlier.

More small group time?

Rotate who we are sitting at table with so we cn meet and share with broader range of people; List of everyone and their email address (will be done).

Perhaps more sharing time among attendees.

Distribute book before conference so that all can pre-read it.

Maybe more pre-conference preparation; Give us questions of topics to be thinking/praying about.

Propose a more varied lunch menu with at least one salad course and no dressing

More focused field-specific discussions (engineering, medicine, etc.) to facilitate follow-up and practical applications; afternoon sessions were not as engaging and could be shortened or more focused

More discussion about how faith affects areas other than teaching.

Consider reducing the number of stories; Break groups into subject (discipline) areas?

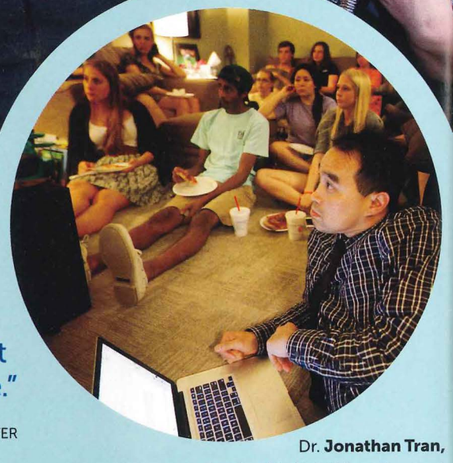
Maybe more deliberate efforts to set up mentoring relationships between senior/junior Faculty/postdocs/graduate students; Tables could be grouped as to shared interests/backgrounds to facilitate potential relationships.

Panel members didn't always speak to the point.Shorter talks, with more speakers; Use the "Unchristian" book.

There were a few things that were repetitive between Walter's two talks and Ann's talk; A little more table discussion time would have been nice.

Table discussions are of marginal value.Solicit questions/suggestions from attendees in advance.I suggest a conference theme: "Christian Graduate Student"* (*actually I'm a graduate student)

Steven Pounders,
Fine Arts LLC (Heritage House, North Village)



Dr. **Jonathan Tran,**
Leadership LLC (Allen-Dawson)

> "So if a Baylor education is really about formation of the whole person, and formation is an inherently communal project, then Baylor has to take responsibility for building and sustaining that intellectual community that forms those whole persons. It's really not enough for Baylor just to give an excellent academic classroom experience."
>
> — **TODD BURAS,** HONORS RESIDENTIAL COLLEGE FACULTY MASTER

social organizers and character-builders at universities until the German model became more widespread during the Industrial Revolution and faculty more often donned the hats of scientists and researchers. With the advent of world wars and developments such as the space race with the Soviet Union, the United States felt the need to keep up with other world powers and prioritize science and research. As a result, professors had less time to work with students outside of the classroom.

"At a lot of schools, the Faculty-in-Residence program is run by the housing department," says Doyle. "At Baylor, Academic Affairs really understands the importance of faculty engaging with students outside the classroom. We have never seen this elsewhere, but our executive vice president and provost, Dr. Elizabeth Davis, interviews every Faculty-in-Residence finalist. Not every faculty member wants to be involved in this opportunity, but those who do apply have been outstanding. For instance, when we had selection pools with three searches this spring, we had very deep, rich interviews with people who really care about students and how the university shapes them, so it has been a smooth process integrating some of Baylor's most student-focused and friendly professors into these opportunities."

Davis, BBA '84, says she wants to know first-hand why the applicants apply and how they see the program being integrated into their own lives. She is amazed at their "selfless and generous spirits."

"It's an incredible experience for our students to be able to watch and learn from these faculty members," Davis says. "If our students can observe our faculty excel in their classroom and in their scholarly pursuits while also living out their Christian commitments in various ways, then those students will have good examples and points of reference as they consider how they want to approach their vocations and personal lives after they graduate."

An intentional effort

Universities are beginning to realize the lack of faculty involvement in students' lives in the system that has been created. In the past dozen years, at least 30 U.S. institutions have begun residential colleges on their campuses.

Faculty living among students "is a trend, but it's a very intentional choice to make," Doyle says. "Some very selective, prestigious universities have made that choice because that's important to them, while maybe some other schools have put a higher priority on the size of their swimming pool or other things focused primarily on student satisfaction instead of student learning or formation. We've invested in enriching the environment for mentoring and character-development through the Faculty-in-Residence program."

Dr. Todd Buras, the Honors Residential College Faculty Master in Memorial and Alexander halls, is among those convinced that faculty have a critical role to play in trying to create a truly transformative education for students. He describes what it is to be formed as a whole person as similar to what happens when someone is part of a family.

"As a faculty, I think the light has been dawning across the country, and it's been dawning here at Baylor, as the university proclaims in *Pro Futuris* and in its traditional description of itself, that education really is about formation of the whole person. Baylor is about that, and the *Pro Futuris* document uses language like 'transformative education.'

"So if a Baylor education is really about formation of the whole person, and formation is an inherently communal project, then Baylor has to take responsibility for building and sustaining that intellectual community that forms those whole persons," he explains. "It's really not enough for Baylor just to give an excellent academic classroom experience. And I think faculty owe it to students to play a leading role in building and sustaining the intellectual communities that form us as whole persons. We have to get in there and take responsibility for it."

Perhaps because of the national trend of emphasis on research over teaching, many universities have had trouble finding faculty who want to engage with students in such a fashion. That's not the case at Baylor.

"Nationally, they say it's just amazing to hear that we have search processes with five applicants for one selection," says Tiffany Lowe, director for Campus Living and Learning. "It takes a university that understands that learning doesn't just happen in the classroom, that it's really the integrated experience of living on a completely residential campus that creates that for students."

A wide range of schools — including MIT, Virginia Tech, Texas A&M, TCU, BYU, Hardin-Simmons, Arkansas, National University of Singapore and Hong Kong University — have visited Baylor over the past few years to learn about Baylor's Living-Learning Programs, which include the Faculty-in-Residence program.

"People know that Baylor has been building new buildings, that we have these Living-Learning Centers, but they may not realize how this is an additional effort to enhance the students experience on campus," explains Garrett. "We are still trying to create a campus experience in which students thrive and want to live on campus, where students recognize that the best of their college experience can rest solely in them living on campus, because of what we provide. They have the rest of their lives to go off campus and have that kind of experience, but they only have this short window of time to share the best student experience that Baylor has to offer."

"The question is not whether or not students will be formed as whole persons by living in our halls," adds Buras. "It's whether or not they'll be formed toward the end Baylor hopes to achieve."

A worthy investment

In the face of rising higher education costs across the nation, another Baylor Faculty-in-Residence asserts that traditional resi-

Faculty-in-Residence at a glance

The heart of the Baylor experience is developed on campus in the union of shared experiences and relationships. The Faculty-in-Residence (FIR) program exists to assist Baylor's Campus Living and Learning department (CL&L) with fostering and shaping the social, cultural and educational life within residential communities. As such, FIRs work collaboratively with residence hall directors and CL&L leadership to nurture a heightened sense of community that fosters academic excellence, promotes faculty-student interaction, and enriches the student living experience.

As new residence halls have been built and others renovated, faculty have moved into campus housing at a rate of about one per year. Although no plans are currently in place to build more housing in the next few years, the trend of adding more faculty to residence halls will continue as all of Baylor's older residence halls are renovated over the next decade. South Russell is first in line for renovation, with North Russell following in the next year; Martin, Penland, Collins, Memorial-Alexander, Allen-Dawson and Kokernot will follow, one per year, in an order yet to be determined. As part of the refurbishing, each hall that does not already have one will add a Faculty-in-Residence apartment.

As of Fall 2013, 11 faculty members live on campus and work with residence hall directors and CL&L to nurture a heightened sense of community that fosters academic excellence, stimulates spiritual formation, promotes faculty-student interaction and enriches the student living experience.

Faculty masters are the FIRs in residential colleges and have additional leadership roles.

Faculty Masters for Fall '13

- Dr. **Todd Buras**, MA '94, associate professor of philosophy (Memorial and Alexander halls, Honors Residential College). Joining him are wife Allison Germer Buras, BA '92, and boys Benjamin (12), Jonathan (9) and Michael (7).
- Dr. **Ian Gravagne**, associate professor of electrical and computer engineering (Gordon Teal Residential College, East Village). He and his wife, Ann, have three children: Gina (9), Lydia (6) and Ray (3).
- Dr. **Rishi Sriram**, BA '01, MSEd '03, assistant professor in educational administration and program coordinator of the Higher Education and Student Affairs graduate program in the School of Education (Brooks Residential College). Joining him are his wife, Amanda Jackson Sriram, BSEd '02, their three children, Ellis (9), Lily (6) and Stella (4); and their dog, Bear.

Faculty-in-Residence for Fall '13

- Dr. **R. Robert Creech**, PhD '84 (University House, North Village) holds The Hubert H. & Gladys S. Raborn Chair for Pastoral Leadership in the George W. Truett Theological Seminary. He also serves as director of pastoral ministries. His wife, Melinda, is pursuing a PhD in literature and religion at Baylor. They have four grown children.
- Dr. **James A. Marcum**, professor of philosophy and director of Baylor's medical humanities program (Hallie Earle Hall, East Village) and the Science & Health LLC.
- Dr. **Carson Mencken,** sociology professor**,** and his wife, **Kimberly Mencken**, economics senior lecturer (University Parks) Transfer Year Experience LLC. Joining them is their son, Carter (12), and dog, Snickers.
- **Steven Pounders**, theatre professor, Fine Arts LLC (Heritage House, North Village). He and his wife, Hope, and have two daughters: Luci, BA '13, and Robin (15).
- Dr. **Laine Scales**, professor of social work and educational administration, assistant dean of the Graduate School (Kokernot).
- Dr. **Jonathan Tran**, assistant professor of theological ethics and graduate faculty in the Department of Religion (Allen-Dawson) and the Leadership LLC. Joining him are his wife, Carrie, and their children, Thalia and David.
- At press time, searches were running for positions at Brooks Flats and Texana House.

"Our mission ... is to be the embodiment of Christ in the world of higher education, and to do that, we have to be together. We have to live together, experience together, laugh and cry together, all of those things have to happen together. All the people who support Baylor need to understand that we know that, and therefore, we are strengthening our system of residential experience as much as we can, and as fast as we can."

dential universities like Baylor must trumpet why their structure is and always will be valuable, especially in the Internet age.

"Institutions of more traditional form are going to be under the gun going forward to answer the question of why it costs so much more to do this kind of education," says Dr. Ian Gravagne, who has been a Faculty-in-Residence in North Village for two years and will transition to Faculty Master in Teal Residential College within East Village this fall. "We need to be prepared to say that part of the reason is because our mission goes beyond simply telling students how circuits work.

"Our mission, especially at Baylor, in no small part, is to be the embodiment of Christ in the world of higher education, and to do that, we have to be together. We have to live together, experience together, laugh and cry together, all of those things have to happen together. All the people who support Baylor need to understand that we know that, and therefore, we are strengthening our system of residential experience as much as we can, and as fast as we can."

While some institutions are moving faculty into halls with students as a way to make professors seem more approachable, Garrett says Baylor's goals are broader.

"We are looking to enhance the academic and intellectual community of Baylor by having faculty in the students' living environment as one more bridge that reinforces how we value the academic experience at Baylor, to create for them that seamless learning experience. We're hoping to increase the intellectual climate of that residential community by having faculty members there."

There is a body of research findings that affirm high levels of faculty involvement with students is positive for students, faculty, and the universities themselves. Baylor accumulates information about their Faculty-in-Residence programs through faculty year-end portfolios and student evaluations.

"From an assessment standpoint, we are in the process of developing a plan to do more formal assessment of our Faculty-in-Residence program so we can begin to really examine how our halls and students are different as a result of the program. If the social integration or academic climate is improved within each of those communities, then we can start to look at what it is that those Faculty-in-Residence are doing specifically," says Lowe.

What interests Gravagne is the idea of using the residential structure as a co-curricular educational platform.

"We don't, as an educational institution, strive to merely transmit information to our students in the classroom. We want also to have opportunities and venues to transmit the values of a Christian institution," he says. "In many ways, that kind of objective can happen more effectively and more efficiently in the residential context, in the living room. That's 'living room education,' as opposed to classroom education."

As the campus has expanded and enrollment has grown more than ever, Baylor faces the challenge of making sure that it maintains that highly transformative opportunity for each student it welcomes to campus. Building even stronger bonds between faculty and students can make a valuable Baylor education worth even more.

While the overarching goals for faculty living on campus are the same, each professor and residence hall has its own dynamic, its own "fingerprint," according to Dr. Ian Gravagne. For instance, Brooks College and University Parks house students from a variety of majors, while Gravagne's assembly, which is moving from North Village to East Village, is geared toward engineering and computer science majors. ¶ Life unquestionably changes for a professor who moves into a residence hall alongside hundreds of 18- to 22-year-olds — all the more so for those with spouses and children. And through their efforts, life — and even life paths — also change for the students who live down the hall.

Carson and Kim Mencken TRANSFER YEAR EXPERIENCE LLC // UNIVERSITY PARKS APARTMENTS

Dr. Carson Mencken, a sociology professor, and his wife, Kim, a senior lecturer in economics, were drawn to be more involved with their students after leading a study abroad opportunity in Maastricht two years ago, where they developed strong relationships with their students.

A year ago, the Menckens jumped at the chance to play a more intentional role in the lives of Baylor students, moving as Faculty-in-Residence into University Parks, an apartment complex Baylor purchased two years ago and began managing this past year.

Along with their 12-year-old son, Carter, and chocolate lab, Snickers, the Menckens left their 2,400-square-foot home in the suburb of Hewitt for a 1,300-square-foot unit in an apartment building that houses 500 transfer students, student-athletes and academic-minded upperclassmen.

"Frankly, it's been 100 times better than I expected," says Carson. "It's the students, and it's how seriously Baylor takes its commitment to the students, that has made this such a wonderful experience for us. I just love being with the students. They really energize us."

Whether helping students apply for graduate school or gathering to watch football on TV, the Menckens have been able to aid students in a variety of academic and professional ways and encourage social and bonding activities.

"We feel like our role is to try to help them develop community amongst themselves and to give them opportunities to do that, but they are certainly thrilled to include us in that community, which has been really nice — and a little bit of a surprise," says Kim. "We don't want to be in their business too much, but they want us there."

The familiarity and regularity of weekly events like "Meat and Mingle," during which the couple prepares a Sunday evening home-cooked meal and serves all the residents who choose to attend, up to 70 at a time, blurs the lines between the academic and the social. While enjoying sausage and pancakes, lasagna, and jambalaya, the students bond with the Menckens and with each other.

"I get asked, 'Can you explain diminishing marginal returns to me, please, Mrs. Mencken?' as I'm serving them dinner," says Kim. "Several of the girls give me a hug every week when they come in, and that's really nice. They treat us like surrogate parents."

That Sunday night meal "is a tremendous effort on their part," says junior resident Matthew Reddick. "They know that the key to students' hearts is through their stomachs, especially when it is a quality, home-cooked meal that brings stress relief and a time away from the books every Sunday evening. Even if your upcoming week is going to be rough, you know that the Mencken family has a meal ready for you. Along with the meal, Carson and Kim both allow you to see the faculty away from the traditional faculty role. The little comforts that they both provide made a huge difference in our day-to-day lives as students."

"Baylor really, really cares about its students," affirms Carson. "I always knew that as a faculty member, but being a Faculty-in-Residence, I see that even more so. It's our comparative advantage. Without that kind of support system, we would not have been nearly as successful. This is a big part of what makes Baylor, Baylor."

Thank You

Hallmark
STATIONERY

Dear Walter + Ann,
Thank you so much for joining us here in Penn State and contributing in such huge ways! I loved how you cast the vision for God's call to some for academics & the importance of spouse - teamwork. Thank you both! - Alex Varsegny

Dear Walter + Ann,
Thank you so much for bringing your wisdom and words of faith to us here at Penn State. We were so blessed to have you here and I am so glad you were able to join us and help us to cast vision for our grad students and faculty for living on mission in academia. Blessings to you and yours, Devon Torchiana

A few thank-yous from our F.C. staff team.

Walter & Ann
Thank you so much for coming and speaking at the Common Call Conference. I know our faculty at Penn State & those around our region were blessed by it and encouraged to continue to live on mission to the Academy! Thank you so much.
Build Christian Bridges!
Josh Kerr

Dear Walter & Ann,
Heather & I are so grateful for all that you did for our faculty + grad student movements from the conference (+ Friday night!) this ~~past~~ past weekend. You are such an inspiration to us! Thank you for making an eternal whole investment in our professors + grad students and in all they will minister to. Ashley + Heather

Tribute from Charles Davis

davis-cw@comcast.net
Sent: Monday, October 20, 2014 3:05 PM
To: Bradley, Walter L.

Walter and Ann, I cannot even think of Highland Baptist Church without your presence. You were a strategic and vital part of the church at a crucial time in her history. Walter, I have never known a more gifted man with such gracious humility and willingness to serve. You brought blessing and encouragement to my life at a time of great challenge. I do not believe that I could have done what I did there without your consistent and informed support. I am claiming those additional years for you. I'm convinced that as always they will be productive for the Kingdom. As long as I live, your life will be a part of my life. Ann, you are a devoted and loyal "help meet" - a true inspiration.

With abiding love and admiration,
Charles Davis

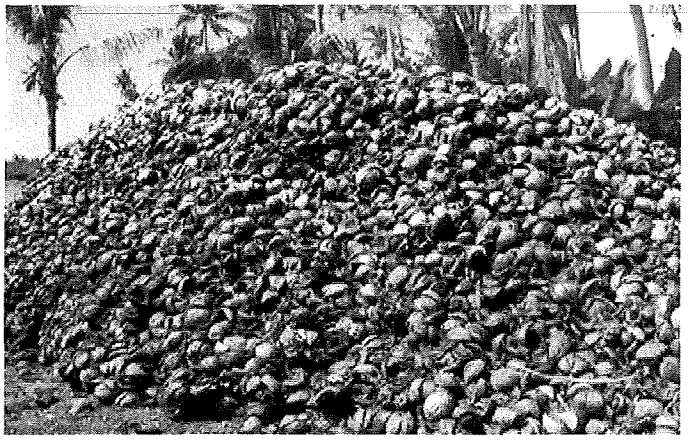
Interim pastor at Highland Baptist Church as we were doing a search for for a new senior pastor. I was on the elder board at the time.

National Science Foundation
WHERE DISCOVERIES BEGIN

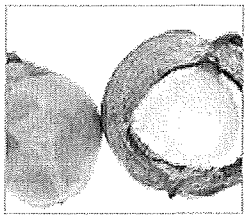
Discovery

TRANSFORMING WASTE IN ORDER TO TRANSFORM PEOPLE'S LIVES

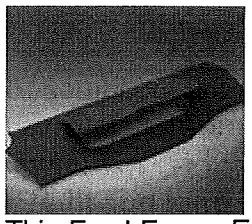
Essentium Materials converts coconut husk fibers into materials for cars and homes



About 50 billion coconuts fall from trees annually; the husks and shells are typically discarded.
Credit and Larger Version



Researchers are creating a new material from coconut fibers.
Credit and Larger Version



This Ford Focus Electric Loadfloor was made with coconut fiber composite.
Credit and Larger Version

July 22, 2014

When Elisa Teipel, and her collaborators began their research several years ago, their goal was to take an agricultural waste product of little value--in this case, fibers extracted from coconut husks--and turn it into an environmentally-friendly, valuable commodity.

Equally important, Teipel, along with colleagues Ryan Vano, husband Blake Teipel, and Matt Kirby wanted the project to help the local economies where they obtained the raw materials.

Today their new company, the College Station, Texas-based Essentium Materials, is turning out automotive trunk liners, load floors (battery pack covers in electric cars), and living wall planters, among other things, with technology they developed that produces a composite material made of coconut husks combined with recycled plastics.

The result is greener and cost neutral, as well as stronger and stiffer, than the traditional all-synthetic plastic fibers, and with natural anti-microbial properties due to a high lignin content.

"The coolest part is seeing something that was once just waste become a new resource," Teipel says. "Also, it is benefitting both the environment and the communities in developing nations where the coconuts are grown."

The researchers estimate that replacing synthetic polyester fibers with coconut husk fibers, known as coir, will reduce petroleum consumption by 2-4 million barrels and carbon dioxide emissions by 450,000 tons annually.

Also, the improved performance and lower weight of these materials will lead to cost savings through increased fuel economy, saving up to 3 million gallons of gasoline per year in the United States, according to Teipel.

Ninety-five percent of the 50 billion coconuts grown worldwide are owned by 10 million coconut farmers whose average income is less than $2 a day, she says. Moreover, about 85 percent of the coconut husks currently create pollution when they are treated like trash. "The successful adoption of these new composite materials within North American markets would in many cases double the annual income for these farmers," she says.

Essentium's work is supported by a $1,018,475 grant from the National Science Foundation (NSF) through its small business innovation research program (SBIR) in the directorate for engineering.

"Projects that use waste materials as a feedstock to create value-added products are a perfect fit for NSF SBIR because we look to support entrepreneurs who can 'do good by doing well,'" says Ben Schrag, the project's program director at NSF. "We believe that small businesses with innovative technology hold the key to solving many of the broader societal and environmental problems faced by the country and the world.

"New material concepts that incorporate waste materials are also becoming increasingly attractive to many consumers and businesses," he adds. "This is creating significant opportunities for shrewd and dedicated technologists and entrepreneurs."

The idea to use coconut husk material originated about seven years ago when Teipel was in graduate school.

"We were really interested in seeing how we could help people in other parts of the world with economic development work," she says. "Initially, we were looking in Papua New Guinea. A former professor of mine, Walter Bradley, who has since retired from Baylor University, suggested we look at available materials and what we could do with them, initially to produce electricity.

"Coconut was one of the most readily available materials that farmers and people in the community had access to," she adds. "So we took a look and wondered whether coconut was a viable engineering material, and what we could do with it."

At the time, farmers harvested coconuts only to produce coconut milk and

coconut oil, while the husks and fiber were considered waste. Yet the students believed they could take the fibers and convert them into a usable product while "elevating both the dignity of the people and the dignity of the resources," she says.

It was a process of trial and error to develop the material in the lab, then try it in a production setting. "The initial phase of the research was to try to understand the inherent properties of these waste materials to determine viable applications," Teipel says. "We discovered that coconut fiber, for example, is a large, stiff fiber with a very high elongation (25-40 percent), making it a natural choice for molded automotive products."

The team then worked with several manufacturing companies to develop different material blends and densities, testing out material blends, such as experimenting with different binder fibers, and processing techniques. "During the commercial development phase, it was important to ensure that these materials with natural content could pass the strict automotive standards such as odor and flammability in order to be approved for use in vehicles," she says.

Today Essentium works in the Philippines with local community development groups to extract the fibers from the husks and shells, work conducted close to the plants where the coconut milk and meat processing occurs.

The fibers are separated from the husk then packed and shipped to the United States where they are combined with other fibers, often recycled and reclaimed fibers, and turned into a material that resembles felt. This nonwoven felt can then be molded or formed into parts that can go into a vehicle.

"The coconut fiber nonwoven material, the first product from the EssenTex™ line, was launched in the Ford Focus Electric vehicle in the load floor," Teipel says. "There are other parts that should be released in the next 12 months. Outside of automotive, the EssenTex™ line has found a home as a moisture mat absorber in the BrightGreen living wall planter available at Williams Sonoma and Home Depot nation-wide."

Essentium also has coconut waste products from the coconut shell in a bio-recycled part on the Ford F-250 Super Duty, and in a kitchen cutting board called "Coco-poly" available at Bed, Bath & Beyond, she adds.

"Our company was built from the idea that you can turn waste into resource," she says. "New materials provide opportunities for engineering applications worldwide and more importantly for farmers abroad waste can be new found treasure.

"As materials people, we understand the importance of selecting and developing the right materials for the job, and recognize that there are many waste streams that can be utilized to create new and better materials and products that have more benefits than just better performance," she adds. "Ultimately, our company is about transforming waste in order to transform people's lives. We want our engineering decisions to improve people's lives and make the world a better place."

-- Marlene Cimons, National Science Foundation

Investigators
Elisa Teipel
David Greer
Frederik Karssenberg

Related Institutions/Organizations
Essentium Materials LLC

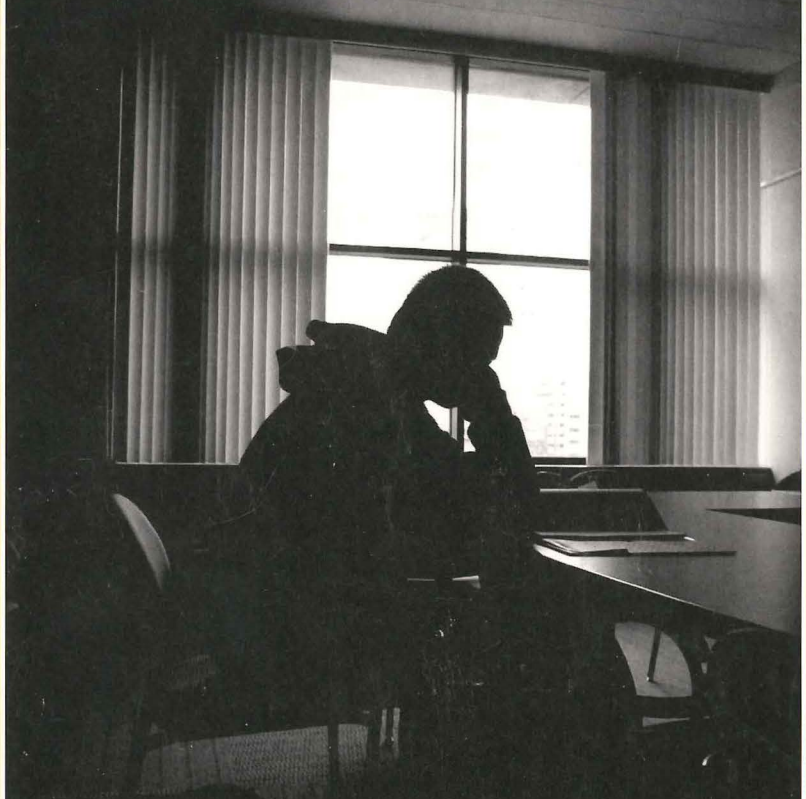
Related Awards
#1026842 SBIR Phase II: Coconut (Coir) Fiber Automotive Composites

Total Grants
$1,018,475

Volume IX • Issue III • Summer 2010

THE IVY LEAGUE CHRISTIAN OBSERVER

SUICIDE IN THE IVY LEAGUE



Questions abound after eight students take their lives during academic year
SPECIAL REPORT Pages 22–25

Brown • Columbia • Cornell • Dartmouth
Harvard • Penn • Princeton • Yale

CHRISTIAN UNION
Developing Christian Leaders to Transform Culture

The *Ivy League Christian Observer* is published by the Christian Union, an independent Christian ministry.

the conditions that come into play for their project.

Likewise, a reflection of the conditions of the universe shows that it was designed to form a suitable environment for life—and the interplay of the specific conditions are far too complex to be the result of happenstance.

As such, Bradley has identified at least thirty-five requirements for a universe to support complex, conscious life; each are satisfied with remarkable precision.

One of the key requirements is order. The orderliness of the rotation of the planets and the predictability of the seasons in the known universe do just that – they suggest thoughtful orderliness.

A universe that supports life also requires elemental diversity and sufficient chemical stability. Both are necessary to build complex molecules that carry out essential life functions, including processing energy, storing information, and replicating, according to Bradley.

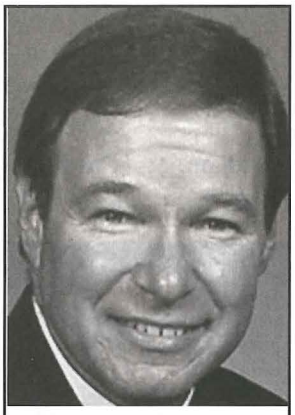
A universe of just hydrogen and helium will not work, he said. More importantly, a universe that supports life requires a "universal connector," an element possessing the chemical property that permits it to react readily with most other elements and form bonds. Carbon is the only element in the periodic chart that satisfies such requirements, Bradley said.

Likewise, a universe with life needs a "universal solvent." Chemical reactions are "too slow in the solid state, and complex life would not likely be sustained as a gas," Bradley said. Thus, the universe needs a "liquid element or compound that readily dissolves both the reactants and the reaction products essential to living systems," Bradley said. In short, it needs a liquid with the properties of water, he said.

A universe containing life also needs a stable source of energy with sufficient – but not extreme – levels to sustain living systems. It also needs a means of transporting energy from the source.

"The energy from the sun is very well suitable to the life forms we have on planet earth," Bradley said.

In addition, a planet that supports life needs to be terrestrial, rather than gaseous. It also needs a temperature range that maintains both oceans of solvents and continents to nurture life. The planet also needs protection from destructive forces such as radiation and asteroids.



Walter Bradley, intelligent design expert and engineering professor at Baylor University, addressed the Princeton community about the scientific evidence for the existence of God.

"Trying to have a suitable universe with the right properties – and a suitable place within that universe with the right conditions is, in fact, fairly challenging," Bradley said.

Bradley contended that mathematics captures the precise nature of the fundamental laws at the heart of the universe. They include the speed of light, the gravity-force constant, the unit charge for the electron or proton, and electromagnetic coupling constants.

Recent research shows that small changes in any of the formulas behind the constants that rule the universe "produce rather draconian changes in the nature of nature that make it very inhospitable to the possibility of complex, conscious life," Bradley said.

Students who attended the lecture said their faith was bolstered. "Dr. Bradley did a great job of laying out the exact physical laws that allow us to have an inhabitable earth as we do," said David Kurz '12, an ecology and evolutionary biology major.

Kurz also commended Bradley for explaining how slight variations in the physical laws mean "human life wouldn't exist."

For Bradley, the evidence points to the brilliance and handiwork of a Creator. "We don't live in an accidental universe but in one carefully crafted for our benefit," Bradley said.

By Catherine Elvy, Staff Writer

A reflection of the conditions of the universe shows that it was designed to form a suitable environment for life—and the interplay of the specific conditions are far too complex to be the result of happenstance.

"We have fallen captive to the very world we helped create."

ness said. "To be an evangelical is to be someone who defines their faith and life by the good news of Jesus Christ."

As well, Christians need to be equally cognizant of the sweeping transformations that are reshaping culture, including the spread of modernity across the globe.

Guinness argued that Americanism is no longer synonymous with modernism. "There's American modernity, Asian modernity, European modernity, etc," he said.

On a related note, there also has been a significant spiritual shift from the Western world to the Southern Hemisphere. "Thank God for what is going on," Guinness said.

In addition to having an awareness of awakenings across the planet, young Christians need to be prepared to engage in spiritual warfare.

"The other thing we need is prayer and knowing how to engage supernaturally. For centuries, Christians knew the invisible world was more real than other worlds," Guinness said. "Christians have been deeply secularized."

Likewise, modern Christians lack the deep-rooted faith found in previous eras.

"The church always faces greater challenges from prosperity," Guinness said. "The modern world needs to shift from a fragmentation of faith to an integration of faith."

He noted that today's Christians have internalized a shift from the recognition of authority to the idolization of individual preference. They also practice cafeteria-style Christianity, essentially picking and choosing components to embrace or shun, he said.

Guinness also told students that believers should realize that modern communications make receptivity to Christian concepts more difficult.

"Everybody is speaking – nobody is listening," Guinness said. "There is incredible noise."

Believers who share Christ's Gospel "need the power of the Holy Spirit," Guinness said. "Don't fall into the [illusion] that we are in the world of 'communication.' We're in a world where evangelism is easier, but discipleship is harder."

Ultimately, Guinness told the Princeton students that they are strategically situated to carry their faith across the world as ambassadors.

"Before you leave Princeton, go deep into your faith," Guinness said. "Look out into this amazing world. Then, move out and discern it – assess it and engage it."

By Catherine Elvy, Staff Writer

CONSIDERING THE NATURE OF NATURE

Expert Lays Out Evidences of Intentional, Orderly Design of Universe

The remarkable orderliness of the universe coupled with the precision of its governing physical laws make it virtually impossible to believe it was formed by a series of cosmic accidents.

That was one of the key messages from Walter Bradley, an engineering professor at Baylor University and noted expert on Intelligent Design. Bradley spoke on the scientific evidence for the existence of God at Princeton University on March 25.

The lecture, held in McCosh Hall, was sponsored by Christian Union's leadership development ministries, Princeton Graduate Faith and Action and Princeton Faith and Action (www.pfanda.com), along with Princeton Evangelical Fellowship (www.princeton.edu/~pef), Graduate Christian Fellowship (www.princeton.edu/~ivgrad), and Faculty Commons (www.clm.org).

Bradley candidly told students "one cannot prove or disprove the existence of God." Rather, he encouraged students to consider implications from the "nature of nature." That is, cosmology, physics, and chemistry suggest the universe was designed as an "ideal habitat" for complex, conscious life.

A noted expert, Bradley has spent more than twenty years presenting scientific evidence that points to an intelligent design of the universe. Drawing from his own background as an engineering professor, Bradley told Princeton students that engineers begin the design process with a needs assessment. They base their work on natural laws and

Faculty Commons Fellowship Dinner

October 25, 2012

Emcee

Dr. Heather Holleman, Lecturer in English, Pennsylvania State University

Invocation

Dr. Ben Voth, Chair and Associate Professor, Communications Studies, SMU

Dinner

Spring Greens with Marinated Beets, Tangelos, and Avocados
Choice of Steak Tagliata or Herb-grilled Salmon
French Beans and Roasted Fingerling Potatoes
Strawberry Crisp with Lemon-ginger Mascarpone

Ministry Update

Rick Hove, Executive Director, Faculty Commons

Featured Speaker

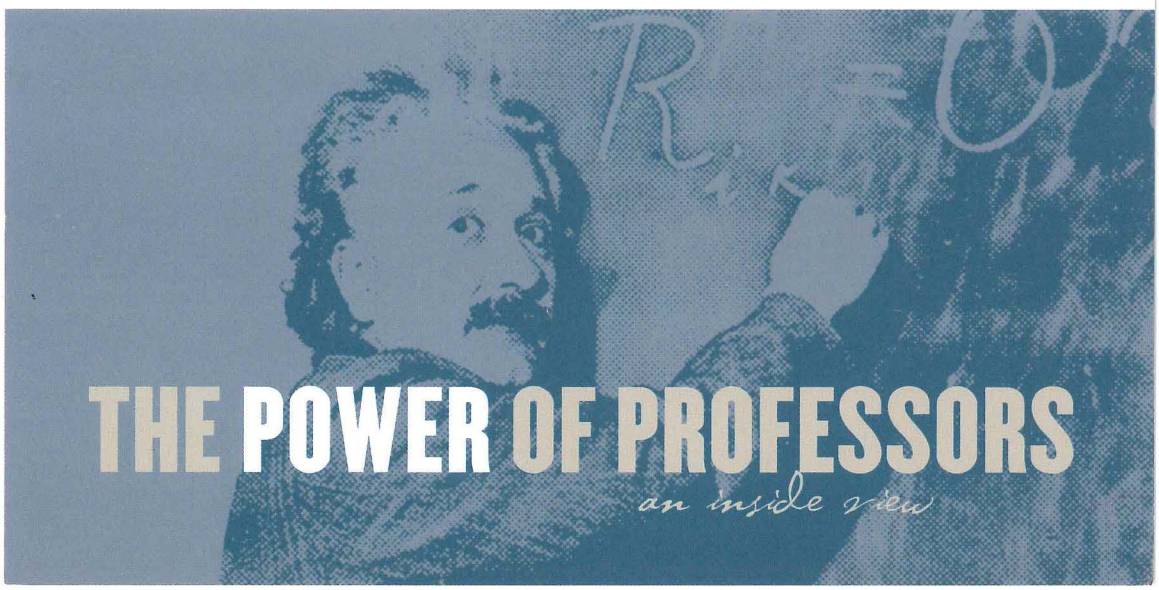
Dr. Walter Bradley, Distinguished Professor of Engineering, Baylor University

Benediction

Dr. Kamran Kiasaleh, Professor of Electrical Engineering, UTD

Host Committee

Al & Lynn Angell
Donovan & Polly Campbell
Jerry & Leah Fullinwider
Bunker & Caroline Hunt
Houston & Betsy Hunt
Tony & Kathy Jeffrey
Robert & Maggie Murchison
Charles & Roena Tandy
Ide & Lu Trotter



Faculty Commons Fellowship Dinner

Dr. Walter Bradley, *our speaker this evening, is Distinguished Professor of Engineering at Baylor University. He will share his perspective after 42 years as an insider in the secular university: a professor of mechanical engineering at Colorado School of Mines for eight years and then Texas A&M University for 24 years, and now at Baylor for the last ten years. He has received ten major awards for teaching and research including Fellow of the American Society for Materials, Fellow of the American Scientific Affiliation, and 2011 National/International Educator of the Year for the Society of Plastics Engineers. He has done consulting work with many Fortune 500 companies.*

Over his career, Dr. Bradley has modeled Christian character, scholarship, and "the power of professors" for kingdom influence, and he continues to speak often for Faculty Commons. He and his wife Ann have pioneered numerous creative outreaches to students and faculty. They helped Campus Crusade begin the faculty ministry in 1980.

Dr. Bradley did his undergraduate and graduate work in mechanical engineering at the University of Texas in Austin. He and Ann have two children and four grandchildren.

Dr. Heather Holleman, *our emcee tonight, holds a faculty position in the English Department at Pennsylvania State University. She teaches Advanced Writing and Freshman Composition, and she has directed the Excellence in Communication Program for the College of the Liberal Arts while providing training for the Advanced Writing instructors. In 2009 and 2011, she won the Residence Life Teaching Award for making a significant difference in the lives of students. As a Ph.D. student at the University of Michigan, she earned the Moscow Prize for Excellence in Teaching Composition and Rackham's Most Outstanding Graduate Student Instructor Award.*

Heather and her husband Ashley joined Campus Crusade staff in 2003 to minister to graduate students and faculty, which they continue to do at Penn State. They have two daughters.

Special thanks *to Steinway Artist Stephen Nielson, distinguished in both classical and sacred music, and widely regarded as one of the distinctive artists of our time.*

FACULTY COMMONS
A Cru Ministry

Exploring God's World of Endless Wonder

"Everything in the heavens and on earth is yours, O Lord..."
1 Chronicles 29:11b (NLT)

64th Annual Meeting
of the
American Scientific Affiliation

BAYLOR
UNIVERSITY

Waco, Texas
July 31 - August 3, 2009

General Information

ASA Book Room

A book room featuring books of interest to attendees will be in the George W Truett Theological Seminary (Truett) Great Hall. Hours are as follows:

Friday:	2:00 PM–5:00 PM
Saturday:	8:30 AM–4:00 PM; 7:30–9:00 PM
Sunday:	11:30 AM–3:30 PM
Monday:	8:30 AM–1:30 PM

Emergency Phone Numbers

Baylor Public Safety:	254.710.2222 (10:00 PM–7:00 AM)
Events Services:	254.710.7808 (7:00 AM–10:00 PM)

Plenary Sessions

All plenary sessions will be held in Truett 121.

Friday:	7:00 PM	Charlie Duke, "The Race to the Moon"
Saturday:	8:30 AM	Mario Beauregard,"The Neuroscience of Spirituality"
	1:00 PM	Gerald Cleaver, "The Multiverse—Next Step in Our Growing Perception of Reality?" Robert Mann, "Believing in Everything?"
Sunday:	10:15 AM	James Tour, "Nanotechnology and Standing as a Christian in the Academy"
	7:00 PM	Perla Manapol, "South to South: Appropriate Technology Transfer for Poverty Alleviation"

Special Events

Friday:	8:30 AM	Workshop: "Teaching about Science and Christianity" –Truett 107
	8:15 PM	Fellowship Mixer –Truett Great Hall
Saturday:	7:00 AM	Publications Breakfast Meeting –Penland Hall cafeteria
	12:00 PM	Women in Science Luncheon –Penland Hall cafeteria
	5:30 PM	ASA Business Meeting –Truett 121
	6:45 PM	Texas Barbecue –Blume Conference Center, 5th floor followed by Line Dancing –Truett Great Hall
	9:00 PM	Students and Early Career Network Outing
Sunday:	11:45 AM	Students and Early Career Network Luncheon –Penland Hall cafeteria
	11:45 AM	Fellows Luncheon –Penland Hall cafeteria
	8:15 PM	InterVarsity Graduate Faculty Reception –Truett Great Hall

Check-out

Monday:	2:00 PM	Please leave your completed evaluation form at the ASA registration table. If you are staying in the university dorm, please leave your linens rolled up on your bed.

Many thanks to …

- Program Chair **Walter Bradley** and Local Arrangements Chair **William Jordan**.
- Program Committee: **Walter Bradley**, **Gerald Cleaver**, **Edward Davis**, **Byron Johnson**, **William Jordan**, and **Matthew Stanford**.
- Line Dancing Instructor **Ann Bradley**.

We are especially thankful for the **donors** who contributed to the Students and Early Career Scientists' Scholarship Fund.

The ASA Spirit

The American Scientific Affiliation encourages thoughtful and provocative scientific presentations and discussions. Presenters and discussants are expected to maintain a humble and loving attitude toward individuals who have a different opinion.

VOTED

BEST of waco 2013

{ PROFESSOR }

Walter Bradley, PhD

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Gainesville Sun, Sept. 26th, 1987
Religion Section

Put God before success, UF faculty group is told

By NAT TILLMAN
Sun staff writer

Dr. Walter L. Bradley, professor of mechanical engineering at Texas A&M University, told members of the Christian Faculty Fellowship at the University of Florida Wednesday morning that a personal relationship with God is more important than success or riches.

Bradley, who spoke to the group on "Quest for Success" at its annual fall faculty breakfast at the Reitz Union, described his own determination to succeed. Citing a basic need to "feel significant and secure," he said that upon entering high school, he resolved to succeed. By following a certain program, he said he achieved a measure of success, but it was a mixed blessing.

He graduated third in a class of 600 students, played several sports, and served as a class officer, he related, yet this didn't bring him the happiness he expected. Putting his lack of happiness down to "being a big fish in a small pond," the speaker said he decided to be "a big fish in large pond" upon entering college.

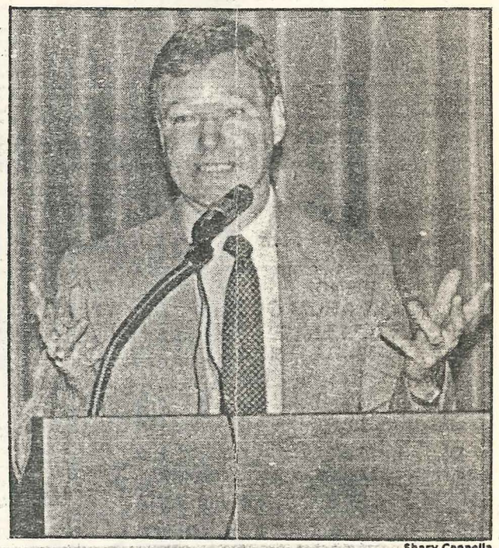
At the University of Texas at Austin, he said, he again put his plan for success into action. And it worked — up to a point. "Success was the focal point of my activity," he said. Midway through his course, he found he was on target as far as his goals were concerned, but happiness was still fleeting.

There were two of his fraternity brothers who seemed to have achieved happiness, he said, but he couldn't figure out how. They weren't top students nor were they campus leaders. He described them as "just plain vanilla" students. While talking with them, he found out that they had achieved a personal relationship with God that brought them happiness, he said.

Bradley said that he found out that his fraternity brothers' idea of Christianity was very different from his own. His idea of Christianity, he said, was to pick the 10 things you like to do most and stop doing them and pick the 10 things you like to do least and start them. This was wrong, he said. "A real Christian experience has to do with a personal relationship with God."

The speaker said he started to read up on Christianity and to put his scientific mind to work on finding some answers. Christian professors were hard to find on the campus, he said. "Most professors were willing to take cheap shots" at religion, he said. During his quest, he found that the Christian faith is based on historical fact, he said, including the life and death of Jesus Christ.

He also found that he had been trying to fill a vacuum that existed within him with the empty chaff of success. This vacuum remained, he related, until he made the decision to invite Jesus Christ into his life and to form a special relationship with God.



Shary Connella

Dr. William L. Bradley tells UF group about a quest for success that found God instead.

Nothing dramatic happened, he said. "No thunder roared nor lightning flashed," but a basic change oc-

See FELLOWSHIP on page 5D

Fellowship

From page 1D

curred in him. Until then, he had been self-centered — occupied with achieving success. But as he began to relate to God, Bradley said, he also began to relate to other people.

Faculty members are very achievement oriented, he said, but it's important that success doesn't become their primary purpose. In him, he said, this desire became somewhat downgraded. In the beginning, he said, he wanted to get his Ph. D. in engineering by the time he was 24, get another degree in business and then become head of a major company. Not only did he want to be successful, but he wanted to be rich as well, he said. He felt that this was the true way to be significant and secure, he said.

Although he has achieved success, Bradley said, true happiness comes from other relationships. He described his relationships with his wife of 22 years, their two sons, and with his students.

Bradley has received more than $2 million in research grants and contracts and has had 60 papers published, including one that was awarded the best materials paper of the year by the American Nuclear Society in 1978. While at the Colorado School of Mines, he was twice chosen as the outstanding professor for his teaching abilility.

He is one of five senior research fellows in the Texas A&M college of engineering, which has approximately a 500-member faculty. He has served as an industrial consultant to more than 35 companies including Boeing, Shell Oil, Texaco, Dow Chemical, Brazilian Government — FINEP, Alumite Corp. and Texas Utilities.

The engineer cautioned the members of the audience about neglecting a relationship with students. There is little monetary reward for being an excellent teacher, he said, while many rewards come with research. Yet, he said, "Those two teaching awards are more important to me than the research awards."

Because of certain pressure, faculty members may find it hard to get some quiet time, the speaker said, but this type of time is important to achieving a relationship with God and with others. He then quoted Paul from Romans 12:2:

"And be not conformed to this world: but be ye transformed by the renewing of your mind, that ye may prove what is that good, and acceptable, and perfect, will of God."

In closing, Bradley again reminded the UF faculty that to experience the richness of a relationship with God, with family members and others is to enjoy those things that really make life meaningful.

The Christian Faculty Fellowship is an interdenominational group of UF faculty, staff and graduate students who share their religious experiences and beliefs at Friday luncheons. According to Al Smith, a member of the executive committee, the group has grown out of the Campus Crusade for Christ during the past two years. It sponsored a faculty prayer breakfast earlier this year.

The fellowship has received input from the Christian Leadership Ministries located in Dallas, Texas, with several Christian leadership workshops being held here. Concerned with the spiritual development of students and faculty, the group is adopting a more evangelistic approach, Smith said.

March 2013, PSCF

Science and Technology in Service of the Poor: The Case of the Coconut

Walter L. Bradley, Ph.D., P.E.
Emeritus Professor of Mechanical Engineering
Texas A&M University (2000), Baylor University (2012)

Introduction

When I moved from Texas A&M University to Baylor University, my goal was to redirect my research activities from high performance polymeric composite materials for the United States Air Force and NASA to something that would directly benefit the poor in developing countries. But what might this be? I started this journey of discovery by trying to determine the demographics of the poor in developing countries and learned that 80% of the 2.7 billion people that live on less than $2/day are poor farmers who have 2-5 acres of land. Through Dr. John Pumwa, a former Ph.D. student of mine at Texas A&M University from Papua New Guinea, I learned that there were 11 million coconut farmer families around the world (see Figure 1) that make $500/year selling the white coconut "meat" from the ~5000 coconuts/year each family harvests. These families all live within 20 degrees of the equator where coconut tree grow and bear fruit (see Figure 2).

Figure 1. Typical coconut farmer and family

Figure 2. Regions inside red boundaries are locations where coconuts grow

In this article, I would like to share the details of my quest to make a difference in the lives of these farmers, initially economically and then eventually spiritually.

Coconut Bio-diesel for Sustainable, Worldwide Rural Electrification – The Impossible Dream

Dr. Pumwa took a one-year sabbatical leave from his position as Department Head of Mechanical Engineering at University of Technology in Papua New Guinea to come to work with me at Baylor University in 2005. Our initial goal was to determine if we could make bio-diesel from coconut oil to provide electricity in rural villages around the world like the one where he was born in Papua New Guinea. Vegetable oils including coconut oil must be converted into long chain hydrocarbons (10-15 carbons atoms in length) to be utilized as fuel in

diesel engines. The normal process to make this happen called transesterification is typically done using methanol in a mixture of 1 part methanol to 5 parts vegetable oil. We were able to demonstrate that coconut oil can be used to make a wonderful bio-diesel fuel (see Figure 2) that created sweet smelling exhaust fumes and reduced engine friction.

Unfortunately, methanol is not available in rural villages and rural villagers would not have money with which to purchase methanol if it were available.

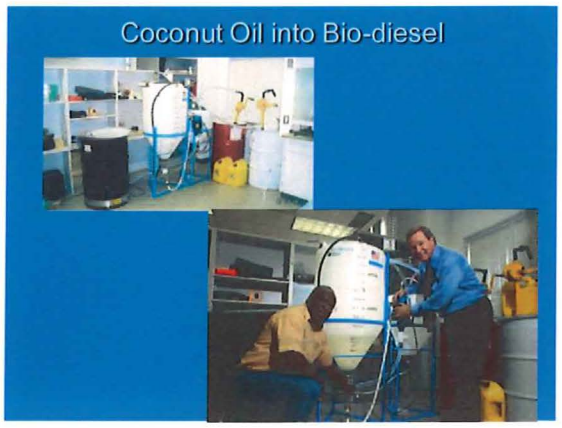


Figure 3. Dr. John Pumwa and Dr. Walter Bradley making their first batch of coconut oil biodiesel

Dr. Pumwa returned to Papua New Guinea while my research group at Baylor proceeded to explore a substitute for methanol in the trans-esterification step that villagers could make for themselves; namely, ethanol. With chemical stock room grade dry ethanol (essentially free of water), we made excellent bio-diesel fuel from coconut oil. With 0.5 wt% water in the ethanol, we made acceptable bio-diesel fuel from coconut oil. But with 1.0 wt% water in the ethanol, the trans-esterification process was poisoned and we made soap instead. It would be essentially impossible to make ethanol with less than 1 wt% water in a rural village using a distillation still, so we had to abandon our "impossible dream" of providing sustainable rural electricity around the world. Any reader who is a chemist, should ponder this challenging research project with a huge potential to benefit the poor in developing countries. How can you make bio-diesel from vegetable oil using a chemical process that utilizes chemical that they can create in village?

Plan B—Creating Bio-composite Materials from Coconut Shell and Coconut Husks – The Possible Dream

Next we turned our attention to the 50 billion kilograms of agricultural waste created each year in the production of coconut oil. What unique combination of physical properties might biomass in coconut husks and shells have that would provide utility with some competitive advantages to create market opportunities and value for this abundant but poorly utilized agricultural waste?

There are currently relatively few markets for the coconut shell and husk. Consequently, the shell and husk are often burned as fuel or as agricultural waste (see Figure 4), providing little or no economic benefit to the farmers. The goal of my research since 2005 has been to create polymeric composite materials that utilize coconut fiber (called coir) and coconut shell powder as functional fillers in polymers like polypropylene, giving significantly enhanced value to the 50 billion kilograms of agricultural wastes that is owned by coconut farmers.

Figure 4. Coconut husk in Philippines, an abundant agricultural waste worldwide.

A cross section of a coconut is seen in Figure 5, with the primary constituents being the husk that surrounds the coconut, the shell of the coconut, and the white coconut meat, usually called copra. The coconut husk consists of 50 wt% fiber called "coir" and 50 wt% pith, a fine powdery biomass.

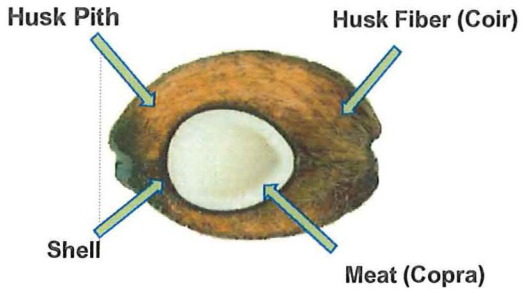


Figure 5. A cross-section of a coconut husk and imbedded coconut shell.

What are the physical properties of the various constituent parts of the coconut husk and what commercial opportunities do these properties provide? The pith can absorb ten times its weight in water and is already widely used in horticultural applications. The function of the husk in nature is to absorb the impact energy from a 60-80 ft fall so that the seed, the coconut, is not broken and subsequently protect the seed from fire and microbial attack. As a result the coconut fiber has unusual high elongation of 25-30% compared to most natural fibers with an elongation of only 1-3%. This gives excellent formability when it is used in non-woven fabric composites. The high lignin content of more than 35% makes the fiber resistant to microbial attack and difficult to burn. Natural fibers that are susceptible to microbial attack develop odor problems in service. The coir fiber has a remarkable structure as seen in Figure 6 that gives it a very high stiffness to weight ratio, which reduces the cost per pound (it has a honeycomb like core) and makes it makes it particularly attractive for applications like automotive. Finally, the coir fiber has an unusually large diameter of approximately 200 μm, which gives it a high flexural rigidity, which is a proportional to the $(\text{diameter})^4$.

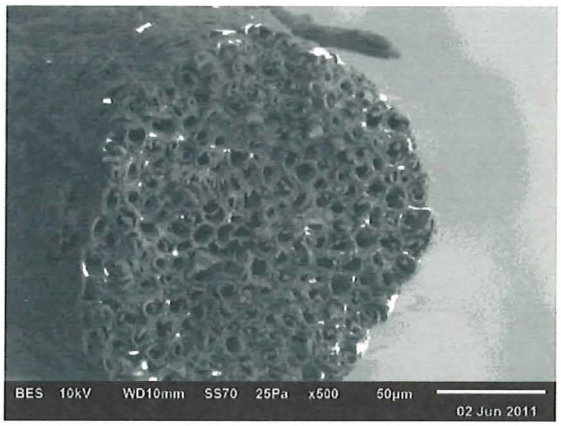


Figure 6. Cross-section of a coconut fiber showing a remarkable honeycomb-like structure.

Coir fiber can be blended with a synthetic "binder" fiber like polypropylene or polyester and processed into a non-woven fabric composite by carding and needle punching or air-laid processing. The fabric composite can then be processed into parts such as trunk trim for automobiles, as seen

in Figure 7, mattresses for beds, cushions for furniture or many other applications.

Figure 7. Creation of a trunk lid by substituting coir for polyester in the non-woven fabric composite of polyester-polypropylene that is compression molded into various trunk trim parts.

The high fiber elongation of coir compared to other natural fibers provides excellent formability for production of parts by compression molding non-woven fabric composites that utilize coir, as seen in Figure 8.

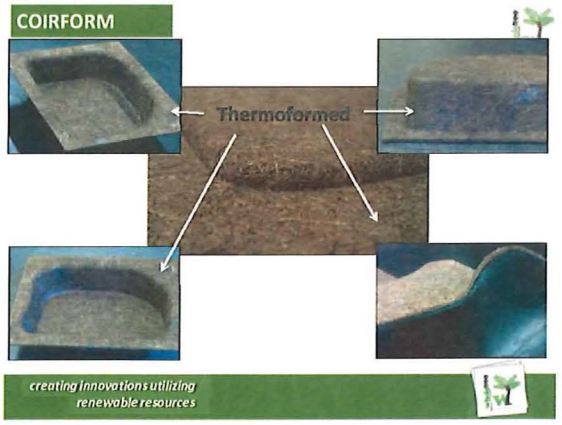


Figure 8. Excellent formability in compression molding of non-woven fabric composites with 50 wt% coir.

One part in the Ford Focus is manufactured using coir fiber in a non-woven fabric composite. Ford Motors nominated this part for an automotive innovation award from the Society for Plastics Engineers in 2011 and it was selected as the 1st runner-up. Several major non-automotive applications are at various stages of economic development in collaboration with major companies.

The coir research and development work was made possible by two grants from the National Collegiate Inventors and Innovators Alliance (NCIIA) totaling $40,000 and subsequently by three National Science Foundation Small Business Innovative Research Grants totaling $1.1 million.

What are the physical properties of the various constituent parts of the coconut shell and what commercial opportunities do these properties provide? Coconut shell is extremely dense (1.2 g/cm^3 compared to most wood at 0.3-0.6 g/cm^3), which makes it very hard (4X harder than maple and 10X harder than pine). It is high in lignin which also makes it resistant to attack by microbial including mold and also more difficult to burn.

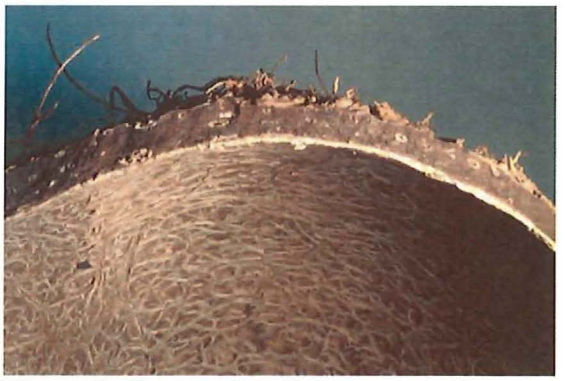


Figure 9. Coconut shell

The coconut shell can be processed into powder (CSP) (see Figure 10) and utilized as functional filler in plastics like polypropylene to increase their hardness and stiffness. The coconut shell powder is 8X as

hard as polypropylene and can easily double the stiffness of PP when added at the level of 40 wt% as functional filler. It can be used in applications where consumer goods are manufactured using injection molding, extrusion or thermal forming, as seen in Figure 11.

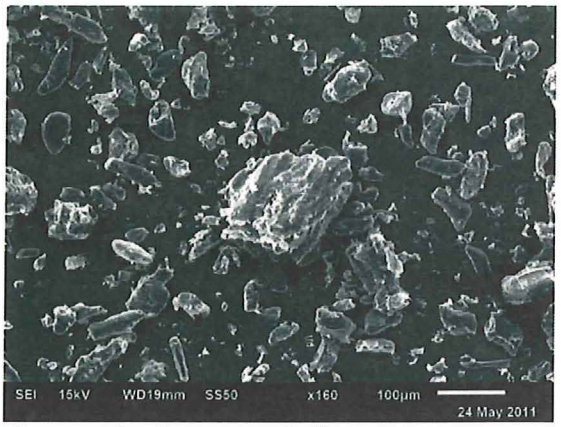


Figure 10. Coconut shell powder as seen in a scanning electron microscope.

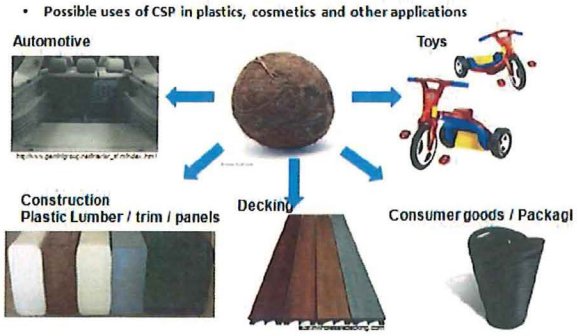


Figure 11. Examples of consumer goods that can be made out of coconut shell powder.

Joint development projects with major manufacturing companies are already underway and with multiple products to be introduced in 2013 that utilize coconut shell powder as a functional filler in polypropylene.

How is this helping poor people in developing countries? Production facilities have been purchased in Indonesia by Natural Composites Inc, the company that I founded in partnership with Christian friends who share my vision of helping poor people in developing countries in a for-profit company. This facility is capable of producing 10 million pounds of coconut shell powder per year and provides employment for ~ 100 people working in the plant. The employees are treated extremely well and are thankful to have a job to support their families. The number of employees should grow significantly over time as the use of coconut shell powder as functional filler in polypropylene and coir as a constituent in non-woven fabric composites expands. We also anticipate creating other production facilities in the Philippines, India, Sri Lanka, Brazil, and maybe a country in the Caribbean.

We also plan to develop cooperatives with the coconut farmers so that we can buy coconut husks and shell from them directly. Currently we buy from middlemen. This will allow us to provide more benefits to the coconut farmers and build relationships with them. Rather than paying a premium for what is currently a very cheap commodity (even free in some cases), we will seek creative ways to benefit the farmers and their families such as providing vouchers for their children to go to nearby schools that would be created by concerned Christian businessmen and churches or providing fertilizer to help them double their yields of their coconut trees.

With our employees and our coconut farmer suppliers, we plan to bless them by dealing with them in a very Christ-like manner and over time taking the opportunity to share the love of Christ with them.

Summary

When I moved from Texas A&M University to Baylor University in 2002, my goal was to redirect my research towards something that would directly help poor people in developing countries. I had no idea of what that might be. God has lead me on an amazing faith-stretching journey for which the past 30 years of my life were a preparation. The skills I developed and the friends I made prior to coming to Baylor have become the technical tools I needed and the partnerships I must have to be successful in this venture. It is very clear that except the Lord build the house, they who build labor in vain (Psalms 127:1-2).

When I was asked by ABC News in 2009 how I ever thought to use coconut husks to make automobile interior parts, they assumed that I would explain how I tirelessly tried every natural fiber and determined by process of elimination that coir was the best. But God directed me to coir as he brought to my attention through John Pumwa the plight of the poor coconut farmers. Happily, their agricultural waste was pregnant with possibilities. The amazing band of brothers and sisters who have become part of this journey include former members of a young married couples Sunday School class that I taught 20 years ago, friends I made at a annual Christian businessmen's annual ski conference over in Colorado over 10 years, and a whole host of students who God brought to my classes, especially John Pumwa, the first student from Papua New Guinea to get a Ph.D. in engineering whose parents were the first in his mountain village to accept Christ many years ago.

Oddly enough, I was diagnosed with leukemia about the time I started this journey, with a life expectancy of three years. Here I am seven years later doing maybe the most important work of my life, living on "borrowed" time. When I was first diagnosed, I prayed to God for fifteen more years just like Hezekiah did with the promise I would try to be a better steward then he was with such a gift. This work is my down payment on that promise. Hopefully God will grant me the privilege of seeing it come to full bloom.

PLEASE JOIN US TO WISH

Dr. Walter L. Bradley

Distinguished Professor of Mechanical Engineering

BEST WISHES ON HIS RETIREMENT

Baylor University
Engineering
Computer Science

RECEPTION
MONDAY, APRIL 30, 2012
3:00 – 5:00 PM
TOAST-N-ROAST – 4:00 PM
1ST FLOOR, ROGERS ENGINEERING &
COMPUTER SCIENCE BUILDING

Kenya Update Newsletter

March 2006

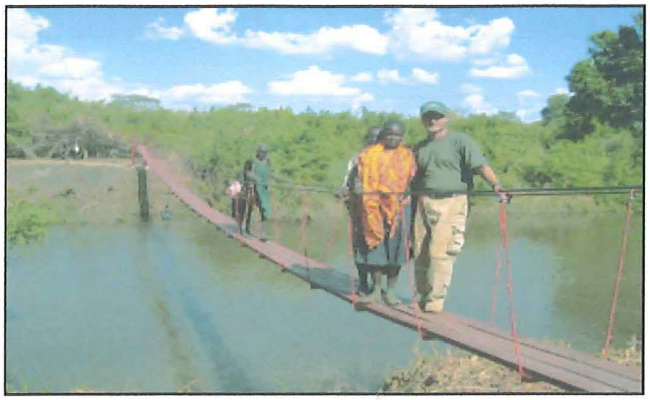
Harmon & Teri Parker
P.O. Box 1116 Village Market, Nairobi, Kenya, East Africa
harmon@bridgingthegapafrica.org

Dear friends,

It's been so long since I've written a newsletter- too long! It's not only due to procrastination, it's because we've been going nonstop building footbridges all over the country since last November. At a recent bridge opening celebration, we watched more than forty Pokot women dancing in jubilation, dressed in their beautiful traditional attire. They were adorned with impressive rings of beads around their necks of red and yellow. All of the women had small bells tied around their ankles with leather, gracefully creating a hypnotic African rhythm while they danced in the

A new bridge for the Masai.

hot dusty sun. The men jumped, synchronizing their athleticism to the voices of the women singing in the Nilotic harmony; the new Akiriyamet Bridge stood in the background, which was the focus of the celebration. As I watched this National Geographic moment, I saw something beautiful in the people's eyes. I was taken by surprise at what I saw- it was an overwhelming gratitude in the purest form.



A new bridge in West Pokot.

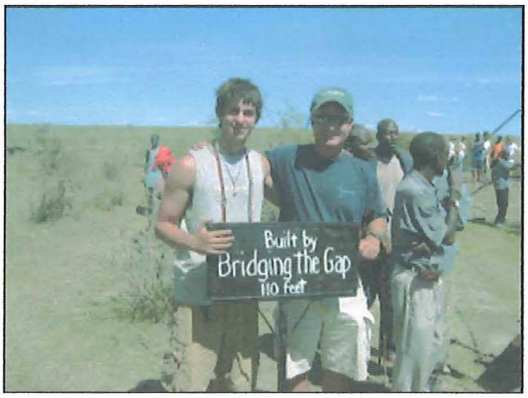
When the exhausted dancers stopped, the elders gathered to express their gratitude. They spoke in their mother tongue, Kipokot, while a translator translated into Kiswahili, and then into English for the donors from England who helped with the construction. One old elder spoke of people in the past that had drowned when the river was flooded. Another shared of those whom have been killd by the crocs that lurk beneath the river. You should have seen our BTG team carry the heavy steel cables, wading across the river while two large crocs watched downstream only fifty yards away! After the elders spoke, two Pokot mothers shared how they would no longer worry about sending their watoto (children) to school anymore, knowing they could now return home safely every day of the year because of the new bridge. As I listened, I realized that at the core of

all celebrations is gratefulness, which transcends all cultures. Even though the Pokots are some of the poorest people I've ever encountered, their eyes poignantly portrayed something God desires for all of us; gratefulness. If those whom have nothing compared to me can exhibit such thankfulness, then why can't I be more grateful? Yes, I confess, it's an area I need to work on in my life. I believe we have so much to learn from those who are poor in the eyes of the world. I'm thankful for that moment, and how God used the Pokots to remind me to be thankful in all things.

Masai women on new bridge

Family Update

It just doesn't seem possible that our son Josh is graduating from high school. For those of you who have had children graduate, I'm sure you would agree with me that it all happens too fast!



Josh and Harmon at bridge opening ceremony

Teri and I are very proud of Josh, as we should be. He just finished his basketball season and there are rumors that he's going to be playing rugby. He also got his Kenyan driving license which means I'm without a car most of the time and my prayer life has increased! He's been accepted at three different colleges in California and is leaning towards Azusa Pacific University in Southern California. However, wherever he chooses, Teri and I will be happy with any of the three schools. Please be praying for Josh as he prepares to leave his home here in Kenya and enter the world of an American university.

Teri continues to be an incredible mother and wife. Apart from helping me with my entire world, she is constantly making our house a home for all the visitors we have every year. She is planning a graduation party for Josh, but it's a secret so I can't tell you about it, but it's going to be fun! Her parents and sisters are coming from California for Josh's graduation so we are anticipating their visit. It's time to celebrate!

What can I say about me, Harmon? Well, if you could see all the things on my messy desk right now, it may give you a clue of how I feel. I'm pretty much overwhelmed with life, work, and all that is going on. I'm still very much young and wild at heart, but the lines on my weathered face, and my ash gray hair keep me in "check" with the reality that I'm fifty years old! But in saying that, I'm a blessed man. I have wonderful family, great friends, and I'm committed to the work God has called me to. I am content and thank God for His amazing grace.

We have many challenging decisions in front of us and need God's wisdom to help us during this season. However, we've been encouraged through many of you and are grateful for your letters and e-mails.

As always, we want to thank all of you who stand with us through prayers and financial support. You are our ***partners***, and I want to thank you on behalf of all those who are blessed through our work. We would love to hear from you so please write us at: harmon@bridgingthegapafrica.org

With much love and appreciation,

Harmon, Teri and Josh

If you would like to make a contribution to Bridging the Gap, make checks out to Kingsway Community Church and identify as Kenya Outreach. All contributions are tax deductible.

Fidelity Charitable Gift Fund

Recommend a Grant
Account
Organization
Timing
Amount
Acknowledgement
Review
Confirmation

Recommend a Grant

Grant Confirmation

Your recommendation is subject to review and approval by the Gift Fund. The Gift Fund reviews grants daily and will process your grant as soon as possible. Please allow up to 10 business days for the approval process.

Your confirmation # is
3529735

Date Grant Submitted:	04/06/2006
Account Name:	Leonard E. James Charitable Trust
Tax ID:	
Organization Name:	Kingsway Community Church
Mailing Address:	6472 Camden Avenue Suite 107 San Jose, CA 95120
Contact Name:	Harmon and Teri Parker
Phone Number:	408-927-7172
Grant Acknowledgment:	Disclose Name and Address Mr. and Mrs. Walter L. Bradley 86 Sugar Creek Woodway, TX 76712
Special Purpose:	Designation: Dear Friends: This donation is intented for Kenya Outreach, served by Harmon and Teri Parker. Thanks, Walter Bradley 254-710-7370
Grant Amount:	**$1,000.00**
Pool Allocation	
Growth	$1,000.00
Acknowledgement E-mail:	walter_bradley@baylor.edu

Bradley, Walter L.

From: Harmon Parker [harmon@bridgingthegapafrica.org]
Sent: Thursday, January 12, 2006 6:55 AM
To: Bradley, Walter L.
Subject: BTG tax number

Good morning Walter,

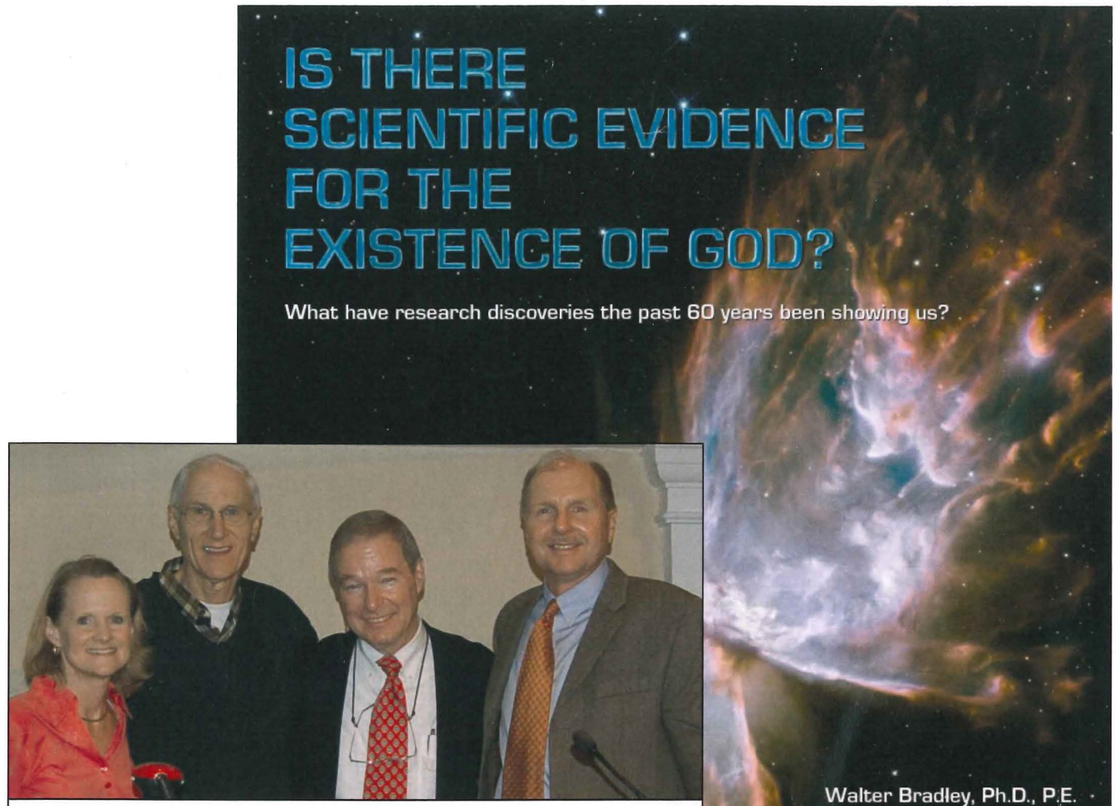
My office from Ohio sent me the tax number.

Here's the Federal Employer Identification for Bridging the Gap, Inc. - 13-4223509.

Thanks again and God bless,

Harmon

J. Harmon Parker
Director, Bridging the Gap, Inc.
P.O. Box 1116-00621
Nairobi, Kenya
+254.20.712.0270



IS THERE SCIENTIFIC EVIDENCE FOR THE EXISTENCE OF GOD?

What have research discoveries the past 60 years been showing us?

Walter Bradley, Ph.D., P.E.
Former department chair
of Mechanical Engineering
and Professor Emeritus,
Texas A&M University
Now Distinguished
Professor of Engineering
at Baylor University

Presentation plus Q&A
Tuesday, October 5th
7:30 PM
105 Dartmouth Hall
Open to the public

Sponsored by Integrare and Fellowship of Christian Athletes at Dartmouth College

Planetary Nebula NGC 6302 image courtesy of NASA

Soli Deo gloria!

October 1-6 finished with a bang, yet those intensely productive days grow out of soil Denise and I have cultivated over 22 years. Our broad vision for ministry, circles of relationship, and intimate history with Dartmouth help bring people and resources together. God uses these converging assets to shift the culture on campus, touching many lives and advancing His purposes. Thank you for investing time, talent and treasure with us to make this possible.

The Dahlbergs 20 Rayton Road Hanover, NH 03755
(603) 643-3912 *kent.dahlberg1@gmail.com*

Autumn greetings from New Hampshire!

After three decades of ministry inside higher education — working with students, athletes, coaches, professors, administrators, and alumni — one of Denise's and my goals is to "**fly at a higher altitude.**" We want to leverage our experience, networks of relationships, and capacity to trust God to see greater influence for Christ's kingdom. For us, ***Integrare*** is very much an entrepreneurial venture. Fortunately we love going places that offer few well-marked paths, innovating to attract and connect strategic leaders.

October 1–6 we brought in two accomplished engineering professor–friends from Texas and California to climb into the trenches with us at Dartmouth: **Walter Bradley** and **John Walkup.** Walter's wife **Ann** joined us as well. Denise and I put together five days filled with opportunity, then worked Walter and John like a couple of rented mules! They took it all in stride and came back for more. God did amazing things.

To raise their profile and stir interest, we arranged for Dartmouth's Thayer School of Engineering to host Walter as its prestigious ***Jones Seminar*** faculty guest. He met six hours with professors, spoke in two classes, and presented his research to help spur Third World economic development by creating technology that turns 50 billion coconut husks discarded by 10 million poor coconut farmers into a valuable resource. (His Jones Seminar is at *http://engineering.dartmouth.edu/news-events/lecture-series/jones/2010/WalterBradley.html*)

Our five-day ministry odyssey included four major, spiritually focused speaking invitations for Walter and John, plus a gathering with MBA students at Dartmouth's Tuck School of Business. Then there were three breakfast meetings, two by-invitation luncheons we hosted for groups of 21 and 40 guests, a dinner, plus scores of conversations with undergrads, professors, administrators, community leaders, and alumni — all undergirded by prayer, courage and faith, topped off with a morning of worship, an afternoon of "local exploring" (i.e., two women shopping), a fall foliage hike, and 18 holes of scenic golf in Vermont.

To glimpse what occurred as Walter and John reached out alongside us, turn the page . . .

Breaking bread — Ann & Walter Bradley, Kent, John Walkup (Dartmouth class of '62), and Denise.

October 2010

Working lunch with 21 Dartmouth professors and administrators — Walter Bradley explores ways God uses followers of Christ in the hostile terrain of today's secular academy. Like the boy who gave up his five small loaves and two fish, as you and I "offer Jesus our lunch" — our time, talent and treasure — He delights to bless and multiply them, satisfying many needs while revealing His kingdom and power.

Dr. John Walkup '62 relates insights from his ministry among professors at Stanford University and Cal-Berkeley. Teaching electrical engineering for 27 years at Texas Tech, John pioneered basic research utilizing lasers to do *optical information processing* — the future of ultra high speed computing.

With us at Dartmouth, John spoke to our Christian faculty lunch and to *Agape* (the Asian Christian students). He met one-on-one with engineering professors, and addressed a strategic outreach luncheon we hosted at the *Hanover Inn* with 40 influential guests.

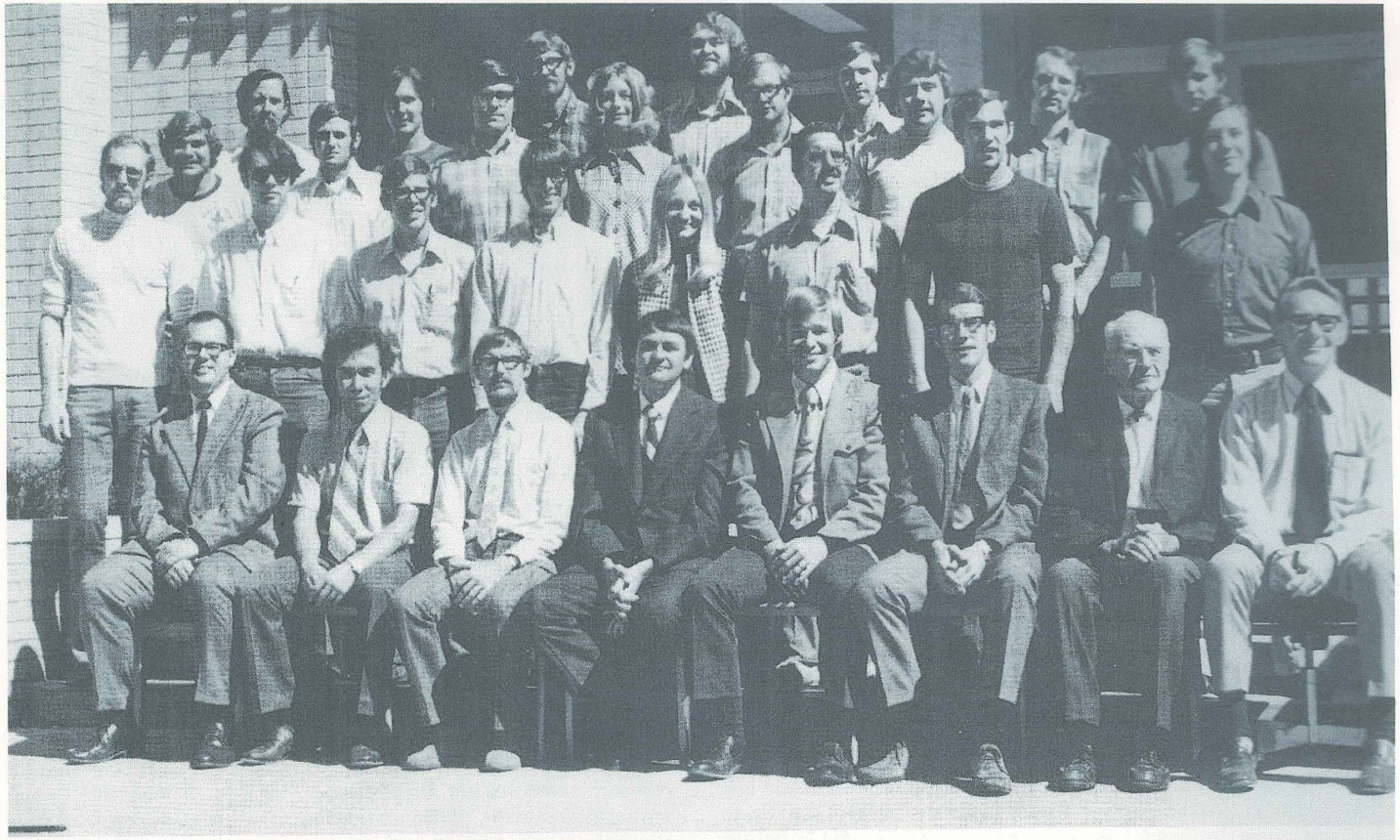
John is a close friend and Board member of ours. He loves Dartmouth and loves Walter and Ann. Engaging in the spiritual battle at his alma mater side-by-side means the world to John.

Dr. Bradley's ***Jones Seminar*** at Dartmouth's engineering school netted high profile coverage in the newspaper plus a presentation at Tuck School of Business on Third World economic development via *Whole Tree, Inc.* From this, we invited more MBA students to Tuesday's outreach luncheon. Walter and John led a discussion on *"Can a Thinking Person Believe in God… And Does It Make Any Difference?"* Our mix of 40 believers and non-believers enjoyed a convivial meal paired with stimulating conversation.

Teachable moments at *Fellowship of Christian Athletes* — After recounting his spiritual journey to 50 Dartmouth athletes packed into *Beta* fraternity house, Walter spent another hour talking with individuals, including these coeds from the track team. During his college years Walter transitioned from relentlessly chasing success to beginning to build his identity and significance on Christ. That resonated with our athletes, who drive themselves as hard in their studies as they do in their sports.

The buzz builds as Dartmouth Hall fills — 150 Ivy League students, professors and local residents anticipate Walter Bradley's apologetics lecture, *"Is There Scientific Evidence for the Existence of God?"* An hour of lively Q&A with the audience followed his 50-minute presentation. Walter's command of the field in contemporary science, combined with his patiently gracious manner, form a potent combination.

Colorado School of Mines
Metallurgical Engineering
Class of 1973

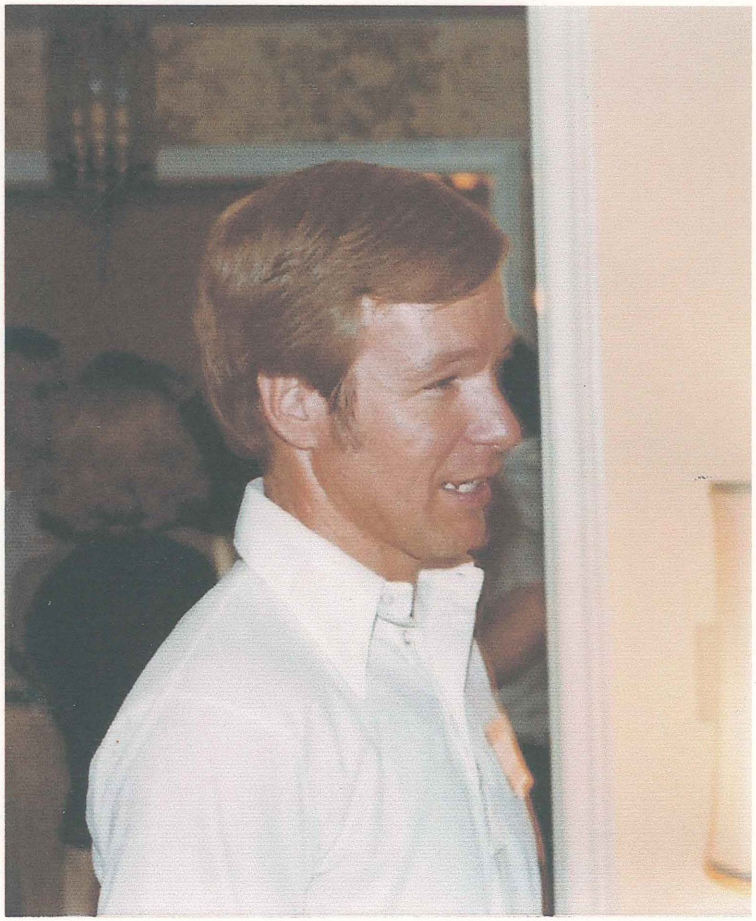


SENIOR STUDENTS, SECRETARIES, AND FACULTY MEMBERS in Metallurgical Engineering.

Party November 1973

Is this really a Baylor Distinguished Professor?

March 1975



June 1976 (hair is shorter)

1980 in Fort Collins

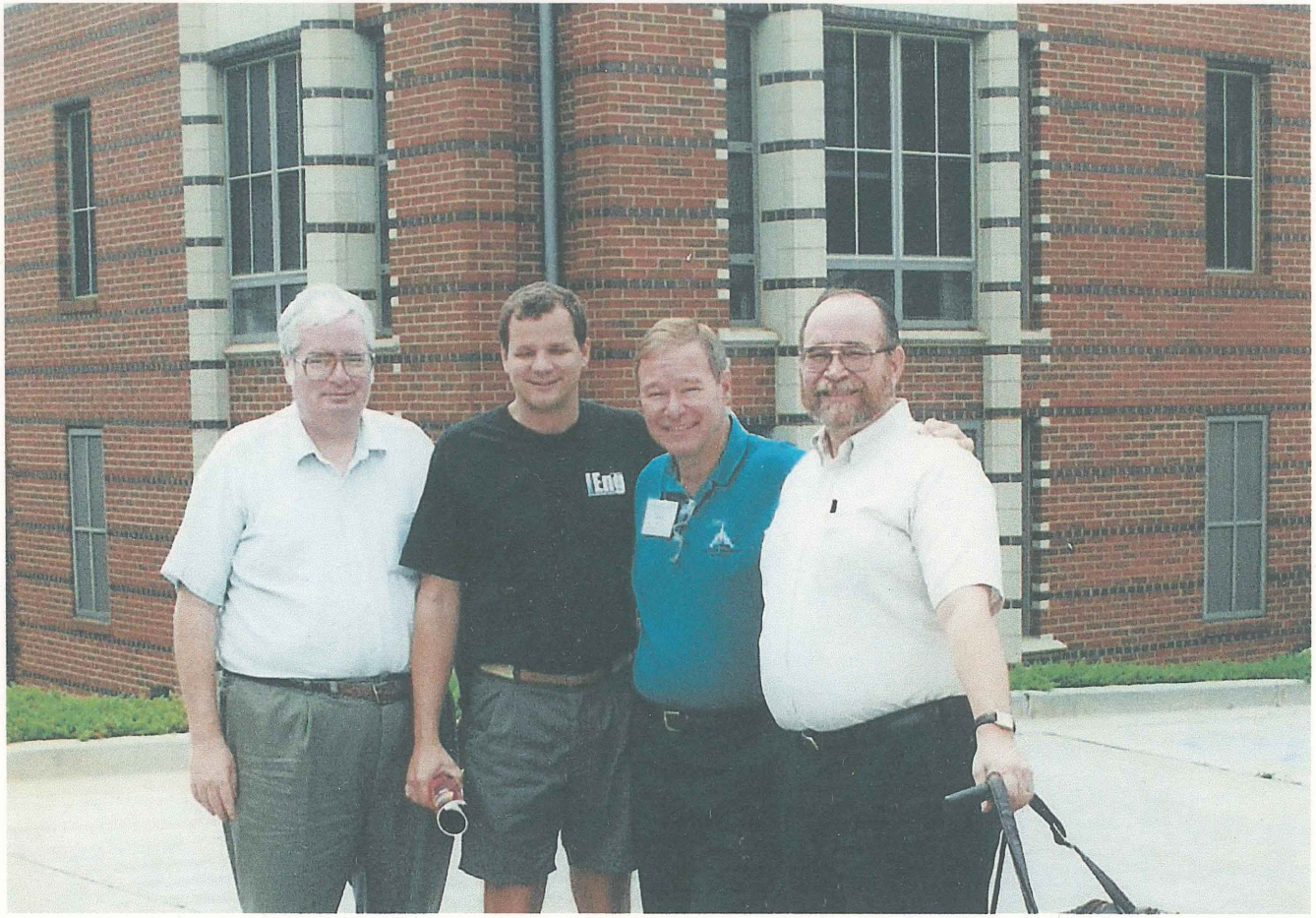
1982 in Mansfield, Ohio

The Bradleys through the years

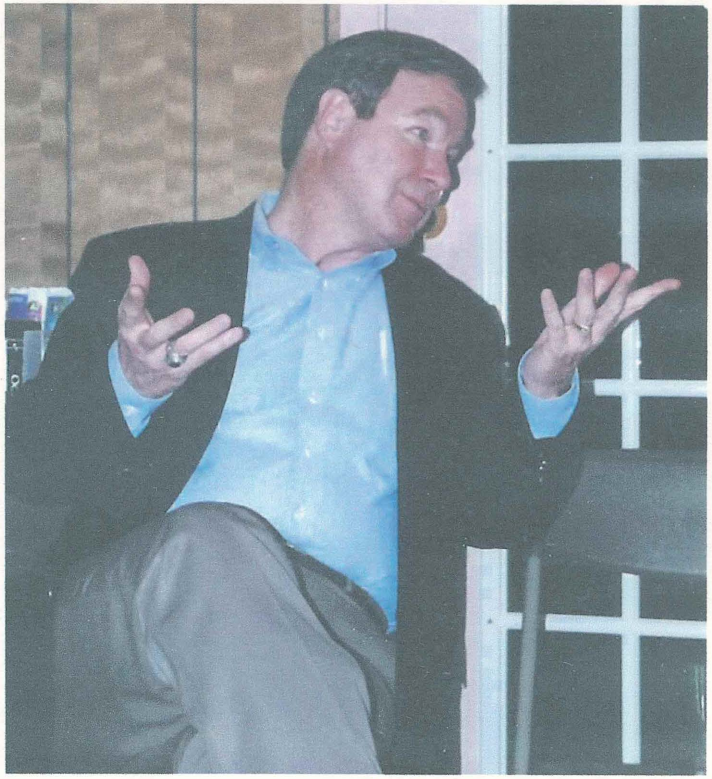
Christmas 1982

At the Jordans house in Bryan, June 1983

Professors Jordan, Jones, Bradley, and Lane
Atlanta 2000



Ruston March 2001



FRONTLINES

Where do they run?

Rick Hove, *Faculty Commons Executive Director*

If you enjoy people watching, one of the best venues is outside a freshman dorm on move-in day.

Heat and humidity are standard fare, as is the long line of mini-vans, rambunctious siblings, and a new-in-the-box dorm fridge. But what makes this spectacle mesmerizing is the interaction between parents and their soon-to-be-free freshmen.

Most parents contrive to prolong this ritual, being sure their child has everything they'll ever need, like a dustpan and batteries for the emergency flashlight from Grandma.

Students, on the other hand, itch to bolt to new friends and adult freedom. Only Mom and Dad realize that at this moment their relationship with their child changes forever.

When difficult times or questions come, where will these students run? One place is to those they esteem as the local resident experts—professors.

My friend Adam attended an elite private liberal arts university. The day his parents dropped him off they scarcely had religious aspirations for him.

Adam's dad had occasionally taken him to a Unitarian church, where asking deep questions was a highly cherished skill. Oddly, answers weren't pursued, but Adam became a master at asking questions.

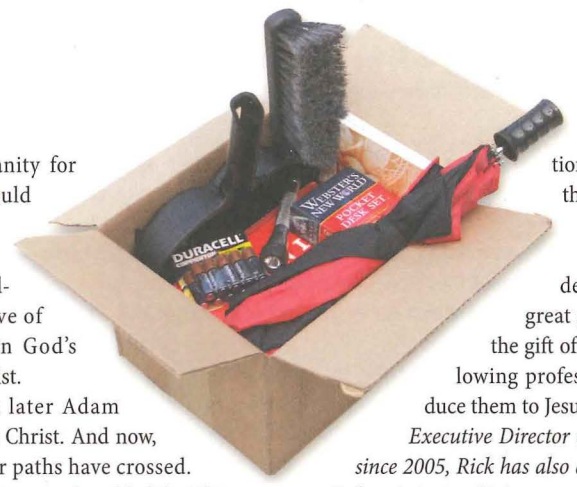
As his freshman year unfolded, these questions began to torment him. Now Adam actually wanted answers. Where did he run to pursue these answers? His faculty advisor.

This professor was very willing to help. He was a devotee of Jainism: an Indian religion similar to Buddhism. Adam's professor confidant strongly encouraged him to become a Buddhist.

So Adam decided to follow his professor's advice. For one month he immersed himself in Buddhist practices and readings. At the end of the month, however, he wasn't very satisfied.

Of the hundreds of professors at this university, Adam knew 2-3 who were Christians. One was quite well-known for his care for students. In fact, he would frequently visit students at their dorms or even pray with a student if appropriate. Though he was not his advisor, Adam sought him out.

They went to lunch together, where the professor told Adam these questions, which have puzzled humanity for millennia, would never sustain him in life. What he needed was the love of God shown in God's Son, Jesus Christ.



One month later Adam gave his life to Christ. And now, years later, our paths have crossed. As he told me his story, he added that this professor is still doing the same thing today as he did for Adam—bringing the hope of Jesus Christ to students and the university.

This story reminded me yet again of the importance of our faculty mission. Where would Adam be today if there had been no Christian professor at that university?

What happens when students run to the resident campus experts for answers and there is no Christian presence anywhere in sight? Even a small community of Christian professors can make a huge difference for students like Adam.

One reason we care so deeply about building movements of Christ-following professors at every university is because we care deeply about students.

Every inquisitive, seeking student like Adam should have the opportunity to know professors who find Jesus Christ satisfying and true.

This fall 4-5 million young people are transitioning to adulthood a they begin their fresh man year. How many of these stu dents will receive th great gift Adam received the gift of a caring, Christ-fol lowing professor who can intro duce them to Jesus?

Executive Director of Faculty Common since 2005, Rick has also directed the Rice an Duke ministries. He is a summa cum laude gradu ate of both Georgia Tech and Trinity Evangelica Divinity School. Rick, his wife Sonya, and the three children live in Durham, NC.

A New Name!

In early 2012, the name Campus Crusade for Christ is changing in the U.S. to Cru.

You might be thinking, "Are you nuts?" You may be saying, "It's about time!"

Two words in Campus Crusade for Christ have been problematic for some time. First, "campus" doesn't describe the diversity of our ministries. Second, the word "crusade" elicits negative reactions with many audiences.

So the change was made to help us more effectively share Christ with the world. The new name Cru isn't short for "Crusade" and doesn't stand for anything in particular. Just as Starbucks and Kinkos have become synonymous with coffee and copies we hope that over time Cru becomes associated with the love and message of Christ.

A variety of resources are available to answer questions you may have at ccci.org.

Faculty Commons, the professor outreach of Cru, will continue to take the hope of Jesus Christ to the university and the world.

§2 An Unexpected Friendship

Cru staff member marvels at how God uses her in the life of prominent Middle Eastern professor

Cru staff member Holly Ashman helped lead a team of U.S. college students to a prestigious Middle Eastern university this summer. They all took a political science class and looked for opportunities to tell their fellow students about their faith in Christ.

Holly shared the gospel with students too—but also with the professor!

Professor Umar's (name changed) car accident launched their unusual friendship. When Holly offered sympathy after class, Professor Umar confided, "But the doctor said my baby is OK. I've already had two miscarriages. I don't want to lose this one too!"

Holly wrote her professor a letter, thanking her for teaching them, and sharing with her King David's poem in Psalm 139. "I believe our deepest desires are to be fully known and fully loved," Holly explained, "and the only person who can do that perfectly is God."

Holly added, "Maybe you are the reason I came to the Middle East. I am so glad I've met you." (Muslims are big believers in fate.)

The day after Holly delivered her letter was the last day of class. Professor Umar sought Holly out, hugged her and told her it was the best letter she had ever received from a student. But Holly could tell she didn't feel well.

"Who would have thought I would go to the Middle East to share the gospel with one of the most influential professors of politics in the Arab World?"

"I kept praying that she would open up to me and talk to me after class," Holly remembers. "As she walked out, I followed her." Finding a hidden corner, her professor confided, "I'm losing my baby!" She asked Holly to come home with her, to provide support through the painful ordeal.

On the hour-long drive to her home, the professor confided her struggles and failures to Holly. Once home, she asked Holly to sit by her bed. "I'm going to pray for you out loud," Holly explained, and she prayed the truths found in Psalm 139.

Later that night, Professor Umar lost her baby. She contacted Holly and asked to see her one more time before Holly left for home. "I've been thinking a lot about spiritual things," Professor Umar told Holly. "Who can go to heaven? Is there enough room for everyone?"

Holly explained that the foundational difference between the Jewish, Muslim, and Christian faiths is their understanding of who Jesus is. He was a Prophet. He was Messiah. He is God. His death on the cross made it possible for all who believe in Him to go to heaven. And He totally transforms our lives!

Holly left her professor with an English/Ara bic Bible. "I truly believe she will come to follo Jesus one day," Holly affirms, "and possibly be huge influence in the politics and the elite of thi country. Please continue to pray for her and he salvation!"



Cru students and staff on summer outreach in the Middle East co-led by Holly Ashman (far right).

§3

Zero Out of 50!

Faculty Profile: Walter Bradley, *Distinguished Professor of Engineering, Baylor University*

During my undergraduate and graduate years at the University of Texas, none of my 50-or-so professors identified themselves as followers of Jesus. Some non-Christian professors, however, were quite uninhibited in ridiculing Jesus and the Christian faith.

This troubled me. It also motivated me to see if there was indeed a reasonable basis for following Jesus. Happily, I found in the writing of C.S. Lewis and others the assurance that I needed.

I realized I had the opportunity to be for my students what no one had been for me—a professor known as a follower of Jesus. Midway through the first semester I taught, I prayerfully crafted a short end-of-class speech. I included several of my personal interests and my Christian commitment.

That day in class I was excited and apprehensive. When I finished my lecture five minutes before the end of class, I could have talked about my faith. Instead, I panicked and dismissed the class early.

I went to class 22 times in a row with this same intention, failing again and again. Finally, before the final exam, I did it!

I told the students how much I had enjoyed teaching them, that I was a Christian, and that I would like to visit with any of them who might be curious about why. I had no takers; but it was a faith barrier which, once broken, would never again be so difficult. I told each successive class something about myself and my faith.

One year I taught a business calculus class. Since one-third of the students were Jewish, I considered skipping my speech this time. But after praying about it, I felt led to once again identify myself as a follower of Jesus.

That night the Dean of Students called. As my heart pounded, Dean Campbell explained that the "Campbell twins" in my class were his sons, and they told him what I had shared that afternoon.

He was calling to thank me! He was a Christian; his sons had not been walking with the Lord, and God had used my brief comments to rekindle their interest in following Jesus. He had called every Bradley in the phone book (22 to get to "Walter Bradley") to thank me.

Now, for 41 years I have included a simple statement about my faith as part of my classroom introduction—resulting in many opportunities to encourage young believers and clarify the gospel to non-believers.

A founding professor of Faculty Commons, Dr. Bradley is an outstanding role model, excelling in academics while actively pursuing opportunities to share Christ. He pioneered faculty ministry and continues to encourage professors all over the world to take the hope of Jesus Christ to their universities. He would appreciate your prayers as he undergoes treatment for chronic lymphocytic leukemia.

Fighting Poverty with Coconuts

By Dr. Walter Bradley, *Baylor University*

I decided for my last lap, so to speak, to change my research focus: what could I do to help the poorest of the poor have a better shot at survival? I asked God to give me some ideas.

A former doctoral student suggested I help the 11 million extraordinarily poor coconut farmers around the world. The typical farmer has 6-8 children, owns about 5 acres, and harvests 5,000 coconuts a year. This brings in only $500 a year. I prayed, "Please God, let there be something useful and interesting about coconuts."

My students and I found that the coconut's components of husk, pith, oil, and shell all have numerous possible applications in gardening, packaging, and building materials. We can even craft car parts—trunk liners and door panels—from coconuts.

Coconut fiber is cheaper, greener, and has better mechanical properties than polyester. We could potentially triple the income of poor coconut farmers!

Developing technology with patents allows us to create and maintain a significant price for the coconut fiber and shell, and this profit will bless the farmer and the community. For example, working through local churches we can provide school vouchers for their children or supply fertilizer that can double their annual crop yield.

It's a kingdom-building ministry: help people in a holistic way by meeting both spiritual and economic needs concurrently.

11 million coconut farmers worldwide, most have 6-8 children, own 5 acres and harvest 5,000 coconuts annually for $500.

Join with us in Prayer

"Is it possible that we do not see God working in mighty ways because we don't ask him to work in mighty ways?" – Collin Hansen and John Woodbridge, forward to *A God-Sized Vision*

1. Ask God to raise up a new generation of Christ-following professors from among the 50,000 undergraduate students who are involved in Cru groups around the country.
2. Pray that Christian professors will actively join with Cru staff to reach out to the incoming freshman class.
3. Choose a discipline, perhaps your own or maybe one God puts on your heart. Ask God to raise up Christian scholars and professors to bring the hope of Jesus Christ to that area of study.

§4

Whiter Than Snow: Meditations on Sin and Mercy

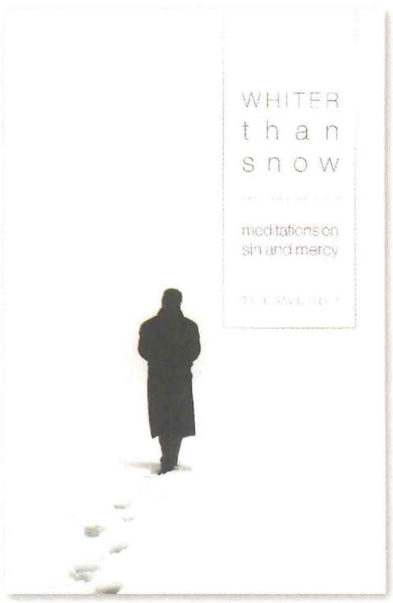
Review by Rick Hove, *Faculty Commons Executive Director*

In this collection of meditations on brokenness and grace, author Paul Tripp writes about the familiar world of the "if only . . ."

If only I had the confidence to say what I really feel…

If only I had more friends…

If only somebody mentored me when I was young…



If only I didn't experience such back pain…

If only I had a different family growing up…

If only my spouse didn't…

The land of the "if only" seduces us, as no shortage exists of circumstances we each wish were different about our lives.

But the unforeseen danger of the "if only" way of life is that it deceives. It woos us into thinking that what is broken about the world is "out there" — some place, or someone, or some reason far, far away.

If only this and this and this were different for me…

The truth, however, resides much closer to home: what is most broken in my world IS ME.

Unafraid, Dr. Tripp proclaims what friends, your spouse (if you're married), and you (on your better days) already know: you are broken.

If this were his only message, his short devotional book would never be the popular seller it is today. After unabashedly naming the problem, he then, step by step, reveals a much-needed solution.

Each of the 52 two-page devotionals in this wonderful book concludes with two reflective questions. The first exposes what is broken; the second illumines the way forward, which is inevitably connected to the mercies and work of Christ.

These penetrating questions generate long, heartfelt discussions in small groups and provide fodder for many reflective devotions. Ponder them yourself. Then invite your friends to explore them with you.

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Fast Facts:

Christian faculty at Cal State Fullerton helped host a welcome kick-off event for incoming freshmen.

University of Alabama at Birmingham Christian professors are challenging colleagues to have one gospel conversation a month with students and faculty.

40 Christian professors at Clemson University placed an ad in the student newspaper this month professing their belief in Christ.

Professor Julianna Marten at the University of Maryland, Baltimore County went on a 2011 spring break mission trip to Panama City with students she disciples.

FACULTY COMMONS

Frontlines is published by Faculty Commons, the faculty ministry of Campus Crusade for Christ.
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- Writer: Ceil Wilson
- Design: Rich Bostwick

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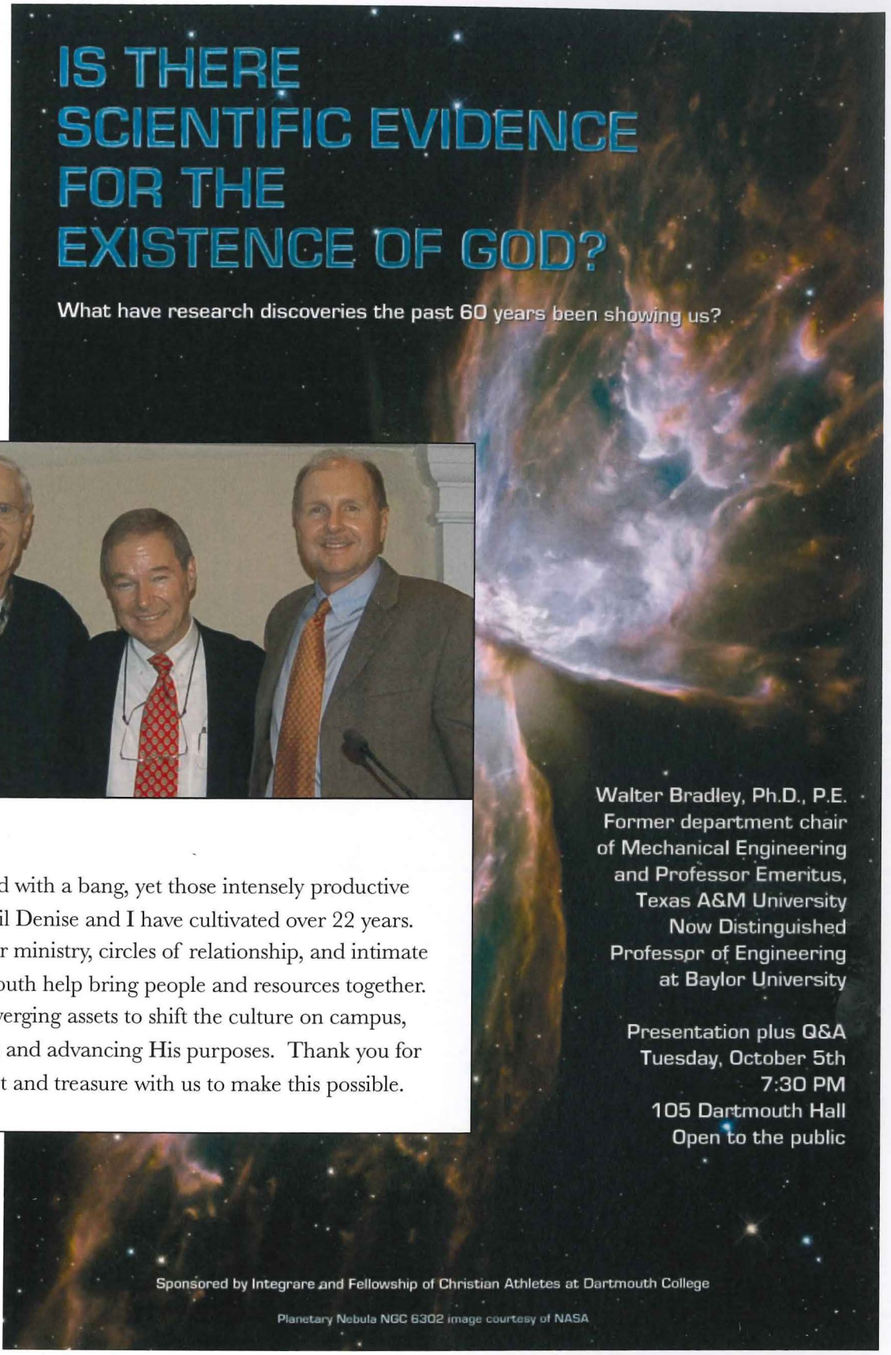


Soli Deo gloria!

October 1-6 finished with a bang, yet those intensely productive days grow out of soil Denise and I have cultivated over 22 years. Our broad vision for ministry, circles of relationship, and intimate history with Dartmouth help bring people and resources together. God uses these converging assets to shift the culture on campus, touching many lives and advancing His purposes. Thank you for investing time, talent and treasure with us to make this possible.

The Dahlbergs 20 Rayton Road Hanover, NH 03755
(603) 643-3912 *kent.dahlberg1@gmail.com*

Autumn greetings from New Hampshire!

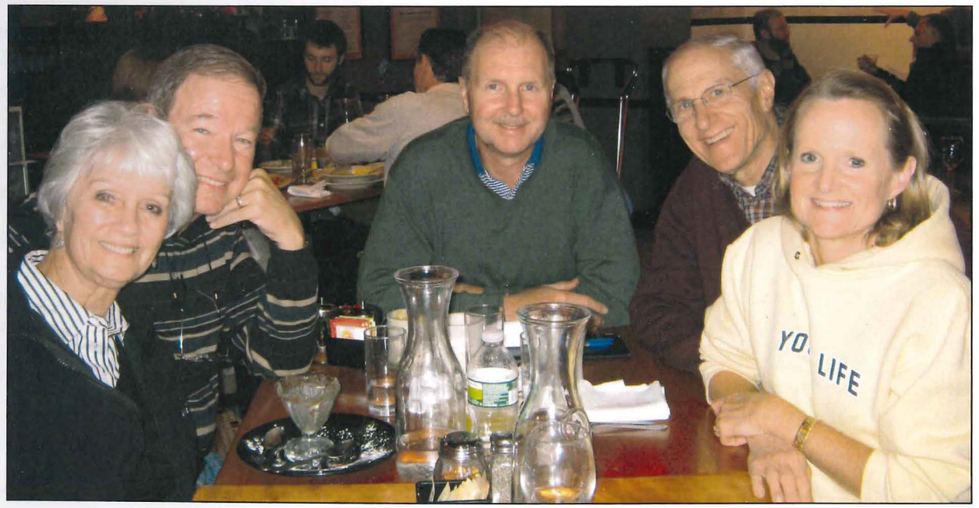
After three decades of ministry inside higher education — working with students, athletes, coaches, professors, administrators, and alumni — one of Denise's and my goals is to "**fly at a higher altitude.**" We want to leverage our experience, networks of relationships, and capacity to trust God to see greater influence for Christ's kingdom. For us, ***Integrare*** is very much an entrepreneurial venture. Fortunately we love going places that offer few well-marked paths, innovating to attract and connect strategic leaders.

October 1–6 we brought in two accomplished engineering professor–friends from Texas and California to climb into the trenches with us at Dartmouth: **Walter Bradley** and **John Walkup.** Walter's wife **Ann** joined us as well. Denise and I put together five days filled with opportunity, then worked Walter and John like a couple of rented mules! They took it all in stride and came back for more. God did amazing things.

To raise their profile and stir interest, we arranged for Dartmouth's Thayer School of Engineering to host Walter as its prestigious ***Jones Seminar*** faculty guest. He met six hours with professors, spoke in two classes, and presented his research to help spur Third World economic development by creating technology that turns 50 billion coconut husks discarded by 10 million poor coconut farmers into a valuable resource. (His Jones Seminar is at *http://engineering.dartmouth.edu/news-events/lecture-series/jones/2010/WalterBradley.html*)

Our five-day ministry odyssey included four major, spiritually focused speaking invitations for Walter and John, plus a gathering with MBA students at Dartmouth's Tuck School of Business. Then there were three breakfast meetings, two by-invitation luncheons we hosted for groups of 21 and 40 guests, a dinner, plus scores of conversations with undergrads, professors, administrators, community leaders, and alumni — all undergirded by prayer, courage and faith, topped off with a morning of worship, an afternoon of "local exploring" (i.e., two women shopping), a fall foliage hike, and 18 holes of scenic golf in Vermont.

To glimpse what occurred as Walter and John reached out alongside us, turn the page . . .



Breaking bread — Ann & Walter Bradley, Kent, John Walkup (Dartmouth class of '62), and Denise.

October 2010

Working lunch with 21 Dartmouth professors and administrators — Walter Bradley explores ways God uses followers of Christ in the hostile terrain of today's secular academy. Like the boy who gave up his five small loaves and two fish, as you and I "offer Jesus our lunch" — our time, talent and treasure — He delights to bless and multiply them, satisfying many needs while revealing His kingdom and power.

Dr. John Walkup '62 relates insights from his ministry among professors at Stanford University and Cal-Berkeley. Teaching electrical engineering for 27 years at Texas Tech, John pioneered basic research utilizing lasers to do *optical information processing* — the future of ultra high speed computing.

With us at Dartmouth, John spoke to our Christian faculty lunch and to *Agape* (the Asian Christian students). He met one-on-one with engineering professors, and addressed a strategic outreach luncheon we hosted at the *Hanover Inn* with 40 influential guests.

John is a close friend and Board member of ours. He loves Dartmouth and loves Walter and Ann. Engaging in the spiritual battle at his alma mater side-by-side means the world to John.

Dr. Bradley's ***Jones Seminar*** at Dartmouth's engineering school netted high profile coverage in the newspaper plus a presentation at Tuck School of Business on Third World economic development via *Whole Tree, Inc.* From this, we invited more MBA students to Tuesday's outreach luncheon. Walter and John led a discussion on *"Can a Thinking Person Believe in God... And Does It Make Any Difference?"* Our mix of 40 believers and non-believers enjoyed a convivial meal paired with stimulating conversation.

Teachable moments at *Fellowship of Christian Athletes* — After recounting his spiritual journey to 50 Dartmouth athletes packed into *Beta* fraternity house, Walter spent another hour talking with individuals, including these coeds from the track team. During his college years Walter transitioned from relentlessly chasing success to beginning to build his identity and significance on Christ. That resonated with our athletes, who drive themselves as hard in their studies as they do in their sports.

The buzz builds as Dartmouth Hall fills — 150 Ivy League students, professors and local residents anticipate Walter Bradley's apologetics lecture, *"Is There Scientific Evidence for the Existence of God?"* An hour of lively Q&A with the audience followed his 50-minute presentation. Walter's command of the field in contemporary science, combined with his patiently gracious manner, form a potent combination.

Prof. finds uses for coconut waste

By ALISON POLTON-SIMON

Could a coconut car be coming to a dealership near you? If Walter Bradley's business plan works out, it very well might.

Bradley, an engineering professor at Baylor University, discussed his efforts to develop products made from coconuts — a cheaper and more environmentally conscious alternative to conventional fibers used in car interiors — in a lecture on Friday at the Thayer School of Engineering.

> Traditionally, "about 85 percent of the coconut husk is not used at all, and in the worst case it is burned, which adds more pollution to the environment. I looked at the whole coconut, not just the oil."

In his speech, "Creating Technology to Convert Renewable Resources into Value-Added Products: The Case of the Coconut," Bradley explained that creative engineering solutions can be a "win-win-win," benefiting corporations, impoverished communities and the environment.

Coconuts are an "abundant, renewable resource, owned primarily by poor people in developing countries," Bradley said. Although Bradley said he started out as a "total ignoramus when it comes to coconuts," he was able to work with other scientists to take advantage of the coconut and create a program that made them profitable, he said.

Bradley sought to take advantage of oft-discarded portions of the coconut, particularly the husk, which composes one third of the fruit's biomass, he said. Discarded husks become enormous piles of waste that are difficult to dispose of, as the husks do not readily burn, he said. In some countries, such as Vietnam, discarded coconut shells clog rivers, causing further environmental damage.

Traditionally, about 85 percent of the coconut husk goes unused, he said. In the worst-case scenario, when husks are burned, more pollution is added to the environment.

Bradley hopes to find an application for the burn-resistant, moisture-resistant, odor-free and hypoallergenic properties of coconut fibers that makes a profit and helps poor farmers, he said.

Together with Hobbs Bonded Fibers of Waco, Texas — which already has contracts with several automakers — Bradley said he has found a way to manufacture trunk liners, among other automotive components, by combining coconut fibers with polypropylene.

> "Most coconut farmers have two to four acres. Every time they have a family with two or three sons, the acres get smaller and smaller and smaller."

Bradley is also looking into other applications of coconut parts, including potting soil, diaper filler and fire-proof green building materials, he said.

Bradley said he was inspired to begin looking for a way to help poor communities as a way to apply his experience working with graphite epoxy, a material used on fighter jets and spacecraft.

"What could I use [my experience] for to help people in developing countries?" Bradley said. "At the time I really didn't have any idea, because I knew developing countries really did not need graphite epoxy."

Fifty billion coconuts per year are grown in a band 20 degrees north and south of the equator around the world, where the majority of inhabitants, except those of Singapore, are poor subsistence farmers, according to Bradley. Bradley explained that most coconut farmers have an average annual income of about 500 dollars and about five or six children.

"Most coconut farmers have two to four acres," Bradley said. "Every time they have a family with two or three sons, the acres get smaller and smaller and smaller."

Ultimately, the cycle of poverty continues, as parents cannot afford to pay for the auxiliary costs of school — books and uniforms — even when the education itself is free, he said.

Bradley received funding for his efforts from the National Science Foundation. Prior to teaching at Baylor, Bradley was the department head of Texas A&M University's mechanical engineering department.

The lecture was part of the Thayer School's Jones Seminar Series, which brings science professionals to Thayer to cover a range of "big picture" topics about science and technology's relationship with society, according to the series' web site.

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- Compiled by Katie Kilkenny

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OPINION · 4
Out of Control
ARTS · 8
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TOMORROW
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Group teaches Chinese to children from region

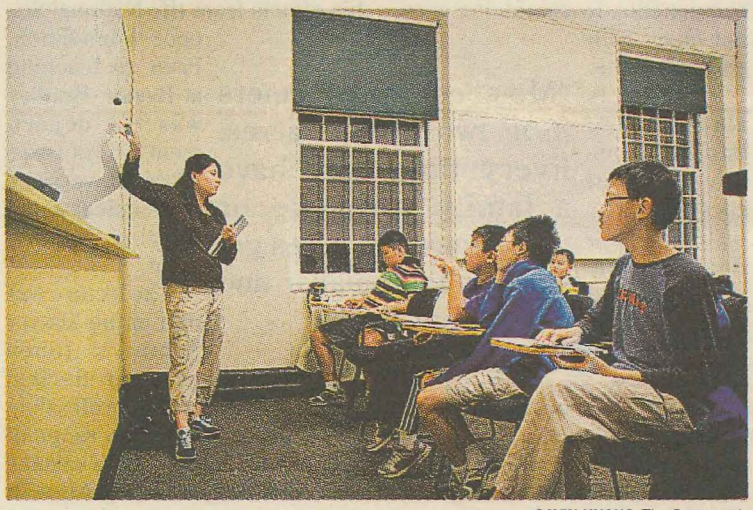
By CLAIRE GRODEN

Every Friday evening the first floor of Reed Hall is invaded by children repeating Chinese syllables and reading aloud from texts in Chinese. The Dartmouth Chinese Teaching Society, which is run by Dartmouth student volunteers, instructs local children in Chinese language and culture each week, according to John Mei '11, the society's president.

The Teaching Society, once a branch of the Dartmouth Chinese Cultural Society, is celebrating its second year as an individually recognized organization, Mei said.

Chinese education for children in the Upper Valley was originally organized and staffed by parents in the region, Mei said. About five years ago, a group of parents contacted the Chinese Cultural Society requesting help maintaining a regular teaching staff. Because the society and the newly formed Chinese School had very different goals, the school separated from the Cultural Society to become its own entity — the Chinese Teaching Society — in 2008,

See CHINESE, page 5



GAVIN HUANG/The Dartmouth

The Dartmouth Chinese Teaching Society trains children from the Upper Valley in Chinese language skills.

Peer funds address liquidity issues

By HANNAH KUHAR
The Dartmouth Staff

While the 2009 financial crisis prompted Ivy league institutions to restructure budgets and make serious cutbacks, Ivy League endowments for the 2010 fiscal year — which ended June 30 — demonstrate strong investment returns and an increase in value. The rise in endowment values is largely a result of strategic actions taken by Ivy League institutions to expand portfolios and redistribute privately invested assets, according to associated college newspapers.

The College reported a 6 percent increase in endowment value during the 2010 fiscal year, rising in value to almost $3 billion as of June 30, The Dartmouth previously reported.

Following these heavy losses, the College pursued a detailed review of its endowment, The Dartmouth previously reported. The College plans to allocate resources away from real estate and private equities and more towards U.S. public equities.

Other Ivy League schools that have seen endowment increases this year have followed a similar pattern of reallocating resources toward more liquid and publicly traded assets, according to several college and university newspapers. Publicly traded assets have generally seen greater returns this year than alternative investments, according to The Harvard Crimson.

The opposite approach — investment in illiquid assets rather than large funds — was what led to the significant losses following the market crash of 2008, according to the Crimson.

Yale University's endowment brought in an 8.9 percent investment return for this fiscal year, increasing the fund's value by 2.5 percent to a total of $16.7 billion based on gifts from donors, investment gains, adjustments and operating budget distributions, according to a release from the Yale Office of Public Affairs and Communications.

David Swensen, Yale's chief investment officer, created the University's investment model, which relies on assets such as commodities, real estate and private equity, according to Bloomberg. The University has continued to use the model, even after Yale's endowment value fell in fiscal year 2009.

The release reported losses from real assets, including holdings of real estate, oil and gas, and timber, citing the "weak economic environment" as responsible for the poor returns.

Despite these setbacks, Yale reported the rebound of its private equity portfolio from "crisis-induced losses" to a "robust return" of 18.1 percent, according to the release.

Harvard University reported an 11 percent increase in its endowment to $27.4 billion, according

See ENDOWMENT, page 5

Petit attorneys wrap up arguments

By FELICIA SCHWARTZ

During closing arguments in Steven Hayes's trial on Friday, lead prosecutor Michael Dearington argued that Hayes ignited the fire that killed Hayley Petit and two members of her family, seeking to refute the defense's claims that Hayes's accomplice was the mastermind behind the crimes, according to The New York Times.

Hayes is one of two men accused of murdering Hayley Petit — who was to matriculate with the Class of 2011 — along with her mother and younger sister, during a home invasion in July 2007. The two men later allegedly set fire to the Cheshire, Conn., house in order to conceal evidence. The other alleged murderer, Joshua Komisarjevsky, will be tried separately.

Hayes, who faces the death penalty, is charged with capital murder, kidnapping, sexual assault, burglary and arson.

Jurors are expected to begin deliberations as soon as this afternoon, after superior court judge Jon Blue issues the jurors' legal instructions, according to CNN.

Hayes' lawyer, New Haven chief public defender Thomas Ullmann, placed blame for much of the crime on Hayes's accomplice, according to the Connecticut Law Tribune. In his closing statement, Ullmann said it was Komisarjevsky's "unilateral decision" to stray from the pair's original plan to "break into the house, tie up people, steal money, steal jewelry and leave."

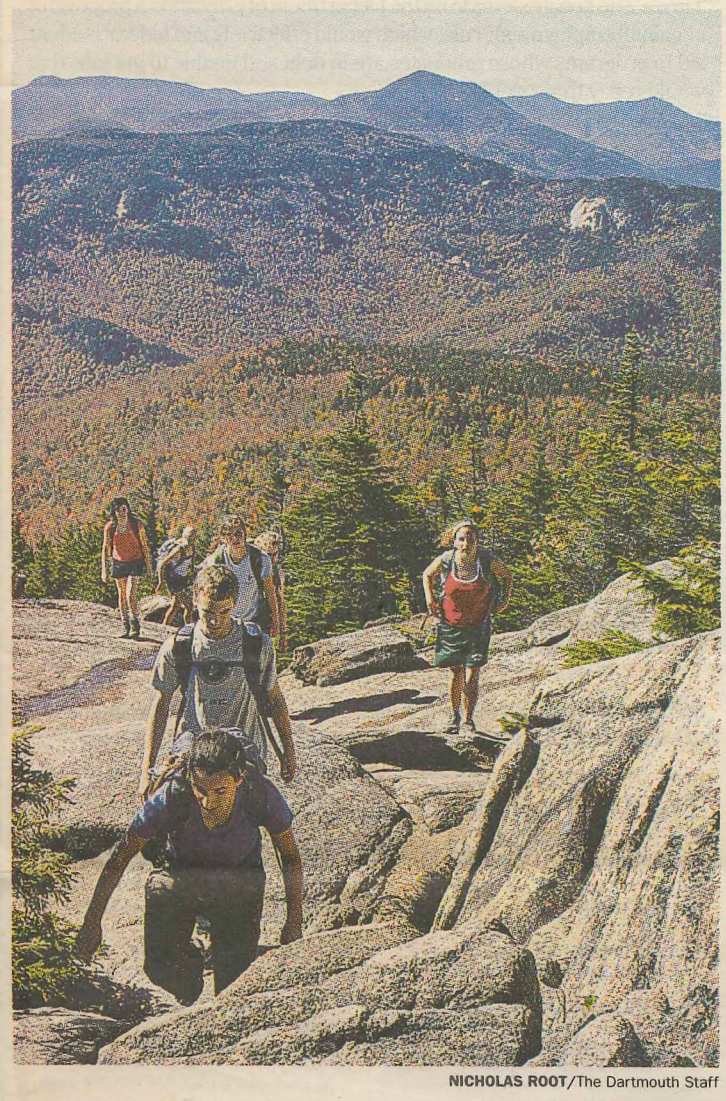
Komisarjevsky altered the plan, Ullmann said, when he sexually assaulted one of the girls while Hayes was at the gas station and then the bank, according to the Tribune.

"Hayes' one big goal is life without any possibility of parole," Thomas Scheffey, an attorney, wrote in an analysis of the trial for the Tribune.

One of the defense's strate-

See PETIT, page 3

ROCK SOLID



NICHOLAS ROOT/The Dartmouth Staff

A Cabin and Trail hike up Mt. Chocorua coincides with peak fall color in the area.

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DailyDebriefing

A record 39 percent of undergraduate students enrolling in the University of California system this fall come from low-income families, The Chronicle of Higher Education reported. This year's figure constitutes the largest percentage of low-income students in the University's history and represents an increase of 8 percentage points from the 2008-2009 school year. On average, 18 percent of students on the flagship campuses of the United States' 39 best-endowed universities came from low-income households, according to a study from The Chronicle. The percentage from this year's report was based on the 70,000 Pell Grant recipients — those who receive federal need-based grants for their education — enrolled in University of California schools.

Criminal Internet gangs are recruiting computer-savvy college students to write viruses, commit identity theft and launder money, according to the The New Zealand Herald. Virus writing and computer hacking are part of a billion-dollar industry more profitable than the drug trade, attracting young adults plagued by high unemployment rates and low wages, particularly from eastern Europe, The Herald reported. Computer hackers often surf social networking sites to identify victims for "phishing" attacks, in which spam-like e-mails con recipients into revealing their credit card numbers. Information concerning these activities was published by the Internet security firm McAfee, in a report based on FBI and European intelligence.

The ongoing debate concerning the legitimacy and fairness of for-profit colleges was further politicized during a hearing of the Committee on Health, Education, Labor and Pensions in Washington on Thursday, according to The New York Times. Committee chairman Tom Harkin, D-Iowa, released a report at the meeting, which found that about 95 percent of students enrolled at for-profit colleges take out loans, compared to just 16 percent of community college students. More than half of for-profit college students in the 2008-2009 school year had dropped out by August 2010, according to the report. Senator John McCain, R-Ariz., defended for-profit schools at the hearing, expressing disapproval of the committee's current agenda before walking out of the hearing, according to The Times. The debate stems from the Department of Education's proposal of a "gainful employment" rule, which would effectively end federal student aid to programs whose graduates are in debt and unable to get jobs that would repay those debts.

— Compiled by Katie Kilkenny

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Prof. finds uses for coconut wast

By ALISON POLTON-SIMON

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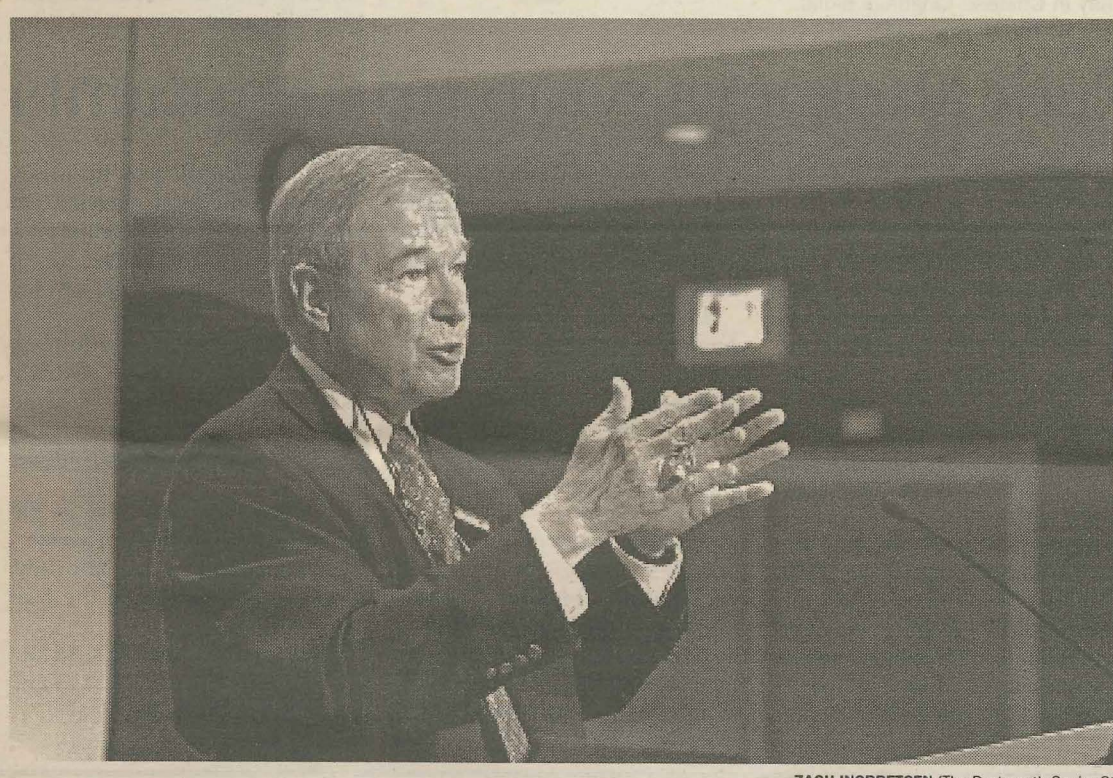

ZACH INGBRETSEN/The Dartmouth Senior St

Baylor prof. Walter Bradley discussed how technology let poor farmers turn coconut husks into profitable resource

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LONGVIEW, TEXAS

AUSTIN
EDUCATIONAL CENTER

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EDUCATIONAL CENTER

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LeTourneau University

Spring Commencement Service
May 8, 2010
1:00 p.m.

S. E. Belcher Jr. Chapel and Performance Center
2100 Mobberly Avenue
Longview, Texas

SPRING COMMENCEMENT PROGRAM

Prelude

Corey R. Ross, M.T.S.
Dean of Students

***Processional**

"Pomp and Circumstance"

Brass Quintet
From the East Texas Symphonic Band
by Sir Edward Elgar

***Invocation**

David A. Shankle, M.A.
Director, Distance Learning

Convening the Commencement

Carol C. Green, Ph.D.
Vice President, School of Graduate and Professional Studies

Hymn

"To God Be The Glory"

Ray Thompson, Ed.D.
Director, East Texas Educational Center
Fanny J. Crosby, Composer
Arranged by William H. Doane

To God be the glory, great things He hath done; So loved He the world that He gave us His Son,
Who yielded His life an atonement for sin, And opened the life gate that all may go in.

O perfect redemption, the purchase of blood, To every believer the promise of God;
The vilest offender who truly believes, That moment from Jesus a pardon receives.

Great things He hath taught us, great things He hath done, And great our rejoicing thru Jesus the Son;
But purer, and higher, and greater will be; Our wonder, our transport, when Jesus we see.

Refrain
Praise the Lord, praise the Lord, Let the Earth hear His voice! Praise the Lord, praise the Lord,
Let the people rejoice! O come to the Father, thru Jesus the Son,
And give Him the glory, great things He hath done.

***Scripture Reading**

Bonita D. Vinson, Ph.D.
Director, Dallas Educational Center

Special Music

"Gentle Savior"

Jason Horn
Written by: Greg Bieck, Kyle D. Matthews, & David Phelps

Welcome and Introduction of Commencement Speaker

Dale A. Lunsford, Ph.D.
President, LeTourneau University

Commencement Address

Walter L. Bradley, Ph.D.
Distinguished Professor of Engineering at Baylor University

Presentation of Candidates for Degrees

Robert W. Hudson, Ed.D.
Executive Vice President for Academic Affairs

Robert W. Hudson, Ed.D., Executive Vice President for Academic Affairs
Carol C. Green, Ph.D., Vice President, School of Graduate and Professional Studies
Robert B. Wharton, Ph.D., Dean, School of Business
Wayne J. Jacobs, Ph.D., Dean, School of Education

Conferring of Degrees

Dale A. Lunsford, Ph.D.
President, LeTourneau University

Charge to the Graduates

Dale A. Lunsford, Ph.D.
President, LeTourneau University

Induction into the Alumni Association

Martha Steed, B.B.A.
Director, Alumni and Parent Relations

***Alma Mater**

LeTourneau's sons and daughters true,
Are faithful round this world to you,
Our prayers ascend to God on high,
That in His will your path may lie.

Caressed by sunny southern skies,
Our honored Alma Mater lies.
Among the murmuring green pines near,
We lift our praise to thee so dear.

Chorus
Alma Mater praise to thee, We pledge anew our loyalty
The happy days we here have spent, A new zeal to our lives have lent.
In joyful song it must be told; All hail LeTourneau Blue and Gold
All hail LeTourneau Blue and Gold!

***Benediction**

Fredric J. Carlson, Ph.D.
Professor of Business, Dallas Educational Center

***Recessional**

Trumpet Voluntary

Brass Quintet
From the East Texas Symphonic Band

****Audience Standing***

COMMENCEMENT SPEAKER

Dr. Walter L. Bradley
Distinguished Professor of Engineering
Ph.D., Materials Science, UT Austin, 1968
B.S., Engineering Science, UT Austin, 1965

Walter Bradley earned his Bachelor of Science in Engineering Science and his Ph.D. in Materials Science from the University of Texas in Austin. A native of Dallas, he taught for eight years at the Colorado School of Mines and then served for 24 years as a Professor of Mechanical Engineering at Texas A&M University.

He has been at Baylor for eight years where his research efforts focus on helping the poorest people in underdeveloped parts of the world to help themselves by providing them with appropriate technologies. For example, he is developing various means to convert the constituent parts of coconuts into value-added products such as diesel fuel, particle board, and non-woven fabric composites for automotive parts. As a Christian, Bradley has been keenly interested in the interaction of faith and science. This perspective informs his view of God's majesty and glory in a much more profound way and propels his goal to help others see that the more we learn about God's creation through the eyes of science, the more faith it takes to be an atheist.

While at Texas A&M University, Bradley served as Head of the Department of Mechanical Engineering and Director of its Polymer Technology Center, winning five research awards and receiving more than $5 million in research grants. His publishing credentials include more than 150 technical articles and book chapters. Bradley is a Fellow of the American Society for Materials and of the American Scientific Affiliation. As a consultant, he has worked for many Fortune 500 companies including Exxon, 3M, Dupont, Dow Chemical, Shell, Chevron-Phillips, and Boeing.

Bradley also co-authored one of the seminal books in the Intelligent Design movement, *The Mystery of Life's Origin: Reassessing Current Theories*, published in 1984 by the secular publisher Philosophical Library. He has subsequently published 17 other articles or book chapters on various aspects of faith and science, including some with secular publishers. Over the course of his career, Dr. Bradley has served as a visiting research scientist and visiting professor internationally in Brazil and an invited presenter at secular institutions such as MIT, Cal-Berkley, Stanford, Harvard, Yale, and Princeton.

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LeTOURNEAU UNIVERSITY

The LeTourneau Story

LeTourneau University is named for our founder - R.G. LeTourneau. World famous inventor, engineering genius, designer of heavy duty earth moving equipment, huge off-shore drilling platforms, and the electric drive wheel, he was first and foremost a Christian. He acknowledged his responsibility to God by investing millions of dollars in missionary development projects in Liberia, West Africa and Peru, South America, bringing the Gospel, education, and medical aid to thousands.

For over thirty years, he traveled across the U.S., Canada, and other foreign countries sharing his testimony about the satisfaction and joy of serving Jesus Christ. Each time he spoke, he began by saying, "I'm just a mechanic that God has blessed, and it seems He wants me to go around telling how He will bless you, too."

Probably his most significant ministry will prove to be the school he and his wife, Evelyn LeTourneau, established in Longview, Texas. While flying over the area in 1946 to select a manufacturing site, Mrs. LeTourneau saw the sprawling complex of a vacated Army hospital consisting of over two hundred frame buildings. When told that it was no longer in use, she asked about establishing a school to serve the many GI's returning from the war.

The site was secured and LeTourneau Technical Institute was established. From 1946 to 1961, more than 7,000 men received technical training in the new school. By 1961, the institution had outgrown the tech school mold. In 1961, LeTourneau Tech became LeTourneau College as the school became a four year college, broadened its curriculum to include many technical and non-technical majors, and became co-educational. In 1989, LeTourneau College became LeTourneau University, reflecting the quality and diversity of academic programs, the aptitude and international flavor of the student body, and the service orientation, research capabilities, and professional nature of the curriculum.

The LeTourneau University of today is an accredited, interdenominational, comprehensive Christian university, offering four-year and two-year degree programs in engineering, technology, the liberal arts, business, aeronautical science, education, and the sciences, plus graduate programs in business and education. In the legacy of R. G. LeTourneau, the University today prepares professionals of ingenuity and Christ-like character to serve in every workplace in every nation.

"But seek ye first the kingdom of God, and His righteousness; and all these things shall be added unto you." Matthew 6:33

Life verse of Mr. R. G. LeTourneau

Feb 2008
High gravel

People Management

♦Where job fit matters ♦

November 10, 2006

Dr. Walter Bradley
Baylor University
PO Box 97026
Waco, TX 76798

Dear Dr. Bradley,

People Management has been retained by the Board of Trustees at LeTourneau University to assist them in their search for their 6th President. Dr. Alvin O Austin has served as President at LeTourneau University for over 20 years, a third of the university's history. Chairman of the Board of Trustees, Dr. Kenneth L. Hall, has said, "The Board and the University have been grateful to have the caliber of leadership provided by President Austin for 20+ years. However, LeTourneau University has never been in a stronger, more favorable position for a transition in the presidency."

Your name has been suggested by one or more of your peers as a person who would make a good President for LeTourneau University. I have enclosed a copy of the Opportunity Profile for your review. All information for the application process is located on the LeTourneau University website… www.letu.edu/presidentialsearch.

The deadline for receiving applications is December 1, 2006. I hope that you will give this serious consideration. If you have any questions, please telephone me at 615-463-2800. If I am traveling, my assistant, Vivian, can set a time for us to talk.

Sincerely,

Tommy W. Thomas, D.Phil.
Managing Director

2021 21st Ave. South ♦ Suite 304 ♦ Nashville, TN 37212
615-463-2800 (tel) ♦ 615-463-2944 (fax)
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Dr. C. Roland Haden
invites you to honor
your colleagues
and greet new faculty members
at the 1995 Engineering Program
Fall Meeting

❖

Thursday, September 21
4:30 p.m., Room 203
Zachry Engineering Center
Texas A&M University

medium.

Internet Awareness Week afforded in using the powers of the Internet, Lawrence said.

Engineers Receive Teaching Awards

Eleven engineering faculty members received awards for superior teaching at the Texas A&M University Look College of Engineering fall meeting Sept. 21.

Robert Nevels, professor, Department of Electrical Engineering, received the AMOCO Foundation Faculty Teaching Award.

Walter Bradley, professor, Department of Mechanical Engineering, accepted the Charles W. Crawford Teaching Award.

Cesar Malave, associate professor, Department of Industrial Engineering, received the Lockheed Fort Worth Company Excellence in Engineering Teaching Award.

Richard Alexander, professor, Department of Mechanical Engineering, and Maria Barrufet, assistant professor, Department of Petroleum Engineering, received Tenneco Meritorious Teaching Awards.

Bill Batchelor, professor, Department of Civil Engineering, accepted the E.D. Brockett Professorship.

John Yen, associate professor, Department of Computer Science, received the Dresser Industries Professorship.

Mark Weichold, professor, Department of Electrical Engineering; Costas Georghiades, professor, Department of Electrical Engineering; Fabrizio Lombardi, professor, Department of Computer Science; and James Liao, associate professor, Department of Chemical Engineering, accepted Halliburton Professorships.

F.A.C.T. to Call

New faculty members of the Dwight Look College of Engineering will be introduced, and the following awards will be presented.

❖

Association of Former Students Awards
Recipients to be announced

❖

AMOCO Teaching Award
Robert Nevels

❖

Charles W. Crawford Teaching Award
Walter Bradley

❖

Lockheed Excellence in Teaching Award
César Malavé

Tenneco Meritorious Teaching Award
Maria Barrufet
Richard Alexander

❖

E.D. Brockett Professorship
Bill Batchelor

❖

Dresser Industries Professorship
John Yen

❖

Halliburton Professorship
Mark Weichold
Costas Georghiades
Fabrizio Lombardi
James Liao

❖

TEES Select Young Faculty
Long-Ching Wang

❖

TEES Fellows
James Bonner
Kai Chang
Mark Holtzapple
Moo-Hyun Kim
Dimitris Lagoudas
Dennis O'Neal
Dhiraj Pradhan
Luis San Andres
Jamal Seyed-Yagoobi
Maciej Styblinski

❖

TEES Senior Fellow
Ken Hall

Today more than ever before our colleges are graduating men and women highly trained in the"art of learning a living", but very poorly trained in the "art of living". The students of the 50's were content to find answers to such questions as "For whom shall I work?" Today students are looking for answers to the far more basic questions such as "Who am I?", "Where am I going"?, and "What is the real purpose in life." They seek an identity from which they can gain a perspective on life. Many who have rejected the materialistic value systems of their parents have been frustrated in their search for a more meaningful reason for living. They want their lives to count, but for what, they are uncertain. It was my good fortune during my seven years at the University of Texas to not only raise many of these questions, but to find some really meaningful answers.

COPY

As I began high school, I had one consuming (and common) goal, to gain the esteem of my fellow-students. To this end, I sought to distinguish myself in athletics, studies, and politics. As I pursued my goal, I succeeded beyond my most optimistic expectations. And yet, my success did not bring me the kind of happiness I had expected. If I played a good baseball game or tennis match, I was happy for the moment, but it soon passed. By the time I graduated from high school, I was not perceptively happier for all my success and recognition than I had been as an obscure freshman.

For lack of other purpose in my life, success continued to be my "god" for my first two years of college. I lived on a roller coaster, being up when things were going my way, and down when they

weren't. My time was filled with many activities, which spared me the discomfort of stopping to think about what I was living for.

I had two fraternity brothers, however, who seemed to have the kind of inner-source of strength, confidence and happiness that I had been seeking in "success." They were not at the mercy of circumstances, as I was.

In a big bull session one night, they shared with me what it was that had made their lives different. They explained that they had come into a very personal and meaningful relationship with God through Jesus Christ. Well--I was appalled to say the least! I had attended church for almost twenty years, but to me it had always been a meaningless ritual. As we talked further, I realized I had never honestly sought God; I had never been willing to allow him a place of prominence in my life. Pascal, the great French physicist said, "There is a God-shaped vacuum in the heart of every man that cannot be filled by any created thing, but only by God the creator made known through Jesus Christ. I had been trying to fill such a void in my life with success. My fraternity brothers shared with me the knowledge that God loved and accepted me just as I was, and that he would come into my life as he promised if I would let him. Christ said in Rev. 3:20, "Behold, I stand at the door and knock. If any man hear my voice and open the door, I will come in and have fellowship with him and he with me."

My immediate reaction was that I would be unable to live up to the Christian standards I had learned in church. They explained to me that no one could until they allowed God to come into their

COPY

men in this way, and their "want to do's" begin to coincide with what God wants them to do, then living the Christian life ceases to be a struggle. It involves trusting what God can do in our lives rather than trusting in what we can do to please God.

With some doubts and not fully understanding all that was involved, I made that all important initial step of inviting Christ into my life. True to his promise, he came in. In the years that have transpired since then, I have seen many gradual changes taking place in my life. My attitudes and priorities have changed completely. As I have come to know more of God and his love, I have come to better understand myself and the people around me. I have had prayers answered and have experienced a peace which passeth all understanding. I still have problems, but I have the confidence that comes from knowing that God will help me deal with them. What more could an engineering student ask than to have the most beautiful theory he could possibly imagine so completely validated in the laboratory of life?

COPY

will focu
development in

Mechanical engineer gets Halliburton grant

oto by Pat O'Malley

A $20,000 grant has been presented to the Texas A&M University College of Engineering by the Halliburton Education Foundation.

Engineering Dean Robert H. Page received the grant from officials of Brown and Root, Welex and Otis engineering firms, which are units of the Dallas-based Halliburton Co.

Page said the funds, which represent the 16th annual grant to Texas A&M by the foundation, will enable the new Halliburton Professor of Engineering, Dr. Walter L. Bradley of the mechanical engineering faculty, to perform studies in high temperature mechanical behavior of materials.

Bradley, a four-year Texas A&M faculty member, has degrees from the University of Texas at Austin and taught earlier at the Colorado School of Mines.

The metallurgist has presented expert testimony on gas pipeline failure. Also, he has studied thermal fatigue of turbine blades in jet engines. His findings are applicable in power stations operations as conversion to less efficient fuels requires higher and higher temperatures.

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Buffy's Boutique
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4340 Carter Creek Parkway Off 29th Street
846-8769 Mon.-Sat., 10 to 6

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Scientist says he has evidence God exists

■ **Campus tour:** Form of universe hints at an 'intelligent creator.'

By Hugh McCann
THE DETROIT NEWS

Trust a Texan to rush in where even angels might fear to tread.

Scientist Walter Bradley has taken to the national lecture circuit with a topic most of his scientific peers wouldn't touch with a longhorn steer: the scientific evidence for the existence of God.

"My purpose is to consider whether the character of the universe suggests an intelligent cause," said Bradley, a specialist in the science of materials, which is the study of the molecular structure and interaction of things.

"The form of the universe strongly suggests an intelligent creator."

Bradley, who is the former chairman of the mechanical-engineering department at Texas A&M University in College Station, Texas, sees evidence for God in recent refinements in the Big Bang theory of the origin of the universe.

people are talking
FAMILY

He also sees evidence of God in the revolution that DNA has produced in the understanding of the design of life and the structures necessary to maintain it.

Bradley compares these refinements to such advances as Newton's discovery of the law of gravitational attraction and Coulomb's law of attraction between particles. It all seems to imply a universe infinitely more delicately balanced, and an Earth peopled by organisms infinitely more complex, than previously realized.

The revelations suggest to him even more strongly than before that the universe did not come into being as the result of an accident. "It certainly looks as if it had an intelligent creator," he said.

"The fact that the universe requires such fine tuning in order to be functional and support living and be an appropriate environment in which living systems can exist is today universally accepted. The only point of debate is whether this apparent design is indeed the result of an intelligent creator."

Bradley, who says he believes in God, said he tells audiences that "scientific evidence is just that: evidence for — but not proof of — the existence of God. All scientific understanding is tentative, subject to change in light of new evidence."

He takes the podium at Michigan State University at 7 p.m. today in Wells Hall. His appearance is funded by the Christian Leadership Ministry of Michigan.

Typically, he draws 800 to 1,000 students and faculty members per lecture, and his question-and-answer sessions usually run an hour or more.

Students come "expecting some imbecilic presentation," he added. "They really come expecting the public burning of a creationist, and I'm the bait.

"But it's a lot of fun to help people to see — maybe for the first time, or in a different way — that belief in God is perfectly reasonable."

A SPECIAL WORD OF THANKS

MADE IN THE U.S.A.

Joyfully Yours

72120-99-04

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ARKANSAS

Dear Walter,

5/3/06

It was a real treat for me and my brothers and sisters in Christ to spent some time with you recently. You certainly inspired us with your example. You set a high standard that we will be working toward. We all realize that it would be much easier to drift along, but we also realize that Jesus is calling us individually and collectively to be Salt and Light on the University of Arkansas campus. We look forward to seeing what Jesus can do in our midst. We are looking into getting official recognition as an organization and would covet your prayers in that matter. We are also looking at ways to deepen our fellowship and expand our witness on campus.

We have enclosed a check to cover expenses and provide a little extra to honor your commitment to us and Jesus Christ. I can see clearly now that God's hand was clearly in our decision to invite you here. Your talk with the CFF faculty at noon provided a number of fresh ideas and stimulated our thinking. Your presentation at the banquet could not have been more perfect! PRAISE God!

"THE AMAZING GRACE of the MASTER, JESUS CHRIST, the EXTRAVAGANT LOVE OF GOD, the INTIMATE FRIENDSHIP of the Holy Spirit be with you." II CORINTHIANS 13:14 (MESSAGE)

Frank Jones

May God bless you for all you've done.

THANK YOU

University of Arkansas
Christian Faculty Fellowship

Dear Walter,

5/3/06

It was a real treat for me and my brothers and sisters in Christ to spent some time with you recently. You certainly inspired us with your example. You set a high standard that we will be working toward. We all realize that it would be much easier to drift along, but we also realize that Jesus is calling us individually and collectively to be Salt and Light on the University of Arkansas campus. We look forward to seeing what Jesus can do in our midst. We are looking into getting official recognition as an organization and would covet your prayers in that matter. We are also looking at ways to deepen our fellowship and expand our witness on campus.

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"THE AMAZING GRACE of the MASTER, JESUS CHRIST, the EXTRAVAGANT LOVE OF GOD, the INTIMATE FRIENDSHIP of the Holy Spirit BE with you." II CORINTHIANS 13:14 (MESSAGE)

Frank Jones

May God bless you for all you've done.

THANK YOU

University of Arkansas
Christian Faculty Fellowship

SOCIETY OF PLASTICS ENGINEERS

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February 17, 2011

Dr. Walter L. Bradley
Distinguished Professor of Mechanical Engineering
Baylor University
One Bear Place 97356
Waco, TX 76798

Dear Walter:

Please accept my personal congratulations on your selection as the recipient of the 2011 SPE Education Award. This award recognizes lifetime achievements in the field of plastics/polymer education.

You will be officially recognized at the "SPE Celebrates" Banquet on Sunday, May 1, 2011, during the Society's 69th Annual Technical Conference (ANTEC® 2011) in Boston, MA. Details for this event will follow from SPE Headquarters.

I look forward to seeing you at ANTEC.

Sincerely,

KEN J. BRANEY
2010-2011 SPE President

Cc: T.S. Walsh, Nominator

For your information, the following are previous recent recipients of the SPE Education Award: Dr. Robert Weiss (2000), Dr. John Vlachopoulos (2001), Dr. Donald Baird (2002), Dr. Charles Beatty (2003), Steven B. Driscoll (2004), Dominick V. Rosato (2005), Timothy E. Weston (2006), Frank N. Kelley (2007), Dr. Robert A. Malloy (2009), and Dr. Sadhan Jana (2010).

You're joining an elite group of the plastics industry's best and brightest, Walter, and I congratulate you again on this honor. I look forward to seeing you in Boston! In the meantime, if you have any questions, please don't hesitate to contact me.

Sincerely,

Gail R. Bristol

GAIL R. BRISTOL
Managing Director
Foundation & Corporate Outreach

enc.
cc: T.S. Walsh, Nominator

SOCIETY OF PLASTICS ENGINEERS

13 CHURCH HILL ROAD, NEWTOWN, CONNECTICUT 06470 USA
TELEPHONE: +1 203-775-0471 FAX: +1 203-775-8490 WWW.4SPE.ORG

March 1, 2011

Dr. Walter L. Bradley
Distinguished Professor of Mechanical Engineering
Baylor University
One Bear Place 97356
Waco, TX 76798

Dear Walter:

Please accept my personal congratulations for being chosen as the recipient of the 2011 SPE Education Award. The award consists of a plaque with your name, the year and the place of presentation, and an honorarium of $2,500.

It will be our honor to officially recognize you during the Society's 69th Annual Technical Conference (ANTEC 2011) in Boston, MA. We invite you and a guest to be our guests on Sunday evening, May 1st, when SPE pays honor to you during the special "SPE Celebrates" Banquet in Salon F of the Boston Marriott Copley Place Hotel. After dinner, presentation ceremonies will include recognition of the recipients of SPE's 2011 Annual Awards. It is at this time that Ken Braney, 2010-2011 SPE President, will present you with your plaque and check. You will have two minutes to make a brief acceptance speech.

Please complete the enclosed Ticket Order Form to let me know who will be attending so that I can reserve your tickets. If you require more than the two free tickets, you can order them using this form. Plan to arrive for the evening's events around 6:00pm, and check in at the SPE registration table that will be located in the A-D Ballroom Foyer to obtain your tickets and table assignment. You will then be directed to a specific location for a brief photographic session prior to the start of the festivities (Reception: 6:00pm; Dinner: 7:00pm).

Please complete and return the enclosed Press Release form to aid us in announcing your election as an SPE Fellow of the Society. I also need your photo (a headshot is preferred) by **March 15th**. If you wish to send it to me electronically, please be sure it is at least 300dpi (jpg or eps).

We ask that you reserve your own hotel accommodations as well as the accommodations of any members in your party. Hotel information is available on the ANTEC website (www.antec.ws). This award does not cover free registration to ANTEC.

Thank You

BAYLOR UNIVERSITY

1845

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200 Compass Circle, N. Kingstown, RI 02852
Printed in the U.S.A.

Dear Dr. Bradley,

Thank you so much for your leadership in my life these past several years – both at Baylor and at Highland. I have long appreciated your scholarship and your courage in standing up for intelligent design, but these past six years you have also demonstrated for me Christian charity and the compassion of Christ. I am very grateful for this example that you have set.

Thank you for all you do for Baylor University and for Highland Baptist Church. I continue to pray for your health and for God's healing and blessing in your life. Thank you, again, for everything!

Most Sincerely,

Sam Allen

MAY 2011

Who wrote this very generous picture of me?

I sayed it in my keep sake file 0

Many thanks 0

Why He Is a Hero

The Exemplary Life and Legacy of Dr. Walter Bradley
By Robert J. Marks

The new **Walter Bradley Center for Natural & Artificial Intelligence** will explore emerging technology from many angles. The Center is named after my hero Walter Bradley. Walter's accomplishments are more than impressive. They leave an everlasting impact.

CAREER

When cleaning out the office of a retiring colleague in my department, boxes of papers and personal effects were placed in the hall outside his office door. To assure the box would be removed by the night cleaning staff, the word TRASH was written boldly on a sheet of paper and taped to the largest box. What a sad empty metaphor for a Professor's career — indeed for any career. Walter Bradley is my hero because the impact of his life will be celebrated in perpetuity. I want a heritage like that. But ironically such a goal cannot be achieved by making it a goal. It comes indirectly from dedicated hard work and a life selflessly motivated by a mission greater than self. This is why Walter Bradley is my hero.

In preparation for making an introduction of Walter to those of you who don't know him, I made a list of his accomplishments to work from. The list alone was so impressive, I decided it needs little prose embellishment from me. So here are my bullets ranging from the professional to personal to introduce you to Walter Bradley.

Scholarly Excellence

- Walter's academic accomplishments by themselves are singularly distinctive. When at Baylor University, his official title was Distinguished Professor. There are assistant, associate and full professors. Most in academia are happy to retire at the level of Professor. Walter has retired from Baylor and is now a Distinguished Professor Emeritus. Distinguished Professors are "those whose outstanding scholarship and national reputation for excellence in his or her academic discipline greatly exceed the bounds of scholarship exemplified by most if not all other faculty members." That's Walter. During his career, Walter attracted millions of dollars to support his graduate students and research including a project from *Curves International*to design their next generation of exercise equipment.

B.S., Engineering Science (1965) and Ph.D. in Materials Science (1968) from the University of Texas (Austin)

Assistant and Associate Professor of Metallurgical Engineering at the Colorado School of Mines

Professor of Mechanical Engineering at Texas A&M University

Distinguished Professor of Mechanical Engineering at Baylor University

Cofounder, Global Poverty Center

Director, Polymer Technology Center

WORKS

The Mystery of Life's Origin (1988)

"Designed or Designoid" (1998)

"The Designed 'Just So' Universe" (1999)

"Is There Scientific Evidence for the Existence of God" (1995)

Creation of the Cosmos at UC Santa Barbara on YouTube

"Seven Habits of Highly Effective Professors" on YouTube

- Walter also was a Professor of Mechanical Engineering at Texas A&M where he served as department Chair.

- Walter, an engineer, is a pioneer in *Sustainable & Appropriate Technology*. Third world countries don't need a smarter computer. They need technology appropriate for their current circumstance. In one venture Walter noticed that coconuts were a wasted resource in many developing countries so he pioneered efficient use of the coconut from pulp to shells and helped establish the infrastructure for nationals to run their own coconut business. Hundreds of jobs have been created by the company Dignity Coconuts, which proudly claims "Our business was born out of a conviction to help communities overcome cycles of poverty and slavery. Not with a handout, but with a sustainable business that will bring lasting hope and change to communities." The product is outstanding. Because it is not heated, their raw coconut oil is delicious. Fry your eggs or butter your popcorn with it. My wife Monika, a therapeutic masseuse, uses coconut oil topically for her massages. And yes, you can order Dignity Coconut Oil on Amazon.com.

Original Thinker

- Walter is co-author with Charles Thaxton and Roger Olson of one of the first major modern works on Intelligent Design: *The Mystery of Life's Origin.* From the Preface of the original 1984 edition we read: "*The Mystery of Life's Origin* presents an extraordinary new analysis of an age-old question: How did life start on earth? The authors deal forthrightly and brilliantly with the major problems confronting scientists today in their search for life's origins." The highly influential work was cited as a contrast in a review of Richard Dawkins' *Climbing Mount Improbable*. Stephen Meyer, a Senior Fellow of Discovery Institute and Director of its Center for

Science and Culture, cites the book as a major influence in his decision to pursue intelligent design (ID). The book is currently available free online in pdf format.

Faithful Witness

- Many of Walter's accomplishments are centered on his Christian faith. Walter was instrumental in founding an arm of CRU (formerly Campus Crusade for Christ) that ministers directly to university faculty. The organization today is known as Faculty Commons. After the group was founded, my PhD advisor Dr. John Walkup retired and went on full time staff where he ministered to university faculty in the San Francisco Bay area including Stanford and UC Berkeley. Among other activities, Faculty Commons today sends a weekly newsletter to university Christian faculty with encouragement and tips from staff and Christian faculty.

- Walter has spoken at most major universities in North America (some twice) on the topic "Scientific Evidence for the Existence of God" where he addresses the remarkable fine-tuning of our universe for life. I was at the University of Washington, Seattle when I first met Walter at one of these talks. His presentation always packed auditoriums.

- At universities on other trips, Walter hosted an "invite your favorite faculty" event where Christian students would invite their favorite faculty to a free lunch after which Walter shared his experience in the intersection of academia with faith and Christianity.

- Walter is pro-life. When he was a Prof at Texas A&M, Walter and wife Ann helped found one of the nation's first crisis pregnancy centers.

- Walter is interviewed in Lee Strobel's book *The Case for Faith*. He appears in the documentary *Expelled,*

No Intelligence Allowed as an expert in the origin of life. Walter is a licensed instructor for the course based on Stephen Covey's *7 Habits of Highly Effective People*and has taught the course many times.

- Walter was elected President of the American Scientific Affiliation(ASA).The ASA is the world's largest professional society of Christian technical and scientific professionals.

- Even in retirement, Walter remains in high demand as a speaker. One of his appearances last year was as a Q&A panelist on the topic "Does God Matter? Answering tough questions." The video is available on YouTube.

Accessible Mentor

Undergraduate students who attend top research universities like Stanford have little expectation of interaction with top research faculty. Walter Bradley breaks with this tradition and does so in meaningful ways.

- Walter pioneered "movie night" where a hand full of students are invited to his house to eat popcorn and watch a movie. Movies are shown that lead to talk about meaningful things in life. His favorites include Woody Allen's *Crimes & Misdemeanors* and *Sophie Shoals*.

- When students ask about spiritual matters, Walter offers to meet with them one-on-one. I was once surprised to see a graduate student at my church for the first time. I asked. The student had just spent a few weeks meeting with Walter going over the gospel of John in the Bible and had decided to be a Christian.

- Walter learned there was an unofficial atheist student group meeting on the Baylor campus. He attended one of their meetings and invited the members to his house for serious discussion. They

met on a periodic basis and had civil dialog. The group dissipated for a period.

- One of my favorite anecdotes is about a visit Walter and wife Ann made to Chick-fil-A restaurant. Pro-choice advocates were protesting because Chick-fil-A owners were pro-life. The wait at the Chick-fil-A was long because pro-life advocates turned out to counter the protest by eating Chick-fil-A chicken. Walter got out of his car and went over to politely engage the protesters. Minds were set on a path of critical thinking.

Selfless Servant

Let me end with a highly personal bullet.

- My son Joshua rolled his car and broke his neck soon after I came to Baylor. It was the same vertebra break that put Christopher (Superman) Reeves in a wheelchair. Unlike Reeves, Josh's spinal cord escaped damage but the situation was delicate. Josh was confined to our house for a long period of a time where he wore an apparatus called a "halo" screwed into his skull so he could not move his head and neck. He was not allowed to be in a car because the jiggling could be dangerous to the healing of his bones. During this time, Walter Bradley was leading a small apologetics reading group at Baylor. In the evening after the group met, I would come home and share the lesson with Josh. When I told Walter about Joshua, he said to invite Josh to the group. I told him Josh couldn't travel and why. So Walter decided to drive to my house once a week for a few months to give the lesson one-on-one to Josh. This still chokes me up because it is one of many illustrations that, even though Walter was highly visible in a lot of things he did, he is a selfless servant at heart.

Joshua, by the way, had a complete recovery and, after completing his degree at Baylor, today teaches high school.

I am at Baylor today because Walter Bradley heard I wanted to leave the University of Washington in 2003. I had another offer for an endowed chair in writing ready to sign, but when I found out from Walter that Baylor was transitioning to a research university while continuing to celebrate Christianity, I decided to invest the rest of my career here.

And now I am honored to be the Director of the Walter Bradley Center for Natural & Artificial Intelligence where we will continue to celebrate Walter Bradley's incredible heritage.

DISCOVERY INSTITUTE

The Walter Bradley Center for NATURAL & ARTIFICIAL INTELLIGENCE

WE'RE THERE WHEN YOU CAN'T BE

The Baylor Lariat

TUESDAY | SEPTEMBER 14, 2010

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SPORTS Page 5

Tough battle

Baylor soccer battled a physical New Mexico squad to a scoreless draw Friday night

A&E Page 4

I'ma let you finish...

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Vol. 111 No. 9

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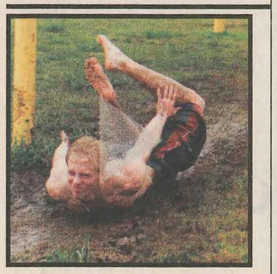
Page 2

On the Web



Photos of the week

Go online to browse The Lariat's online slideshow of the week's best pictures, including shots of rainy days,

BU spanks Bulls in front of parents

DANIEL CERNERO | LARIAT PHOTO EDITOR

No. 1 wide receiver Kendall Wright fights for extra yards Saturday after a completed catch at Floyd Casey Stadium. Wright led the team with 128 receiving yards as the Bears took down the Buffalo Bulls 34-6 to improve to 2-0 on the season.

Griffin passes for career-high 297 yards in 34-6 win

BY CHRIS DERRETT
SPORTS EDITOR

Baylor might have only scored on one possession in the second half against Buffalo, but after two quarters in the Bears' 34-6 win Saturday night during Parents Weekend, the game was all but sealed.

It was enough for quarterback Robert Griffin, who completed 20 of 35 passes for a career-high 297 yards and two touchdowns, to watch the entire fourth quarter from the bench.

Kendall Wright broke through for five catches totaling 128 yards and a touchdown. The score, a 61-yard toss, was the first touchdown connection between Griffin and Wright since Baylor's win over Northwestern State last season.

"We got it over with; now everybody can stop talking about it," Griffin said.

Wright was glad to finally haul in some passes after being teased by teammates during the week's practices for his low output against Sam Houston State.

"I feel like I had my teammates all week telling me I had only three catches with negative one yard," Wright said. "Even though they were just playing, it really motivated [Griffin] and me to be practicing hard every day, full speed."

Sophomore wide receiver Terrance Williams also caught six passes for 68 yards, and his 172 total all-purpose yards (52 from kick returns and another 52 on punts in addition to receiving yardage) led the team.

"[Williams] returned some punts and stuff for us before the end of the season," coach Art Briles said Monday. "Terrance is a guy that may have had as good of a camp as anybody that we've had on the offensive side of the ball because of his effort and attitude."

Baylor drew the first strike early in the first quarter as Aaron Jones' 30-yard field goal sailed through the uprights.

The teams exchanged punts before cornerback Chance Casey punched the ball loose from Buffalo running back Bran Thermilus, setting up a short field for the Bears. Griffin capped the ensuing 40-yard drive, dashing five yards

SEE **FOOTBALL,** page 3

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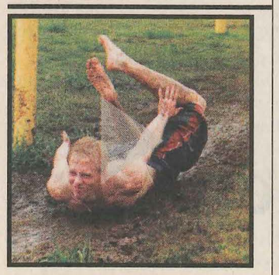

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SEE **FOOTBALL,** page 3

Tuition to increase by 6.5 percent next year

Bear Briefs

The place to go to know the places to go

Interfaith gathering
"Chanting the Days of Awe," an interfaith gathering featuring President Ken Starr and Rabbi Mordechai Rotem of Waco's Temple Rodef Sholom, takes place at noon today at the Center for Jewish Studies

Dr Pepper Hour moved
Dr Pepper Hour is today from 3 to 4 p.m. in the SUB Den, not the Barfield Drawing Room

Island Party apparel
Brothers Under Christ is selling T-shirts for its Island Party (scheduled for Sept. 24) this week in the SUB, Cashion Academic Center and the dining halls; all proceeds go to Mission Waco

Ethics discussion
Baylor University Medical Ethics Discussion Society will meet at 6 p.m. today in B110 Baylor Sciences Building

Free concert
The Baylor Wind Ensemble will perform a free concert at 7:30 p.m. today in Jones Concert Hall in the Glennis McCrary Music Building

Resume seminar
Learn how to properly write a resume by attending a seminar from 4 to 5 p.m. Wednesday in Kayser Auditorium of the Hankamer School of Business

6.5 percent for the second year in a row, as voted by the Baylor Board of Regents in July. The increase raises full-time tuition to $28,720 for 2011-2012.

"Setting tuition and fees at Baylor always involves careful study and evaluation," Dr. Reagan Ramsower, vice president for finance and administration, wrote in an email to The Lariat.

"The tuition for 2011/2012 is based upon thoughtful consideration of the financial resources needed to move the University forward and the financial impact on our students. Continuing to advance Baylor's educational programs as well as expand student support services is very important given our mission and vision."

The tuition increase will help maintenance, Ramsower said. Operating expenses and capital funding will not increase in 2011-2012, he said.

Houston senior and Student Body President Michael Wright said the increase is a concern to students, but that the university is working to address the affordability issue.

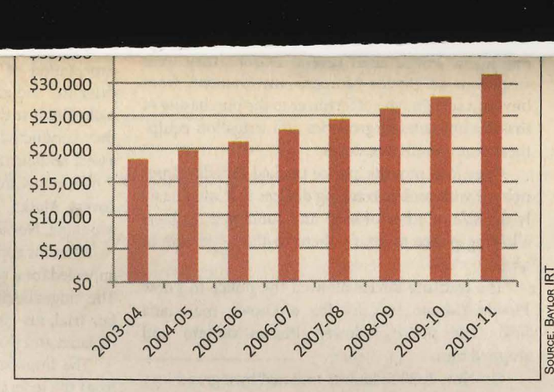
"Baylor certainly wants to be affordable, and at the same time I imagine that Baylor still wants to deliver a product, which is the education, that is superior," Wright said.

"I think we're constantly trying to address the rising costs and work on coming up with a solution to fight the rising costs of higher education, because really as our student needs increase as far as our everyday experiences,

fee will increase by 4.98 percent, board fees will increase by 2.75 percent and the general student fee will be raised 6.53 percent. Graduate student tuition is being raised 6.49 percent, Sheila and Walter Umphrey Law Center tuition is being raised 6.55 percent and George W. Truett Theological Seminary tuition is being raised 6.56 percent.

Despite the costlier tuition, Baylor still ranks as a best buy in guidebooks such as Kiplinger's and Fiske, said John Barry, vice president for marketing and communications.

"It is important to recognize that a private school education is always going to be more expensive than a public school education," Barry said. "And then when one looks at Baylor's tuition in the



Source: Baylor IRT

context of other private institutions nationally, we are still considered by many to be a best buy."

Tuition and mandatory fees at Baylor are still lower than many other private Texas schools, such as Southern Methodist University, Rice University, Texas Christian University, Trinity University, Southwestern University and Austin College.

Barry said it should also be noted that the financial aid given by the university results in a dis-

SEE **TUITION,** page 3

Finding hope in a coconut

By Meghan Hendrickson
Staff Writer

There are more than 10 million coconut farmers in the world who, on average, make $500 a year to provide for their families. A research team from Baylor hopes to give these farmers and their families a substantially greater quality of life.

Dr. Walter Bradley, distinguished professor of mechanical engineering at Baylor, is leading the team, which seeks to find creative ways to use coconuts.

A former student of Bradley's, John Pumwa of Texas A&M, was the first person from Papa New Guinea to receive a Ph.D. Pumwa encouraged Bradley to use his talents to find a way to help the coconut farmers of his home country who had been oppressed in the 1990s.

The team's original goal was to use coconut oil to make biodiesel. The team members were success-

SEE **COCONUTS,** page 3


Courtesy Photo

A research team from Baylor traveled to Papa New Guinea to help coconut farmers and their families, like the one seen here, find more efficient uses for coconuts.

Waco walk aids homeless

By Carmen Galvan
Staff Writer

The homeless community of Waco is stepping into the spotlight Sunday for Mission Waco's eighth annual Walk for the Homeless.

"[The walk is] to raise awareness and sensitivity to be able to overcome homelessness in our community," Jimmy Dorrell, executive director and president of Mission Waco, said.

Participants will gather at the Meyer Center for Urban Ministry at 8 a.m., where new shoes will be presented to homeless members of the community as gifts. After the presentation of shoes, the walkers will begin the 1.4-mile journey of poverty awareness and relationship building.

"It's hard to get around all these places [in Waco] if you're homeless and don't have any money, and Mission Waco has a lot of resources for people," said Susan Mullally, a past Walk for the Homeless par-

SEE **WALK,** page 3

Interviews help students land jobs

By Wakeelah Crutison
Copy Editor

With veteran workers clamoring for jobs in a tight market, graduating students need to stand out and make a big impression on potential employers. Baylor's Career Services department plans to help students do just that with its mock interview program on Wednesday.

Potential employers and Career Services staff members conduct practice interviews to prepare students for the real thing.

"Interviews make students more comfortable and confident," Kevin Nall, associate director of Career Services, said.

"It's less intimidating when students know what to expect. Its critical to get practice in doing interviews. The more familiar students are, the better they do."

The difference, compared to a real interview, is instant feedback. The interviewer tells students about their strengths and weaknesses and what they need to improve on, plus, students get to practice their interview skills.

"The more you practice, the better you become," Boyd said.

"A strong student with great credentials could go into an interview and blow it because they've never done an interview before. That could be avoided by practice."

Graduating students are not only competing against their fellow classmates, but students from the previous graduating class and more experienced workers searching for jobs due to layoffs. The national unemployment rate is set at 9.6 percent.

Staffers at Career Services said students must stand out in order to succeed in finding a job. The interview is a key step in the job-hunting process.

"First impressions are crucial. The resume and interview give can help students develop the interview techniques needed to land a job or internship. He recommends the S.T.A.R. method of answering the interviewers questions: Situation, Task, Action and Results.

"When employers ask questions they expect students to stay on topic," Nall said.

"So this method helps keep the student focused and the employer gets more insight into [the student's] behavior."

The method includes describing a situation, talking about the actions taken in the situation and the results that occurred because of the actions.

"Being able to reflect and learn from experiences and showing you can make better decisions in the future really helps students stand out," Nall said.

"Ultimately the goal is to make [the employer] remember you in a good way and [to] separate you from everyone else."

Nall also advises being proactive and getting an early jump on job hunting.

"Start as early as possible and be consistent," Nall said.

"Attend the [Career Service] events now. There are about 25 to 30 percent fewer employers at the spring Career Fair than in the fall. So putting it off just makes it more difficult to get a job offer."

Muska said this economy is an employer's market with so many candidates applying for jobs. To stand out from the pack, Muska suggests that students pay attention to details, present a resume with no errors and dress appropriately.

She also recommends utilizing the resources Career Services offers, like the mock interviews and the seminar "Writing a Winning Resume."

It's not too late to sign up for the mock interviews. They will be held

Nick Berryman | Lariat Photographer

¡Viva México!

People celebrate Mexico's bicentennial by parading through the streets Sunday in South Waco.

COCONUTS from Page 1

ful in their research, but coconut-sourced biodiesel was not cost-efficient and the team was compelled to find other ways to utilize coconuts in the marketplace.

Researchers discovered that for every gallon of coconut oil that is produced, an average of 76 husks are thrown away. The team wanted to find a use for this significant amount of waste.

The team found that coconut fibers located in the husk have several properties that make them useful for making car parts such as trunk liners and door panels.

Since this discovery, Baylor has patented this product. The company Whole Tree Inc. was founded by two Baylor graduates to market the eco-friendly product.

"We are a small business on the leading edge of the natural composite industry, so every day holds something exciting and different."

Brownsville senior Ryan Vano, a member of the research team, is joining Whole Tree Inc. when he graduates.

"I believe that the greatest benefit of the research we do is that we are helping people on both ends of the supply chain," Vano said. "For the consumers and automotive companies, we are creating better performing, greener materials – helping them be good stewards of the planet. For the coconut farmers we are adding value to an existing commodity by developing new uses for parts of the coconut that used to be considered worthless – global change is that he would be able to see 10 million coconut farmers triple their income.

"In the context of a holistic Christian ministry, we want to minister to their spiritual and material needs," Bradley said. "They shouldn't be separated."

The team is expanding possibilities for coconuts and empowering poor coconut farmers and their families worldwide. They are partnering with fellow Christians who share the team's heart and purpose to minister to the poor in the Philippines, Indonesia, Papa New Guinea, Brazil, Ghana, India and the Dominican Republic.

Bradley was a professor and chair of the mechanical engineering department at Texas A&M for

poor people in developing countries.

Bradley thought his research would fit in well at Baylor.

"I didn't want to do it as a humanitarian project, but as a Christian – my purpose was explicitly Christian," Bradley said.

Bradley said it is humbling to realize that none of the research would have happened if he had remained in his comfort zone in Aggieland instead of coming to Baylor.

"To let go and come here – we felt like God had something important for us to do, but we had no idea what it was," Bradley said.

"I was like Abraham in the sense of not knowing what God would have us do, how it would

North Village To Be Home To First Faculty-in-Residence

Nov. 04, 2003

by Lori Scott Fogleman

Dr. Walter Bradley, Distinguished Professor of Engineering and associate dean for research in the School of Engineering and Computer Science, and his wife, Ann, will be among the 600 new residents of Baylor University's North Village Residential Community when it opens in fall 2004.

The Bradleys will serve as Baylor's first "Faculty-in-Residence" and will reside with the expected 180 engineering and computer science students in the ECS Living-Learning Center located within one of the three North Village "houses." Two other ECS faculty members are expected to have offices in the North Village Community Center.

Motivated by their enthusiasm for the new partnership between Campus Living and Learning and the School of Engineering and Computer Science, as well as their love for college students, the Bradleys will make an apartment in the ECS House their permanent residence for the 2004-05 academic year. Faculty-in-Residence has been a tradition at institutions such as Cambridge, Oxford, Yale, Stanford and Rice. More recently, institutions such as Vanderbilt University and the University of Miami have strengthened efforts to foster greater interaction among faculty and students outside of the classroom.

"Walter and Ann Bradley's decision to make their home in the North Village as our first 'faculty-in-residence' represents a watershed opportunity for students and opens possibilities for learning and interaction with unusual potential," said Dr. Frank Shushok, associate dean for Campus Living and Learning. "There's plenty of evidence, too, that students are profoundly affected by chance encounters with faculty members outside of the classroom setting, and there are many chance encounters waiting to happen with the Bradleys at the North Village. I'm sure that Walter and Ann will influence students in ways that they may never know."

Bradley joined the Baylor faculty in 2002, after serving for more than 20 years as a professor of mechanical engineering at Texas A&M University. Among his many professional writings, Bradley has co-authored one book and six book chapters on "faith and science" issues and spoken at more 60 college and university campuses on the topic, "Is There Scientific Evidence for Existence of God." The Bradleys are both graduates of the University of Texas.

The couple said they made the decision to live on campus, in part, because of their own experiences as college students.

"I never had a Christian professor – at least not one who admitted it. I also never darkened the door of a faculty member's home during my college years. The same for Ann," Bradley said. "Ann and I decided that God was calling us to a career in academia to be for our students what no professor ever was for us."

During their 32 years teaching in public universities, the Bradleys have opened their home to students, ministering to their intellectual, emotional and spiritual needs. They also spent two summers in France with Texas A&M engineering students, living side-by-side with them in a dormitory.

"We found that our two summers doing study abroad with engineering students provided us our most significant and enjoyable opportunities to invest in the lives of students," Bradley said. "We want the Living and Learning Center to be a place of real community and fun, where we can all

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share in each others lives in a significant way. Ann really has a special gift of hospitality that has allowed us to use our home as a unique place in which to minister to students." Ne

"I'm very much a people person, and I just enjoy being around students," Ann Bradley said there mostly for support, and I enjoy doing that, having conversations with students and discu going on in their lives."

Bradley said they also hope to create an environment that will stimulate Christian students deeply about their relationship with God and grow in their faith.

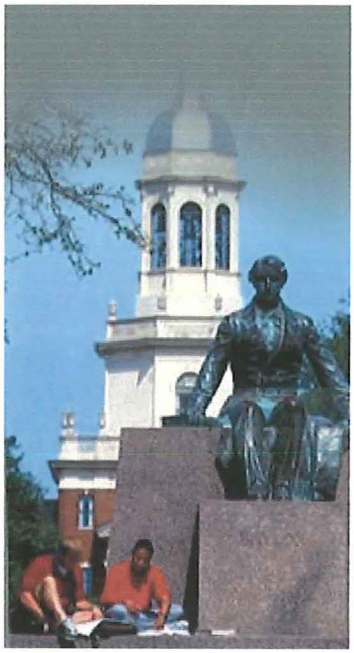
"We want to facilitate the integration of their faith into their intellectual life as well," Bradle want to create a safe environment for students who are not Christians to explore the question that they may have."

The Bradleys also will provide "practical training" for students to help them become more e academic and extracurricular activities. Both are certified Franklin-Covey facilitators for the Se Highly Effective People, and Bradley also is a facilitator for Four Roles of Leadership and First T addition, he has developed a time management and study skills workshop called "Success4Stu

Although their focus is on students, the Bradleys also see their new living arrangement as a to simplify their lives.

"We are planning to sell our home in College Station, get rid of most of our 'junk' and try li two-bedroom apartment, retracing the first four-and-a-half years of our marriage," Bradley sa forward to the extra time this will provide to be involved in relationships with students and fac being so encumbered with the necessities of life which a house brings."

For more information, contact Dr. Walter Bradley at (254) 710-7370; Dr. Benjamin S. Kelle School of Engineering and Computer Science, at (254) 710-3871; or Shushok at (254) 710-69



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FRIDAY, OCTOBER 31, 2003

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BAYLOR UNIVERSITY, WACO, TEXAS

Vol. 103, No. 36

Engineering professor to be faculty in residence at North Village

By Darrell A. Rodriguez
Reporter

Dr. Walter Bradley, distinguished professor in academic affairs, and his wife Ann will live alongside students in the new North Village Residential Community beginning next fall.

The move to have faculty in residence is part of new efforts to give students a more holistic college experience, according to Dr. Frank Shushok, associate dean of Campus Living and Learning.

"I hope to develop an atmosphere for more intellectual stimulation," Walter Bradley said. He and his wife will serve as Baylor's first-ever faculty in residence and will live among 180 engineering and computer science students in the apartment-style housing.

"This helps bridge the divide," Shushok said. He explained that faculty sometimes underestimate the impact they have on students when they are outside the classroom.

"I think it's a great opportunity," Andrea Kemp, a Houston sophomore, said. Kemp said she was excited about the prospect of living near one of her engineering professors.

"Instead of asking your neighbor for help, you just walk down the hall," she said.

Campus Living and Learning and the School of Engineering and Computer Science partnered to create the Engineering and Computer Science Living-Learning Center, which will be one of the three North Village buildings.

In addition, two other engineering and computer science faculty members are expected to have offices in the North Village Community Center.

Walter Bradley was a professor of mechanical engineering at Texas A&M University for more than 20 years before working at Baylor. He also has co-authored a book and six book chapters on faith and science issues and spoken at more than 60 colleges and universities.

"Dr. Bradley is someone who is an extraordinary engineer and is motivated by working with college students," Shushok said.

The Bradleys have experience in student interaction outside the classroom, having previously lived in dorms in France, where they hosted study abroad programs for two summers.

"It was one of the most interesting and rewarding experiences as a professor," Walter Bradley said.

Ann Bradley, a graduate of The University of Texas, said she loves to interact with college students, according to a press release from the Campus Living and Learning.

Please see **BRADLEYS,** page 6

© 2003, BAYLOR UNIVERSITY

North Village to be home for professor

BRADLEYS, from page 1

The Bradleys will have a meal plan, and Walter Bradley currently sets aside time with his students to eat in the dining halls.

"Even in that very limited basis of contact, it helps me to get to know students better," Walter Bradley said.

Although new to Baylor, the practiced at universities such as Yale University, Stanford University and Rice University.

Vanderbilt University and the University of Miami recently have tried to improve faculty and student interaction outside the classroom by following a residential college model, Shushok said.

Kemp expressed her excitement about the opportunity for extended office hours for help with homework, but Walter Bradley said he would not have infinite office hours.

"We're going to have a great big 'Do Not Disturb' sign," he said.

002
CHRISTIAN LEADERSHIP MIN
5/17/95 WED 15:57 FAX 214 713 7670

There is no such thing as safe teenage sex

Once upon a time in a far away place, in a lovely little town, a problem developed which became the cause of a great controversy. Some small children had developed the careless habit of playing in the street. The untimely death of several children who were hit by passing cars caused a true and appropriate crisis in the community. Subsequently, a debate raged about what should be done to totally prevent or at least minimize this needless bloodshed in the future. The most "enlightened" people argued that it was hopeless to try to persuade children not to play in the street, and that the only possible course of action would be to teach them how to play in the street safely (as if playing in the street is every really safe). Some old "fuddie-duddies" questioned the wisdom of teaching children how to play safely in the street, arguing that persuading children not to play in the street at all was practical (and had been done with considerable success for many, many years). Naturally, the enlightened modernist prevailed and vigorous instructions in safe play in the street were instituted in all of the schools and churches.

This strategy had a most unfortunate and unintended effect. The education program was so successful that the number of children playing in the street dramatically increased, since the children had been taught that playing in the street was indeed safe after all, and of course, everyone else was "doing it." Though the children did sometimes remember their lessons and play in the street more carefully, the occasional exercise of greater care by the children did not compensate for the much greater number of children playing in the street, with a tragic increase in child fatalities. When the old "fuddie-duddie" questioned the efficacy of this "play safely in the street" strategy, they were rebuked and told that an even greater effort needed to be made with regard to the educational program.

In a few neighborhoods, the parents rebelled and banded together to insist that no children play in the street. Working together, their collective ban on street play was highly successful (though not perfect) resulting in a dramatic decrease in child fatalities. Did their success influence the rest of the city, filled with children playing "safely" in the streets? No way!! These parents were told by international authorities Dr. Elders and Donna Shalala that their positive results were not statistically significant, but that the current educational program would be modified to mention in passing the option of not playing in the street as comprehensive "play safely in the street" is being taught. And to this day it remains so, almost all children playing in the street as they have been taught, sometimes carefully, often not, with many tragic fatalities.

WALTER L. BRADLEY
Gaithersburg

COLLEGE OF ENGINEERING TEXAS A&M UNIVERSITY
TEXAS ENGINEERING EXPERIMENT STATION
TEXAS TRANSPORTATION INSTITUTE
TEXAS ENGINEERING EXTENSION SERVICE

ENGINEERING PROGRAM • THE TEXAS A&M UNIVERSITY SYSTEM

301 Royce E. Wisenbaker Engineering Research Center • Texas A&M University • College Station, Texas 77843-3126 • (409) 845-1321

August 29, 1995

Dr. Walter Bradley
Mechanical Engineering
M.S. 3123

Dear Walter:

Annually, the Engineering Program has the opportunity to recognize outstanding faculty members for their achievements and contributions through presentation of various awards at the fall faculty meeting. This year's meeting is scheduled for Thursday, September 21, at 4:30 p.m. in room 203 Zachry. It is an honor to inform you of your selection to receive the Charles W. Crawford Award. This prestigious award carries a monetary benefit of $1,000.00 and is presented to an individual who has made significant contributions to the College of Engineering. In accordance with current tax law, this type of award is subject to withholding and FICA taxes. As a result, you will receive these funds as part of your October monthly check with deductions taken. I would like to encourage you to attend the faculty meeting on September 21, to formally receive this award.

Again, I offer my sincere congratulations and thank you for your continued efforts. This distinguished honor reflects the numerous ways in which you give to the College and Texas A&M University. Best wishes for continued success. Please contact Nicole Pottberg by September 14, to confirm your attendance at the faculty meeting. In addition, you are asked to participate in a photo session at 3:45 p.m. prior to the awards ceremony. This activity will take place just outside of room 203 Zachry.

Sincerely,

Roland

Roland Haden
Vice Chancellor and Dean for Engineering
Director, Texas Engineering Experiment Station

c: Bud Peterson

Awards & Nominations:Crawford cong ltr

Fostering excellence in research and encouraging new ideas and technology.

Research Fellowships Awarded

TEXAS ENGINEERING EXPERIMENT STATION

A dozen researchers, including one from a West German university, have been awarded one-year fellowships by the Texas Engineering Experiment Station (TEES).

The fellowships carry a $5,000 award to advance the individual's research and recognize consistent research productivity or very promising new research, said Dr. David Norton '63, TEES assistant director for programs.

He said the fellowships will foster excellence in research and encourage new ideas and technology.

The program was recently authorized by the Texas A&M University System Board of Regents. TEES is a statewide research branch of the A&M System.

Twelve fellowships were awarded this year, but the annual number could go as high as 20.

Selected as recipients of the first TEES fellowships are:

- Dr. Wolfgang Merzkirch, an aerospace engineer and vice president for research with the Ruhr Universitat-Bochum in West Germany. A visiting professor with the Texas A&M University System, Merzkirch is an expert in the field of flow visualization as it relates to the use of wind tunnel testing.
- Dr. Rayford Anthony '58, a chemical engineer and an authority on the engineering of polymer reactions. He and his team of student researchers have discovered new catalysts for the conversion of methanol to ethylene and

recently. The pool company had used a soil sterilant on the site, the chemical had been carried by rainwater to other parts of the yard, and not only were the plants going to die, it might be years before anything could grow there again unless corrective steps were taken.

Pluenneke cites these examples in support of his firm contention that plant care today is too technical and too complicated to entrust to untrained laborers. The potential for killing valuable plants and getting into serious legal trouble through the misuse of plant chemicals is too great. "There's just too much that can be lost," he warns.

Educating others in the increasingly complex field of plant care is one of "the plant pro's" chief concerns. He conducts pesticide training courses and gives seminars at major universities, including Oklahoma State and Texas A&M. He is called on to speak to professional grounds maintenance groups and conducts a grounds workshop yearly in the Dallas/Fort Worth area. He offers hands-on training for graduate students during the summer months.

He has his own laboratory where he tests problem soils and new plant materials. "Those in pure research are not always concerned about the bucks," he said. "But in practical work, money is important." He carries on research to determine which innovations may be of use to his customers, and comes up with some useful inventions of his own. He designed several lightweight, hand-held rope wick applicators for selectively applying herbicides to unwanted plants.

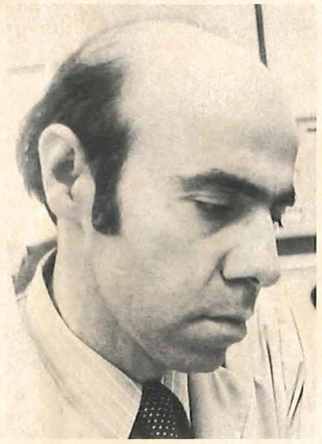
Pluenneke, now 46, strives to bring the technology developed by the Texas Agricultural Extension Service and the Experiment Station to an urban audience. "I function as a catalyst between people and the Experiment Station or the Extension Service," he explained. "Extension education and the experiment stations are extremely important, but city folks lose contact with them." Pluenneke helps his urban clients realize the work done by these agencies of the Texas A&M University System isn't just for farmers and ranchers, but benefits them as well.

As far as he knows, Pluenneke is the only plant science advisor at the Ph.D. level in the country doing the kind of work he does. His dream is for the Plant Pro® Advisory Service to grow into a firm with several principals. He wants to build labs in San Antonio, Houston and other Texas cities to provide technical backup and bring his unique brand of personal plant care advice to anyone who needs help keeping greenery growing. And that includes just about all of us, from homeowner to professional groundskeeper and high-rise office building developer to

Pluenneke designed a portable trickle irrigation system to help trees during the hot, dry North Texas summer. It aids trees outside the normal irrigation system.

Landscape architects use his expertise in designing workable plans. Here Pluenneke checks

Childs



Eknoyan '69

Fraser

Haisler '67

of methanol to ethylene and propylene.

• Dr. A. J. Blanchard (Ph.D. '77), who holds a joint appointment in remote sensing and electrical engineering. He is an authority in the interaction of electromagnetic waves with physical targets, with direct applications in the remote sensing of soil moisture and agricultural production studies. His current work includes construction of a special mobile unit for use in ground-based studies of electromagnetic depolarization, particularly radar backscatter measurements, something which has never been accomplished.

• Dr. Walter Bradley, Halliburton Professor of Mechanical Engineering and expert in material research. Through his efforts and those of others in the field, Texas A&M has attained a national visibility in the fields of fatigue studies, fracture mechanics and constitutive modeling.

• Dr. Dara Childs, a mechanical engineer who helped establish a national and international reputation in the dynamics and vibration problems of turbomachinery at Texas A&M since joining the faculty two years ago. Instrumental in developing the Turbomachinery Research Consortium now involving 13 manufacturers and users of turbomachinery.

• Dr. Ohannes Eknoyan '69, an electrical engineer and developer of hybrid materials for the mushrooming semiconductor field. Developer of the world's first gallium phosphide metal semiconductor field effect transistor (MESFET), for which a patent application has been filed. Based on success in compound semiconductor material technologies, Eknoyan plans to expand the scope of research to include integrated optoelectronic technology.

• Dr. Donald Fraser, E. D. Brockett Professor of Finance and the author of at least 100 business-related scholarly articles and co-author of five textbooks. Fraser enjoys a national reputation as an outstanding scholar.

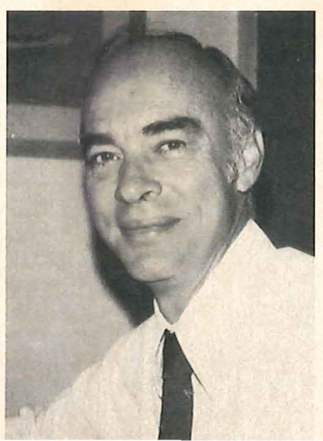
• Dr. Walter Haisler '67, an aerospace engineer, who has developed computer programs for finite element structural analysis which are widely used by government and industry. Current research involves development of material models for super alloys used in the hot sections of gas turbine engines.

• Dr. Kenneth Hall, a chemical engineer and director of the Thermodynamics Research Center. he is an authority on precision measurement of the thermodynamic properties of fluids and development of predictive correlations for those measurements. He has developed an experimental laboratory (one of four in the country) for state-of-the-art precision in all such measurements.

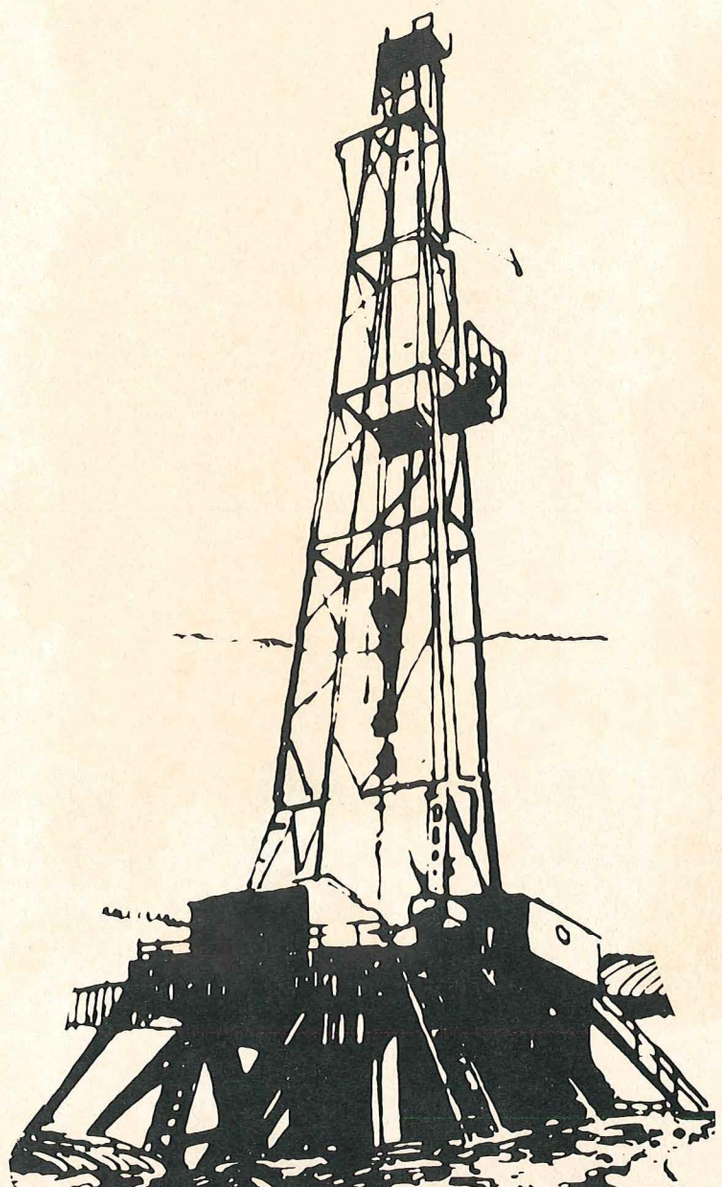
• Dr. Ron Hart, a nuclear engineer and expert in the applications of ion beams to materials. He performed pioneering work in the applications of ion-induced X-rays and led research on using ion beam channeling to analyze damage in semiconductors, helping provide the fundamental understanding for improving ion implantation in semiconductors.

• Dr. Peter Jenkins, a mechanical engineer and director of the Turbomachinery Laboratories. He directs 11 graduate students in turbomachinery and energy conversion research, and he coordinates research efforts of a dozen mechanical engineering faculty members.

• Dr. Andrew McFarland, who holds a joint appointment in civil engineering and agricultural engineering. For the past seven years he has led studies in the field of air pollution and instrumentation, and his accomplishments have been termed significant.



Re-writing The ABC Transaction



This is the story of a meaningful relationship. Not a marriage, but much more than a fling with no commitments and no strings attached.

It involves a brash, young, ambitious oil company and a brash, older, ambitious university. It is a match conceived in the hearts of corporate executives and hammered out in the offices of attorneys, accountants, development officers and bankers from College Station, Houston and New York.

The first fruit of the union is an agreement which benefits both the suitor and the object of his affection.

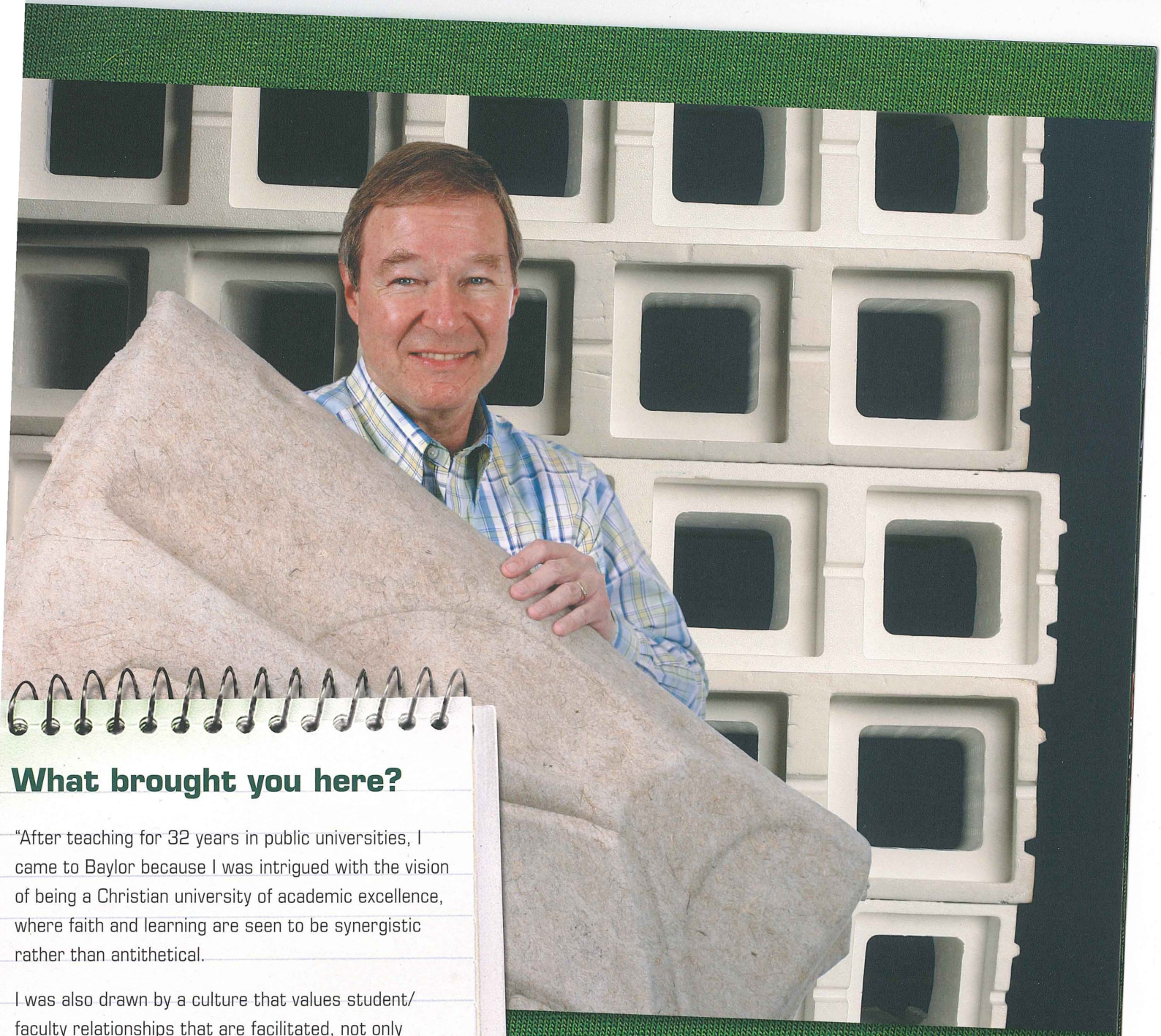
Meet the brash suitor — Union Texas Petroleum, second largest independent oil and gas producer in America with income from operations last year of $570 million. The company comes from a good family. A subsidiary of the Allied Corporation, Union Texas started out at the turn of the century as a Louisiana sulphur mining firm that had the extreme good fortune to strike a large reserve of oil and gas while drilling around Lake Arthur, Louisiana in the 50's. Twenty years later good fortune struck again when Union Texas was involved in a major natural gas find in Indonesia and the discovery of two significant oil fields in the North Sea.

With much of its wealth and investments located on the other side of the globe, Union Texas went looking for fertile fields closer to home. Enter the Supron Energy Corp., ranked 50th among the independent producers in the U.S. Supron held leases on thousands of acres of rich gas reserves located primarily in the San Juan Basin of northwestern New Mexico. But the capital requirements to develop these reserves presented a difficult challenge for Supron, so they decided to sell.

Union Texas, together with Continental Group Inc., wanted to buy, but they needed $500 million to acquire the Supron properties. Where do you get $500 million even if you are a solid, successful oil and gas producer from a good family?

BAYLOR

ABOVE AND BEYOND



What brought you here?

"After teaching for 32 years in public universities, I came to Baylor because I was intrigued with the vision of being a Christian university of academic excellence, where faith and learning are seen to be synergistic rather than antithetical.

I was also drawn by a culture that values student/faculty relationships that are facilitated, not only by small class sizes, but also by many other special programs such as Engaged Learning Groups and faculty who live in residential communities that were designed to cultivate this culture.

Maybe most importantly, I was keen to use the gifts, talents, training and professional experience that God has given me as a materials scientist to develop a research program that focuses on improving the quality of life for the poorest people in underdeveloped countries."

Dr. Walter Bradley
Distinguished Professor of Engineering

Dr. Bradley, along with his Baylor students, has partnered with Christian organizations overseas to:

- help develop low-cost, energy efficient Styrofoam/concrete housing for Armenia;
- develop more clean burning, energy efficient wood-burning cook stoves;
- assist in the design and construction of pedestrian bridges in Africa; and
- develop and patent new, greener composite material systems made from coconut fibers that can be used to create automobile parts.

Dr. Bradley reflects, "we have been able to be a blessing to many poor people and have been greatly blessed ourselves by these opportunities to have our lives invested in something so significant."

IS THERE SCIENTIFIC EVIDENCE FOR AN INTELLIGENT CREATOR OF THE UNIVERSE?

Do scientific discoveries of the past fifty years point to an accidental universe or a carefully designed one?

YOU BE THE JUDGE

Dr. Walter L. Bradley
Emeritus Professor of Mechanical Engineering
Texas A&M University

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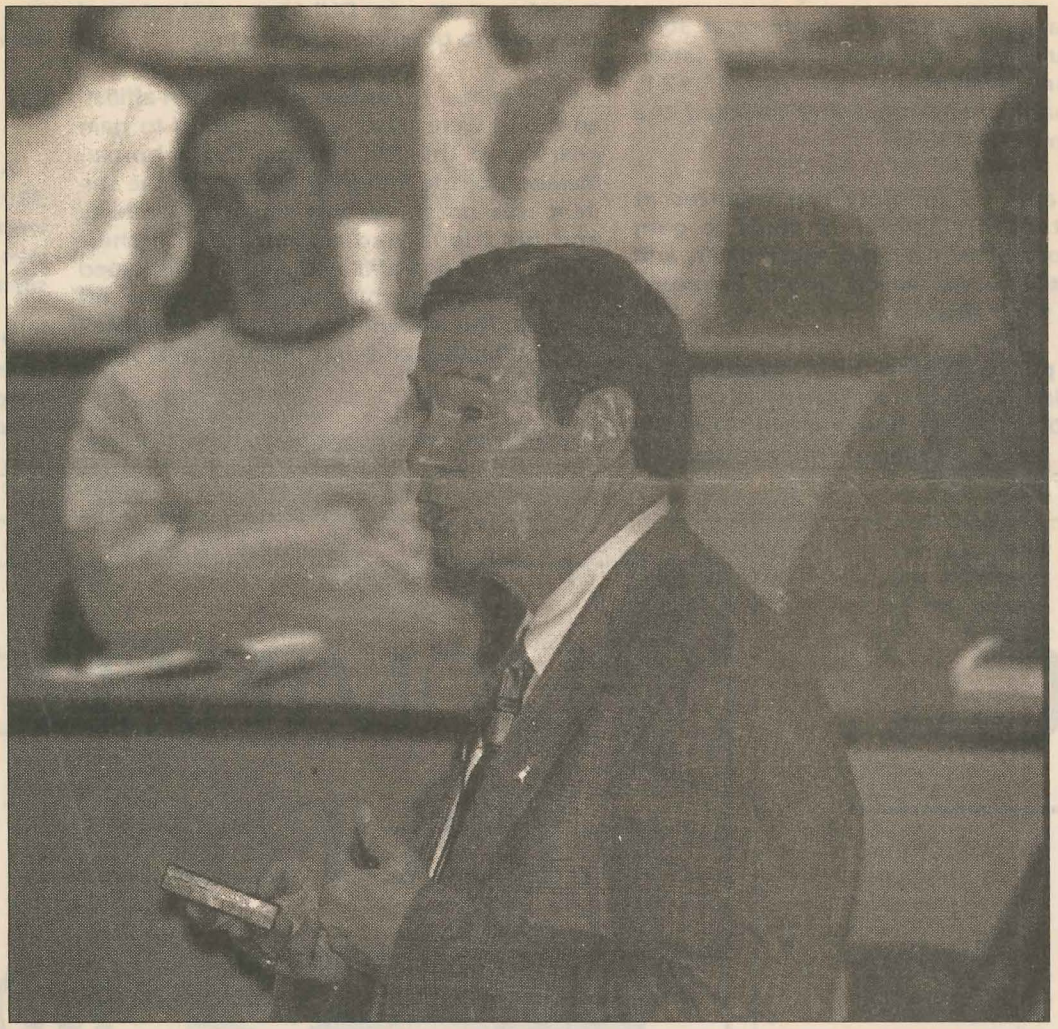
Texas A&M University

The case for God

SMA Feb. 15th

Existence of a higher being focus of professor's lecture



Moses Odria/THE DAILY CAMPUS

Walter Bradley, professor and former chairmen of the mechanical engineering department at Texas A&M University, speaks about evidence that points to the existence of a divine designer Tuesday in the Hughes-Trigg Student Center.

Theories: Bradley poses question on the identity of God

By Catherine Jagers
CONTRIBUTING WRITER

Students filled the swiveling chairs and isles of the Hughes-Trigg Forum as Professor Walter Bradley discussed cosmology and the origin of life at Tuesday night.

"I want to ask people to suspend any preconceived notions," said Bradley, "so you can take in the data and see at the end of 40 minutes if the character of the universe suggests an intelligent creator."

The discussion started with a historical overview of how people have combined scientific facts and their beliefs toward the existence of God.

"Up until 1960, there was a widespread belief that science rendered belief in God unnecessary, though not impossible," said Bradley. "With new scientific discoveries in the last 30 years, scientists have begun to refer to our 'carefully crafted universe.'"

Bradley talked about the specific design seen in nature that makes life possible.

This design includes a mathematical form that nature takes on, universal constants, specific initial conditions and local conditions.

"The laws of nature are written by the hand of God in the language of math," said Bradley who quoted Galileo, along with Kepler, Wigner and Einstein.

Bradley discussed the critical constants including the speed of light, Planck's constant, Boltzmann's constant, unit charge, gravity force constant, test mass of proton, electron and neutron.

"[Bradley] appealed really well to the intellectuals who came," said Eric McLaughlin, a first- year student.

"He did an excellent job demonstrating that scientific observations of the universe support belief in an intelligent designer," said Carlo Sosa, a first-year graduate student in Perkins School of Theology.

However, other students disagreed with Bradley.

"He had an obvious intent to persuade," said Eric Reiman, a junior physics, math and engineering major. "I came looking for real evidence, but he based his whole argument on

BRADLEY, See page

Bradley

from page one

'design.'"

"Walter loves the controversy," said Ann Bradley, his wife. "He gives this presentation all over the country, and students on the East Coast eat him alive. He just loves it."

"It is abundantly clear that evidence abounds for the existence of an intelligent creator," said Bradley. "While Hume and Kant may have been right in their arguments that scientific proof for the existence of God cannot be made, they would surely be as impressed as I am with the compelling evidence that makes such a belief perfectly reasonable."

Bradley answered a variety of student questions at the end of the lecture, including inquiries about the Big Bang Theory, modern evolution and different world religions.

Additional information and lectures can be obtained at www.leaderu.com.

Gregory

from page one

Kimberly Wise, chair of the black awareness committee.

He said that parents are the problems of the new generation because they are teaching old, ignorant ways.

"Honor your mother and father only if they are honorable," Gregory said.

Despite his comments about the way black people view their status, Gregory believed that African-American's have made considerable progress in the last 30 years.

"It used to be Negro Awareness Week." said Gregory, "It's now Black History Month."

The audience laughed throughout Gregory's lecture, but took his words to heart.

"I greatly respect him for the fact that he is militant, and steadfast in his beliefs and his confidence in sharing them." said Jerrika Hinton, first-year theater major.

My name is Nichole!

I'm 5 years old, my favorite colors are pink and purple, and this year my birthday wish is to help the kids in Haiti. I love art because it feels good to create things—so I had the idea to make beautiful cards for other people! If you like my cards you can donate money to help my birthday wish come true. ♥ Love, Nichole

The purchase of this card helps Mission World sponsor children in Ferrier, Haiti. Since 2007, Mission World has provided clean water, medical care, nutrition, micro loans and education to children in Ferrier, Haiti.
$228 sponsorship covers: books, shoes, uniforms, tuition fees, one meal a day, emergency medical care and an end of the year school party.
Suggested donation: $3 per greeting card.
If you are interested in donating to Nichole's Birthday Wish please visit: www.mwmissionworld.org designate funds to "Nichole's Birthday Wish" for Haiti schools.

MISSION WACO WORLD

www.missionwaco.org

Dear Dr. Bradley,

Dr. Marks always calls you as his hero. For me, you are more than hero. You are my spiritual godfather to me. May God meet you with rich blessing and set a crown (as Nicole's picture in the cover front) of fine gold upon your head.

Iwan Sandjaja

Dear Walter and Ann,

Thank you for your tireless service to The Lord in both your bodies and minds, staying ahead of the curve in anticipation of where to go and what to do to be effective for The Lord. You called be 100 other places but I'm so blessed that you are with us in New England →

doing what you alone have mustered. Sir, you give this guy such great freedom - is he that hard to have at home? Ha! There are no better representatives of Heavenly Royalty as you two - honored to be in your orbit for a short time every twenty years or so ☺ ♡ Dave Thom Fall 2015

Red Raiders rout Baylor, 62-14

Oklahoma	77	**Texas**	55	**Colorado**	21
Texas A&M	0	Oklahoma State	16	Missouri	16
Nebraska	24	**Pittsburgh**	31	**Tennessee**	10
Kansas	3	Virginia Tech	28	Miami	6
Clemson	26	**Ohio State**	33		
Florida State	10	Michigan State	23		

SPORTS, 1D

This could kill you
Mating season means rising risk of hitting a deer/**1C**

Playoff picture
Chart explains who's playing whom and where/**5D**

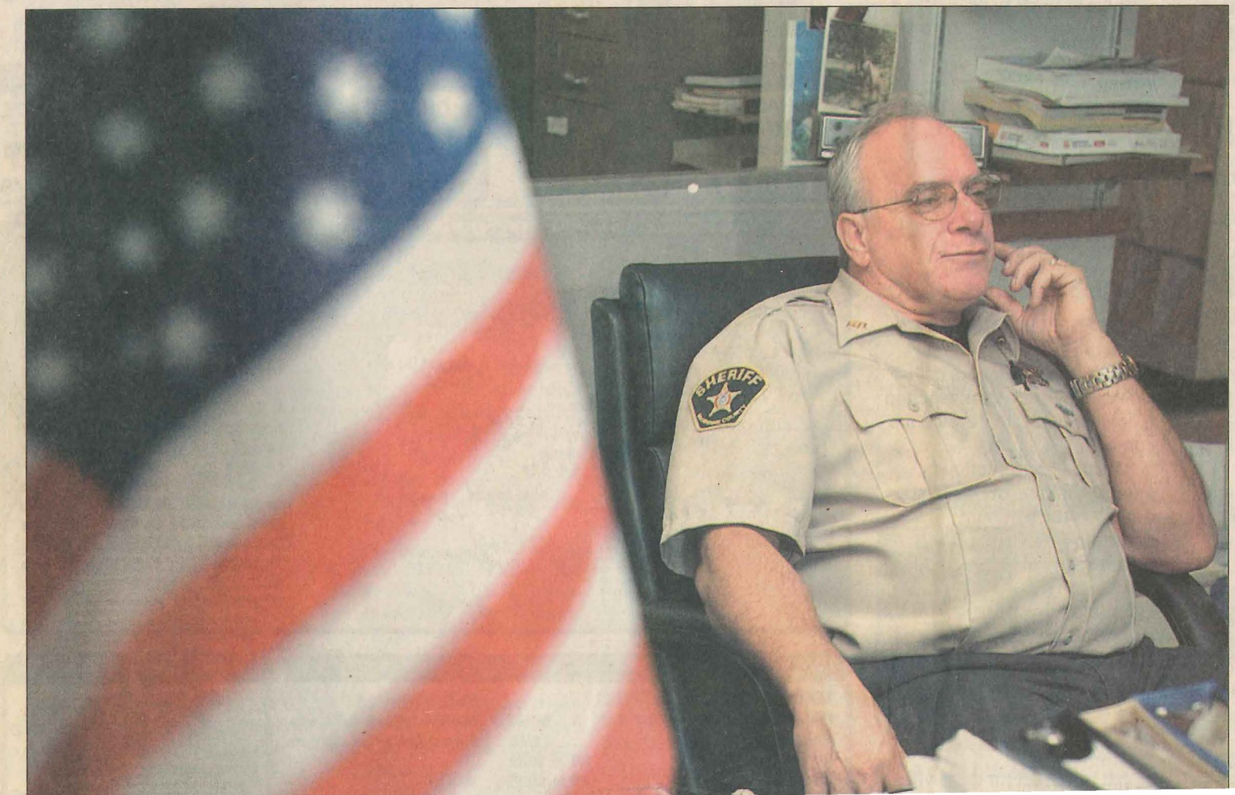
A new pledge

Former POW Lynch shares her feelings about America/**Parade**

SUNDAY
Nov. 9, 2003
Single copy **$1.50**
www.wacotrib.com

Waco Tribune-Herald

"I wish I was there to help lead today because there are lessons there you want to pass on." — Bill Mahon, U.S. Army veteran



Terror strikes Riyadh again

3 explosions in residential compound come a day after U.S. Embassy issued warning

By DONNA ABU-NASR
The Associated Press

RIYADH, Saudi Arabia — Three explosions rocked a residential compound in the Saudi capital Saturday night, killing at least two people and wounding 86, in what a government official said was a suicide car bombing.

The attack came a day after the U.S. Embassy warned terror attacks could be imminent in the Gulf kingdom. America's three diplomatic missions in Saudi Arabia were closed Saturday as a result.

Just before the midnight blasts, an unknown number of attackers broke into the upscale compound of about 200 houses, a Saudi official said, and gunfire was heard. It was unclear if three individual bombs had

Cause to be proud

Veteran's time in Army spurs support for VA

By RICHARD L. SMITH
Tribune-Herald staff writer

■ Edwards defends VA hospitals in radio address/1C

The 1970s were not shining days for the U.S. military.

It was a time when Bill Mahon, of Waco, came of age in the jungles during the hot war of Vietnam. He later found himself during that decade staring across a fence into East Germany, eyeing communist soldiers during the Cold War.

These days, Mahon has emerged as a local veterans advocate and spokesman in yet another battle, this one to keep the 71-year-old Waco Veterans Affairs Hospital open. And, he says, when veterans march in the Veterans Day Parade in downtown on Tuesday, they should be proud no matter when or where they served.

"Those veterans should hold their heads up and be proud of who they are," says Mahon, 52, who works in the warrants division of the McLennan County Sheriff's Office. "If you served, you should be recognized."

Many of Mahon's era thought they might never be recognized because of the divisive nature of the Vietnam War. Many wondered if they would even make it home alive. More than 50,000 Americans didn't return.

Mahon says he joined the service primarily because of someone who did not have an easy homecoming — his 19-year-old brother.

See MAHON, Page 10A

LIVES OF SERVICE

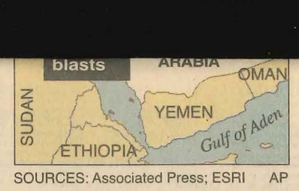
Seven decades of duty

1st of 7 parts

About this series

As the country honors veterans this week, the *Tribune-Herald* takes a look at Central Texans who served over the past seven decades.

Veterans profiled each day reflect on history and share insights about their service, the armed forces and fellow veterans.



SOURCES: Associated Press; ESRI AP

Ministry official told the Associated Press early today that the attack was a suicide car bombing and that two security guards were killed and 86 people wounded. The official said he believed it was carried out by al-Qaida because of similarities to a May 12 attack in the capital that killed 35 people.

Saudi Arabia has been working with the United States to crack down on terrorism since the May attack, and has arrested about 600 people believed to be linked to al-Qaida. Fifteen of the 19 hijackers in the Sept. 11, 2001, attacks on the United States were Saudis.

The U.S. warning Friday came a day after two suspected militants, believed to be members of the Mecca cell, blew themselves up to avoid arrest. A third suspect was killed in a shootout with security forces in Riyadh.

Immediately after the explosion Saturday night, there were widely conflicting reports of the number of dead. An official at a Riyadh hospital said dozens

See SAUDI, Page 10A

Homework help just a door down

Professor to move into dorm as part of new Baylor strategy

By BRIAN GAAR
Tribune-Herald staff writer

Walter Bradley didn't live in the dorms during his college years at the University of Texas.

So he'll get his first a taste of residence hall life next fall when Baylor University's new North Village opens.

Bradley, a professor of engineering, will be the first Baylor faculty member to move into student housing next fall. He and his wife, Ann, say they're looking forward to the experience, though they admit they'll occasionally have a "Do Not Disturb" sign on their door.

"Our kids are grown, so we feel like this is the time of life when we can do things that are a little more adventuresome," said Bradley, 59. "We find living with students to be certainly that."

Officials say they've been overwhelmed by student interest in the 600-bed, apartment-style facility. Applications and deposits are outstripping space by more than 250 students.

"It's a great problem to have," said Frank Shushok, associate dean for campus living and learning.

Part of Baylor's goal in the school's 10-year

See VILLAGE, Page 14A

Staff photo — Duane A. Laverty

Baylor University engineering professor Walter Bradley and his wife, Ann, will move into North Village next fall. The residence hall is part of an effort to bring academics and residence life closer together.

Dean won't take election funds

'04 hopeful: Spending limits would hurt run against Bush

By RONALD BROWNSTEIN
Los Angeles Times

WASHINGTON — Breaking with a nearly 30-year tradition, former Vermont Gov. Howard Dean on Saturday announced he would become the first Democratic presidential candidate ever to opt out of the system for publicly financing elections.

Speaking to supporters in Vermont, Dean said that only by rejecting public financing — and the spending limits it imposes — could he compete financially with President Bush if he wins the Democratic nomination. Bush has already rejected public financing and is aiming to raise at least $175 million by the Republican Convention next September.


Dean

"We have supported public financing, but the unabashed actions of this president to undercut our democratic process with floods of special interest

See DEAN, Page 14A

Culture fading from Texas tribe

Alabama-Coushatta American Indians try to preserve past

By RALPH K.M. HAURWITZ
Cox News Service

LIVINGSTON, Texas — Basketball has replaced stickball. Jesus has supplanted Abba Mingo, the great chief of earth and sky. The old stomp dances are pretty much forgotten. The vast hunting lands have been subdivided and paved.

It's no surprise that the Alabama-Coushatta American Indian tribe has lost much of its traditional culture. After all, the first contact with a European, Spanish explorer Hernando de Soto, occurred in 1540, ushering in more than four centuries of social and political upheaval.

Yet some of the old ways survive. The Alabama and Coushatta languages are still spoken. Traditional fried bread, tender and slightly sweet, is a staple at social gatherings. Everyone knows whether he or she is in the beaver clan, the turkey clan,

See TRIBE, Page 8A

A Cox Newspaper

7 99708 00002 2

WEATHER

Cloudy and cool with a 20% chance of showers in the morning.

High: 61; Low: 51

Details, map/**2A**

INSIDE

Fresh as a daisy

Columnist Amanda Rebholz-Frink explains teenage girls' fascination with fashion and beauty.

Today in Brazos Living/1E

VILLAGE

Residence hall cost $33 million

■ From Page 1A

vision is to have half of all students living on campus, and officials view the North Village as a step toward fulfilling that goal. Located near the Rogers Engineering and Computer Science Building, the $33 million residence hall will be the first one Baylor has built since the 1960s.

University officials say students who move off campus sense a decreased connection with the university.

"They realize that they miss a lot, once they move across the highway," Shushok said.

Part of the new facility is designated for engineering and computer science majors. The goal is to create academic clusters where students can mingle with their peers and professors. Faculty offices and classrooms will be nearby. The students will all have a common class, and a coordinator will work with the school and living facility on new programs.

Dustyn Dodge, a sophomore electrical and computer engineering major, has applied to live in the North Village. He currently lives in an apartment, but is tired of trekking back and forth from the library.

Being around other engineering majors will be good because they share a similar workload and can motivate each other, he said.

"Having us all in that location, it would be good because you could just go down the hall and say, 'Hey, what did you get on problem five?' " Dodge said.

Dodge also was encouraged by Bradley's move. A former student of Bradley, Dodge said the professor shows interest in getting to know the students.

Bradley is in his second year at Baylor, after a long tenure at Texas A&M University. Interacting with students outside of class is nothing new for him. He has had movie nights at his home, where students view and discuss films.

"It provides a neat opportunity to get to know students in a

Facts about public financing

Candidates accepting public dollars in the primaries can get up to $18.7 million in taxpayer money but are limited to about $45 million in spending.

The system is financed by taxpayers who check a box on their tax returns donating $3.

The program was created after Watergate to try to reduce presidential candidates' reliance on big donors.

New laws doubled the individual contribution limit to $2,000 and makes the government match of up to $250 for each donation less attractive.

SOURCE: Associated Press Jane Bell/AP

DEAN

Democrat close to fund-raising limit

■ From Page 1A

money have forced us to abandon a broken system," Dean declared.

But some of the other contenders for the Democratic nomination immediately charged that Dean's move was aimed more at burying them under a flood of his own money during the primaries.

"It's a shame that Howard Dean has broken his word and abandoned his earlier pledge never to bypass the public financing system," Craig Smith, the campaign director for Sen. Joe Lieberman of Connecticut, said in a statement.

Aides to Sen. John Kerry of Massachusetts have said that Dean's move could lead him to opt out of the system as well. But Kerry, whose fund raising has slowed in recent months, would likely have great difficulty making up for the public financing he would lose if he opts out, unless he taps assets he owns jointly with his wife, Teresa Heinz Kerry, an heir to the Heinz family fortune.

The public financing system, installed after the Watergate scandal in the early 1970s, offers matching funds to candidates who agree to spending limits and is paid for by a $3 checkoff on federal income tax returns.

Dean's decision came after his campaign asked supporters this week to vote on-line or through telephone calls on whether he should remain in the public financing system. Of 104,746 supporters who participated, Dean's campaign said 85 percent voted to opt out of the public finance system.

Critics said the result was foreordained after Dean indicated in a speech and e-mail to supporters this week that he strongly preferred to reject public financing.

The decision also may have been made inevitable by Dean's extraordinary fund-raising success. Through Sept. 30, he raised nearly $25 million, more than any of his Democratic rivals. Dean collected almost $15 million in the three months from July to September. That was the most money any Democratic candidate — including President Clinton — ever raised in a single quarter.

Dean was continuing to raise money so fast that he would likely have reached the legal ceiling under the public financing system within weeks, if not days, campaign manager Joe Trippi acknowledged.

Now Dean can raise unlimited sums — though individual donors are still subject to the federal limit of $2,000 per contribution. But Dean's freedom to continue raising money comes at a hefty price: by rejecting public financing, he is renouncing $18.6 million in federal matching funds that he was on track to receive in January.

VETERANS DAY sale

14.99 Junior Tops
Check out these great junior tops from **Tempted, Moa Moa, Quizz, Eyeshadow** and others. Sizes S-XL.
ORIG. $28

14.99 Misses Westbound Knits
Save on assorted fal knits. Sizes S-XL.
ORIG. $28-$36

14.99 Girls 7-16 Athleisure Wear
Save on trendy wear-now athletic-inspired apparel from **Next Concept**.
ORIG. $20-$24

14.99

19.99

19.99

class is nothing new to him. He has had movie nights at his home, where students view and discuss films.

"It provides a neat opportunity to get to know students in a very different way than you get to know them in class," he said.

Other universities, like Rice, have had similar living arrangements for decades.

Bradley has visited his counterparts in Houston and found that they enjoyed the proximity to students. But he acknowledges that at Baylor, he'll be the guinea pig.

"I think a lot of the people I know here are going to watch carefully to see how our first year goes," he said.

Brian Gaar can be reached at 757-5741 or at bgaar@wacotrib.com.

TEXAS LOTTERY RESULTS

Pick 3 Day 9-8-4

Pick 3 Night 3-9-1

Lotto 5-11-16-17-34 7

Cash 5 9-10-22-28-34

RESULTS FROM PREVIOUS GAMES

FRIDAY'S CASH 5
Numbers: 18-17-21-25-28
Match 5: 0
Match 4 ($406): 184 tickets
Match 3 ($9): 5,795 tickets
Match 2 ($2): 55,819 tickets

FRIDAY'S TEXAS TWO STEP
Numbers: 1-11-28-33 20
Match 4 plus bonus: 0
Match 4 ($3,064) : 6
Match 3 plus bonus ($66): 34
Match 3 ($21): 1,420
Match 2 plus bonus ($20): 987
Match 1 plus bonus ($7): 6,773
Match bonus ($5): 11,704

Don't watch TV tonight without reading

Tune in Tonight

by Kevin McDonough, a guy who watched entirely too much TV growing up

14.99
Boys Class Club Knits & Wovens
Choose from great long-sleeve fashion collection knit and woven tops for boys 3-20. From **Class Club**.
ORIG. $18-$22

19.99
Men's Oak Creek or Dockers® Pants
Save on our exclusive **Oak Creek** 100% cotton wrinkle-free pant and the **Dockers®** Mobile pant. **Oak Creek** pant available in Big & Tall sizes, **24.99**.
ORIG. $24-$35

19.99-29.99
Boys & Girls Coats
Save on selected styles of outwear for girls from **Copper Key** and boys from **Class Club**.
ORIG. $30-$50

24.99
Ladies Casual Sportswear
Save on pants, jackets, skirts, knits and blouses from **Napa Valley**. For misses, petites and Dillard's Woman.
ORIG. $42-$58

29.99
Girls 7-16 Dresses
Find great fall styles from **My Michlle, Bonnie Jean, 2 Hip** and **La Belle**.
ORIG. $40-$45

25% off
Men's Roundtree & Yorke Flannel Wovens
Save on our entire stock of 100% cotton flannel wovens in assorted fall colors. Sizes S-XL.
REG. $32
NOW $24

AND SAVE ON GREAT LADIES SHOES!

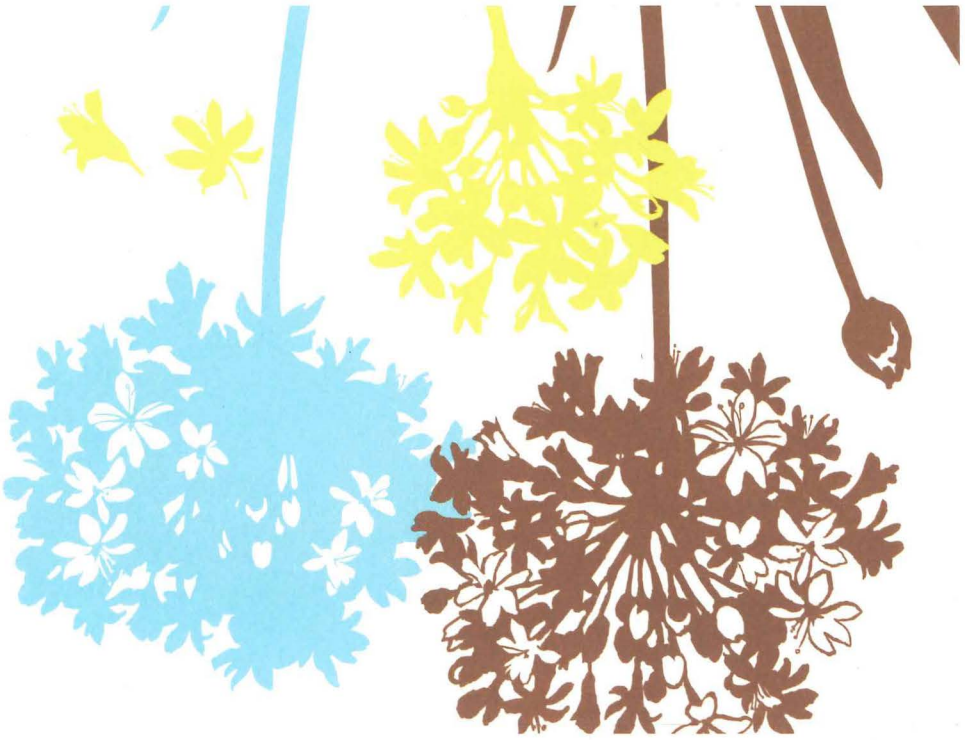
29.99
Tommy Hilfiger
Find savings on a great selection of ladies casuals from **Tommy Hilfiger**.
ORIG. $59
Tommy Hilfiger "Marsha"

39.99
Clarks
Save on great ladies .comfort casuals from **Clarks**.
ORIG. $59
Clarks "Rebecca"

79.99
Cole Haan
Slip into stylish ladies shoes from **Cole Haan**.
ORIG. $145
Cole Haan "Elkins"

Men's designer woven boxers, 9.99 100% cotton boxers in assorted prints and plaids. Reg. 16.50.

SAVE 10% Selected styles. Selection may vary by size and store. Items shown represent department and may no longer



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AUGUST 2, 2013

WALTER,

WORDS FAIL ME WHEN I TRY TO EXPRESS MY DEEP APPRECIATION FOR YOUR LIFE AND MINISTRY. I HAVE SELDOM MET A MAN WITH INTELLECTUAL POWERS THAT YOU HAVE WHO WALKS WITH SUCH HUMILITY AND GRACE. I'M THRILLED THAT YOU WILL HAVE MANY MORE YEARS TO MAKE LOVING AND UNSELFISH CONTRIBUTIONS TO THE KINGDOM. I THANK GOD THAT HE BROUGHT YOU INTO MY LIFE.

Charles

I was a Senior TEES Fellow - subsequently for 8 years.

Newsmakers

25 named as TEES Fellows

Twenty-five university researchers have been named 1985-86 Fellows by the Texas Engineering Experiment Station, each receiving $5,000 for use in advancing research and professional development.

Texas A&M faculty selected as Senior Fellows are Ray Anthony, chemical engineering; Walter Bradley, mechanical engineering; Dara Childs, mechanical engineering; Walter Haisler, aerospace engineering; and Andrew McFarland, civil engineering.

TEES Fellows are David Allen, aerospace engineering; Guy Curry, industrial engineering; Richard Daft, management; P.T. Eubank, chemical engineering; Jerry Gibson, electrical engineering; James Holste, chemical engineering; Kenneth Marsh, Thermodynamics Research Center; Gerald Morrison, mechanical engineering; Alton Patton, electrical engineering; Kenneth Peddicord, nuclear engineering; Robert Reid, oceanography; Don Phillips, industrial engineering; Peter Sharpe, industrial engineering; and Dwayne Simpson, psychology.

Named Select Young Fellows are Aydin Akgerman, chemical engineering; Bill Batchelor, civil engineering; Ricky Griffin, management; and Sallie Sheppard, computer science.

Leeper receives

Nov. 13 meeting. Ron Baird awarded Jaycee of the mont August, Buck Buchanon rec the award for September. J.P. Watson for October. Bobinski was named Jay the Quarter, and the T Pull, with Allan Wichko chairman, received the aw project of the quarter.

Tylers renew vows of 57 y

Rev. Frank Abrum Mary Marie H celebrated Nov. 16 v and friends to renew riage vows after 57 togetherness. The cer held at Shiloh Bapt Officiating was R Morgan of Sale Church. Tyler says black man in the ci ried to the same wo than 50 years.

Chambe ordained

Rev. Jim Ch Joseph's Paris dained Nov. deacon in the at Saint Mei Indiana. A church by bishops ir preaching carrying C and inval Chambe deacon dinatio

Debating the origin of life

I write to thank Hollie O'Connor and the Tribune-Herald for doing some excellent investigative reporting on the science textbook review process now in progress in her Sept. 15 article. Sadly, some major Texas newspapers published the wildly exaggerated claims from the lobby group Texas Freedom Network without bothering to confirm the misinformation in their press release.

For example, TFN claims the theory that life originated millions of years ago through a series of chemical events is the best explanation scientists have, is supported by evidence and is accepted by most scientists. Really? Then why did the Journal Astrobiology publish in April an article titled "The RNA World Hypothesis: 50 Years Old" that claims that RNA molecules are the key to a chemical path for the origin of life but indicates that figuring out how to make RNA under prebiotic conditions is still the "prebiotic chemist's nightmare."

Why should we hide this information from our students? After reviewing science textbooks in 1992, I co-authored a paper titled "Origin of Life and Evolution in Biology Textbooks — a Critique" that was published in American Biology Teacher, Vol. 55, February 1993, pp. 78-83, bringing to the attention of biology teachers the considerable scientific misinformation on the origin of life I found in the textbook review process — claims which have today been vindicated.

Only one reviewer out of 22 made a recommendation to include "creation science" in the textbooks in her individual review, and in each panel review this recommendation was denied, so why the hysterical claims by TFN? Obviously, to try to intimidate the Board of Education and besmirch its reputation.

Finally, TFN's claims about my qualifications are again unwarranted. My work in polymer science and engineering gives me a strong background to study polymer behavior in the formation of living systems. I was selected by the Society of Plastics Engineers as the educator of the year in 2011 for the U.S. and England in recognition of my professional work with polymers.

Walter Bradley, Woodway

9/22/2013

BU prof defends textbook review

Intelligent design supporter criticized for state board role

By HOLLIE O'CONNOR
hoconnor@wacotrib.com

A retired Baylor professor who wrote a book on the intelligent creation of life has received attention lately concerning his role as a biology textbook reviewer for the State Board of Education.

Walter Bradley, a retired engineering professor, has been named in numerous Texas Freedom Network press releases about the textbook reviews, which have in turn been cited by The Washington Post and Slate, among other media outlets.

The releases raise concerns about Bradley's belief in intelligent design, and how that might interfere with his ability to fairly assess lessons on the origin of life in textbooks.

Bradley

Bradley co-authored "The Mystery of Life's Origin: Reassessing Current Theories" in 1984. The book critiques the theory that life arose from nonliving matter under extreme atmospheric conditions on young Earth without the interference of a creator.

Bradley said he thinks Texas schoolchildren should have textbooks that address what scientists have evidence to support, but nothing more. He said there is not sufficient data to conclude with certainty how life originated.

"The origin of life has philosophical and theological implications, so people on both sides like to claim more than is justified," Bradley said. "It's OK to say we don't know what we don't know."

But Dan Quinn, communications director for the Texas Freedom Network, said the scientific theory that life originated millions of years ago through a series of chemical events is the best explanation scientists have, is supported by evidence and is accepted by most scientists.

He said Bradley and others who share the opposing view are trying to push their beliefs by watering down the evidence for the origins of life and evolution.

See TEXT, Page 10B

TEXT

From Page 1B

"The issue here is not whether or not publishers will put creation science in textbooks," Quinn said. "The effort by folks who oppose evolution is to pressure publishers into weakening instruction on the subject so they can suggest to students it's not as definitive as it is."

Bradley said he is "ambivalent" toward evolution.

"Some people believe random mutation and natural selection are sufficiently robust as creative processes to account for the wide variety of plant and animal life that we see today," Bradley said. "But I think it remains to be demonstrated that it can account for everything, though it does account for many things."

Quinn pointed out that Bradley does not have a background in biology, and there are many qualified biologists who could do a better job of assessing biology instruction.

"Publishers have to prove that their textbooks got it right to people who aren't even biologists," Quinn said.

Bradley said his background in material science relates to the origins of life. He has studied polymers extensively, and is familiar with fundamental physics and chemistry, much of which overlaps with biology, and especially the science behind the origins of life, he said.

But Bradley disagrees with members of the advisory committee on some of the comments considered more extreme.

Documents obtained by the Texas Freedom Network from the advisory panels show at least one comment advocating for "creation science" to be taught in classrooms and a claim that "no transitional fossils have been discovered."

Disputed comments

Bradley said he did not sign off on those comments. He said the advisory panel was charged with assessing whether the biology textbooks met the Texas Essential Knowledge and Skills standards, and since "creation science" is not included in TE the comment is irrelev He also acknowledged many transitional fos have, in fact, been foun

Bradley said the pan recommendations w through a series of che before they were subr ted to the State Boar Education. Bradley ev ated one textbook in de of the 15 that were subr ted, and fellow review did the same. Then, a meeting in Austin, the viewers split into gro and examined the eval tions.

"The SBOE has tried make it an unbiased p cess," Bradley said. " people to act hysterica not rational."

The SBOE will hav public hearing Tues concerning the textbool

'a 3 year term on the National Board for Christian Educators Association (located in California)

ion

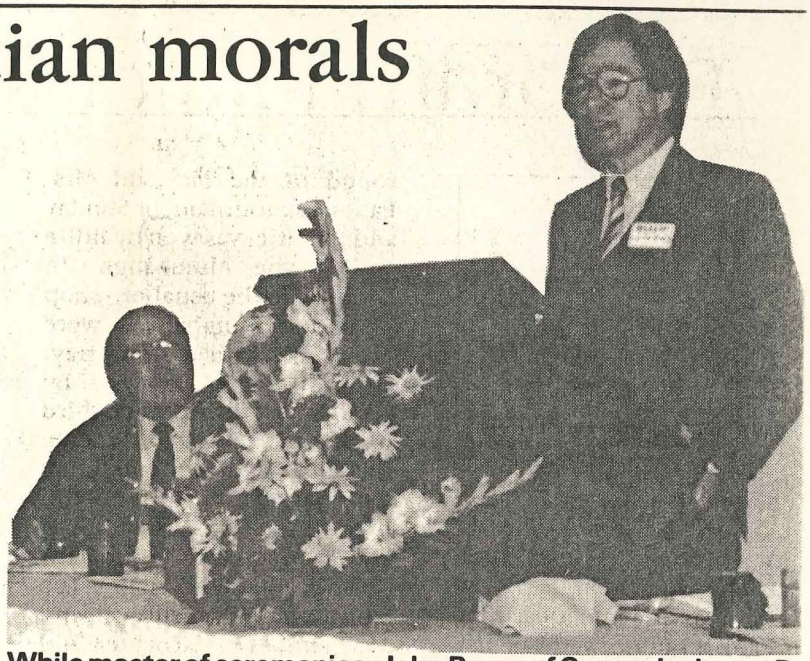
er Christian morals

olvement with the us which the Constitu- commands, but of a ng and pervasive devo- the secular and a pas- even active, hostility to igious. Such results are ly not compelled by the tution, but, it seems to re prohibited by it." gton V. Schempp, U.S. me Court)

her, Dr. Bradley said, laws governing religion ot intended to X out us ideas, only prohibit us practice; and that the position is one of neu- rather than hostility."

specifically, Dr. Brad- isted four particular ces which have been ated as unconstitutional shments of religion in blic schools. These are: directed and required mises religious train- state-directed and re- posting of the Ten andments." The em- being in each of these, irected and required.

f this on Bradley's part encourage Christians, larly public school rs, not to exceed their oundaries, but to move very edge of them and to "salt and light" we are anded to be. This was his wife, Ann (former



While master of ceremonies, John Burge of Conroe looks on, Dr Walter Bradley of Texas A&M, guest speaker at the charter meeting of the Christian Educators Association, urges teachers to know the letter of the law and create a Judeo-Christian atmosphere in their classrooms.

teacher - now parent), stepped in to affirm and confirm with the reading of the Bible passage, Matthew 5:13, 14 (which, by the way, is not prohibited in the classroom when used in proper educational context). She not only reviewed the qualities of salt as a "preservative and seasoning," and light as a preventative toward "stumbling in darkness," but she gave ideas which teachers across the state and nation have used effectively, creatively and legally, to re-establish Judeo-Christian moral values.

Her words gave emphasis to a recent article in a Houston paper which pinpointed the decided swing of the pendulum away from moral instruction in the '70s and U.S. Education Secretary William Bennett's call for schools to take an active role in "character development." The author wrote: "Young people today, many of whom are in a complete moral stupor, need to be shown there is an important distinction between moral and non-moral decisions."

Annual Report for 2003

Walter and Ann Bradley

Christian Faculty Network
Texas A&M University

CHRISTIAN FACULTY NETWORK

A recognized organization at Texas A&M University

☆

Glorifying Jesus Christ by enriching the ideological diversity of the university community with the Christian world-view.

Dear Ministry Partners:

A young man from a wealthy family went to college to major in business management and engineering. He was tall, dark-haired and good-looking. His friends described him as shy and very respectful of others. His life was radically changed by one of his professors. This brilliant professor galvanized his life and radically changed his worldview, his direction and his ambitions. The articulate professor's lectures and his example of discipline, self-denial, and devotion to his faith transformed this quiet student. The young man became deeply involved in religious activities and devoted much time to prayer and reading. This rich young student had finally found a purpose in life. **His life was transformed by the influence of one university professor.**

The year was 1974.The university was the Jedda Abdul-Aziz University in Jedda, Saudi Arabia. The professor was Palestinian-born Islamic scholar Abdallah Azzam. The student was Osama bin Laden.

The Christian Faculty Network seeks to have the same life-transforming impact on students at Texas A&M University, but with a very different outcome. We want them to become radical in their commitment to their relationship with Jesus Christ and clear in their understanding of how this relationship and the worldview that flows from it will impact every area of their lives.

We invite you to continue to partner with us for 2004 in this exciting mission. Our plans for Texas A&M University for the 2004 year are the biggest and most exciting in our history.

In terms of personal ministry, we continue to see spiritual growth in the professors in the Christian Faculty Network that is reflected in their greater willingness to be lighthouses in their departments on campus. With faculty Web pages (see www.leaderu.com, click "faculty offices" and scroll to see the large number of TAMU faculty), the *Conversations* CD for outreach to students, our gift packets for new faculty including our new mug and a copy of C.S. Lewis' *Mere Christianity*, we are reaching out in winsome ways to students and colleagues alike, helping them to see the Christian worldview as a significant option to be considered. Over 100 Christian graduate students are in our new Christian Graduate Student Network, studying how to be better witnesses to their fellow grad students.

The Veritas Forum February 16-20, 2004 will bring to campus world renowned speakers, Drs. Ralph Wood, Peter Kreeft, and William Lane Craig in a campus-wide outreach event organized by the CFN but co-sponsored by twelve different student Christian organizations, guaranteeing an excellent turnout. I will be speaking on "Is There Scientific Evidence for the Existence of God" as well. A panel of TAMU Christian faculty will be the main event one afternoon. Workshops on apologetics and evangelism in a most-modern culture will take place in March 2004. The Trotter Prize in early April 2004 will bring Drs. Paul Davies and Robert Shapiro to talk about origins.

On behalf of all the of the Christian Faculty at TAMU, let me give each of you our most sincere thanks for helping to make possible this past year of significant impact at Texas A&M University. We invite you to prayerfully consider continuing on our team for 2004.

Warmly yours in Christ,

Walter and Ann Bradley

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http://iolbv.com/Murphy/cfn

Spiritual Dividends for 2003 at Texas A&M University

- ~4000 Aggies attended outreach programs sponsored by TAMU Christian Faculty Network (CFN)
- ~4500 Aggies visited websites of Christian faculty at TAMU to read their testimonies.
- As a recognized faculty group at TAMU, the CFN participates in many TAMU faculty functions.
- 160 professors attended our spring and fall receptions.
- ~50 professors have participated in CFN small groups in their respective colleges.
- ~25 professors have participated in our CFN "Happy Hour".
- Alan Guth and Sir John Polkinghorne have made the Trotter Prize Lectures for contributions to Complexity, Information, and Inference.
- A real community of Christian faculty is beginning to form at TAMU, with a growing visibility (and opposition) on campus.
- Fifteen professors at TAMU have websites at Leaderu.com (click "faculty offices"), where their students can read their testimonies and articles about their faith that they have written.
- Christian professors distributed >1000 Franklin-Covey planners with 40 pages that address the spiritual needs of students.
- Welcome gifts including coffee mugs and *Mere Christianity* have been distributed to 100 new professors at TAMU (mostly non-Christians).
- We have held Workshops on *Tips on Making* that have been attended by about 15 tenure track professors (mostly non-Christians).
- A new Christian graduate student network has been established with ~100 graduate students involved.
- Over 39 Chinese graduate students have come to Christ through the efforts of EE Professor Andy Chan and his wife Sophia and the involvement of several other professors from our CFN at TAMU.
- The courageous stand taken by Christian professors in the College of Education at TAMU prevented the adoption of a tolerance policy that "celebrated and promoted every form of human diversity".
- A strong Christian faculty network has been established at Blinn College in Bryan, Texas to minister to the 10,000 students, most of who hope to transfer to Texas A&M University. They have had several speaker outreach programs, offered special baked goods for students during finals, and had a strong faculty Christian presence.

Strategic Plans for 2004 for Texas A&M University

- Spiritually impact over 10,000 students through websites, Franklin-Covey planners, *Conversations* CDs, Veritas Forum, speaker programs and special events in professor's homes.
- Organize the Veritas Forum for February 16-20, 2004 with nationally recognized speakers Drs. Ralph Wood, William Lane Craig, Walter Bradley and Peter Kreeft. Secure co-sponsorship of 12 campus student ministries, with their contributing 30% to cost.
- Support the Trotter Prize and lecture by Paul Davies and Robert Shapiro on April 5, 2004.
- Organize three special speaker based outreach programs for Fall 2004.
- Increase the number of TAMU Christian Professor websites from 15 to 30 (see www.leaderu.com)
- Engage 15 Christian professors in the discipleship program W*hat Is a Christian Professor? A Model of Ministry and Maturity.*
- Grow the Christian graduate student network to 120 and continue the strong outreach to all grad students, but especially Chinese.
- Have banquet January 30, 2004 for Christian Faculty Network faculty to provide vision and equipping on how to have a greater spiritual influence with their students and colleagues. Have Dr. Stan Mattson, Director of C.S. Lewis Foundation speak.
- Have a reception hosted by the Christian Faculty Network to which all professors are invited in September 2004 to add new Christian Professors who are not yet in our network and to encourage greater involvement by those that already are.
- Have a discussion/dessert series outreach for non-Christian faculty in Spring 2004 and another one in the fall 2004.
- Help 10 professors to have creative outreaches to students in their homes.
- Have workshop on "Christian Apologetics using a Socratic approach March 6, 2004.
- Have workshop on "Evangelism in a Post-Modern Culture" March 27, 2004.
- Have professors distribute 2000 *Conversations* CDs to their students to help them be better students and stimulate their spiritual interests.
- Have professors distribute >1000 Franklin-Covey planners with 40 special pages addressing concerns of students from a Christian point of view.
- Have 15 professors attend the National Christian Faculty Conference in Washington, D.C., June 24-27, 2004.
- Have 5 student leaders from the Christian Graduate Student Network attend Urbana Conference sponsored by Intervarsity Christian Fellowship, December 29-January 3, 2004.

Comment Card Quotes from Dr. Walter Bradley's Lecture at Princeton
Is There Scientific Evidence for the Existence of God?

"This is a great forum. I am not Christian nor religiously affiliated."

"This was a very convincing talk and I greatly enjoyed it. It was thought provoking. I would love to attend more lectures such as this."

"Excellent, the best lecture I've heard during my stay here at Princeton. I have often yearned for the use of scientific argument in support of faith since science seems to have been used more as a means to discredit religious belief."

"I grew up with no religious background, but started to become curious about Christianity. This talk definitely made me rethink the structure of our universe and hence evidence for an intelligent creator."

"Definitely the best lecture I've heard yet on campus. Dr. Bradley was incredibly coherent and knowledgeable on the topic and was able to express so many arguments in a small amount of time."

"The presenter provided substantial evidence to suggest that coincidence is highly improbable."

"Fascinating. The best two hours I've spent in a long time."

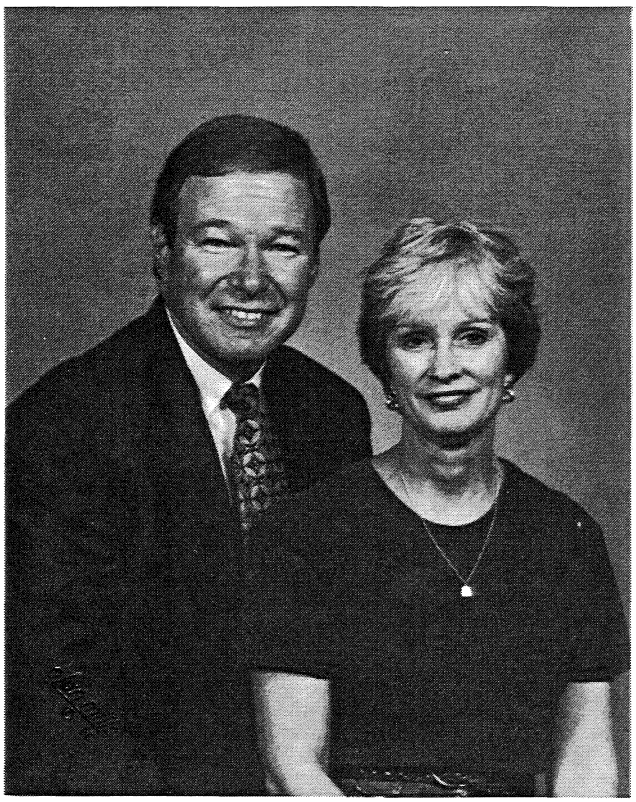
During the past four years, Dr. Bradley has given this lecture to ~10,000 students at Dartmouth, Stanford, Harvard, Yale, MIT, Williams College, U. of New Hampshire, SMU, Air Force Academy, Western Washington University, Washington State, U. of Southern California, University of California (UC)-Los Angeles, UC-Santa Barbara, UC-Irvine, UC-Berkeley, Montana State, Texas A&M University, Kansas, Princeton, U. of South Carolina, U. of Texas (Austin), Vanderbilt, University of North Texas, University of Southern Mississippi, Middle Tennessee State, Austin-Peay, and University of Tennessee (Martin), Arizona State, and Cal-State at St. Luis Obispo, Union University.

Epilogue

"The church's singular failure in recent decades has been the failure to see Christianity as a life system, or worldview, that governs every area of existence. ….. Our goal is to equip believers to present Christianity as a total worldview and life system, and to seize the opportunity of the new millennium to be nothing less than God's agents in building a new Christian culture." Chuck Colson and Nancy Pearcey in *How Now Shall We Live?* (Wheaton, IL: Tyndale House Publishers, Inc. 1999)

Our purpose in the Christian Faculty Network at Texas A&M University is not just to see people in the university community redeemed but to transform the intellectual climate of the university to one in which the Christian worldview is taken seriously and considered on its merits. We long to see Texas A&M University be a place where truth may be pursued without ideological hindrance and where the light of God's redeeming love shines brightly.

Walter and Ann Bradley
December 8, 2003



Dr. and Mrs. Walter L. Bradley
Professor Emeritus of Mechanical Engineering
&
Executive Secretary of the Christian Faculty Network
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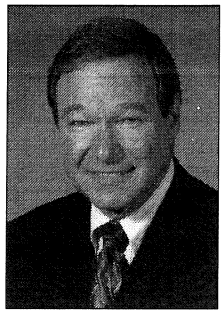
The Fine Tuning of the Universe: Evidence for the Existence of God?

Walter L. Bradley



Walter L. Bradley

Investigations by cosmologists during the past sixty years have uncovered a remarkable new picture of our amazing universe and its incredible journey from the big bang to our "finely tuned" habitat. It appears that the initial conditions, the mathematical forms that nature takes, and the universal constants must each be precisely tuned to have a suitable habitat for complex, conscious life. Whether this fine tuning is evidence for a creator God is explored, while trying to avoid making fallacious "God of the gaps" claims and instead pointing appropriately to patterns in nature that provide legitimate evidence for a creator God.

Why is "Fine Tuning" such a popular subject today, as evidenced by the many books that have been written on this topic? Here are some examples: *The Anthropic Cosmological Principle*,[1] *Universes*,[2] *The Accidental Universe*,[3] *The Cosmic Blueprint*,[4] *Cosmic Coincidences*,[5] *The Anthropic Principle: Man as the Focal Point of Nature*,[6] *Universal Constants in Physics*,[7] *The Goldilocks Enigma: Why Is the University Just Right for Life?*,[8] *Cosmic Jackpot: Why Our Universe Is Just Right for Life*,[9] *The Constants of Nature: The Numbers That Encode the Deepest Secrets of the Universe*,[10] *Why the Universe Is the Way It Is*,[11] *Just Six Numbers: The Deep Forces That Shape the Universe*,[12] and *A Fine Tuned Universe: The Quest for God in Science and Theology*.[13]

There is good reason for these discussions. Fine tuning describes one of the great mysteries of the universe, and one that may have significant metaphysical implications. Even atheists such as Stephen Hawking note,

> To understand the universe at the deepest level, we need know not only how the universe behaves but why. Why is there something rather than nothing? Why do we exist? Why this particular set of laws and not some other?[14]

The universe is such a remarkable place of habitation for complex, conscious life that it is extremely difficult to believe that it is the result of a long series of cosmic accidents. The elegant mathematical forms that are encoded in nature, the twenty-two universal constants with values within very narrow ranges of exactly what they need to be,[15] and the multitude of initial conditions that must be within a very narrow bandwidth, which they are, would seem to suggest a universe that has been carefully crafted for our benefit.

This article will specifically explore the fine tuning of our universe, the mathematical forms that nature takes, the universal constants, and the precise initial conditions when the universe exploded into existence in the "big bang." Then this article will explore whether fine tuning provides significant warrant for belief in a creator God.

Walter L. Bradley, *PhD, is Professor Emeritus of Mechanical Engineering for both Texas A&M University (2000) and Baylor University (2012). An ASA Fellow, he has spoken about "Fine Tuning" on 74 university campuses to more than 50,000 students and professors over the past thirty years. Each lecture was followed by an open Q&A for an hour or more. He has deeply appreciated both that feedback and that of anonymous* PSCF *reviewers.*

W. L. Bradley, and M. Wilkov, "Fatigue Enhanced Diffusion of Nickel in Copper, "Proceeding of 1st International Conference on Microprobe Analysis, 1968.

Fine Tuning of Universe: Evidence for the Existence of God?

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Kok, Randall A., Taylor, John A., Bradley, Walter L., "A Statistical Examination of Self-Ordering of Amino Acids in Proteins", *Origins of Life and Evolution of the Biosphere* 18 (1988), pp. 135-142.

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Thaxton, C., Bradley, W.L., and Olsen, R., 1984, *The Mystery of Life's Origin: Reassessing Current Theories*. (Dallas: Lewis and Stanley).

COURSES TAUGHT AT TEXAS A&M UNIVERSITY

ENGR 202, 213: Properties of Matter
ME 222: Introduction to Materials Science
ME 340: Structure and Properties of Metals and Alloys
ME 455: Engineering with Plastics
ME 467: Mechanical Behavior of Materials
ENGR 482: Engineering Ethics
ME 474*: Failure Analysis in Design and Manufacturing
ME 422*: Engineering Economics and Management
ME 623*: Applications of Engineering Fracture Mechanics
ME 671*: Failure Analysis
MM 607*: Flow and Fracture in Polymeric Materials
* New courses developed by Walter L. Bradley

SHORT COURSES AND WORKSHOPS TAUGHT

"Fracture Mechanics for Fracture Control and Structural Life Predictions"; Through TAMU, Annually, 1980- 1999; through Bucknell University, 1985.

"Failure Analysis" - for Federal University in Mexico (1980).

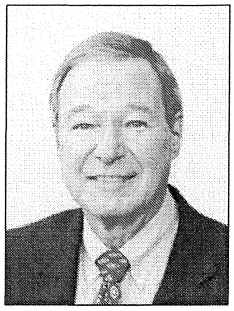
"Heat Treatment for Increased Productivity" - for McGraw-Hill (1982-1983).

"Fracture in Ductile Iron" - for Quebec Iron and Titanium, Montreal, April, 1983.

"Applications of Fracture Mechanics" - for University of Witwatersrand, Johannesburg, South Africa, November, 1984.

Science and Technology in Service of the Poor: The Case of the Coconut

Walter L. Bradley



Walter L. Bradley

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Through John Pumwa, a former PhD student of mine at Texas A&M who was from Papua New Guinea, I learned that there were 11 million coconut farmer families around the world (see figure 1) who make $500/year selling the white coconut "meat" from the ~5,000 coconuts/year each family harvests for 10¢/coconut. These families live within ~20° of the equator where coconut trees grow and bear fruit (see figure 2).

Figure 1. Walter Bradley with a typical coconut farmer family.

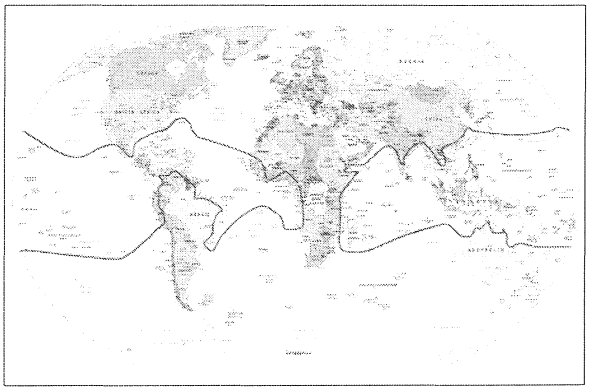

Figure 2. Regions inside the dark boundaries are locations where coconuts grow.

In this communication, I would like to share the details of my quest to make a difference in the lives of these farmers, both economically and spiritually.

Coconut Biodiesel for Sustainable, Worldwide Rural Electrification—The Impossible Dream

Pumwa took a one-year sabbatical leave from his position as department head of mechanical engineering at the University of Technology in Papua New Guinea to come to work with me at Baylor University in 2004. Our initial goal was to determine if we could make biodiesel from coconut oil to provide electricity in rural villages around the world, such as the one where he was born in Papua New Guinea. Vegetable

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Perspectives on Science and Christian Faith

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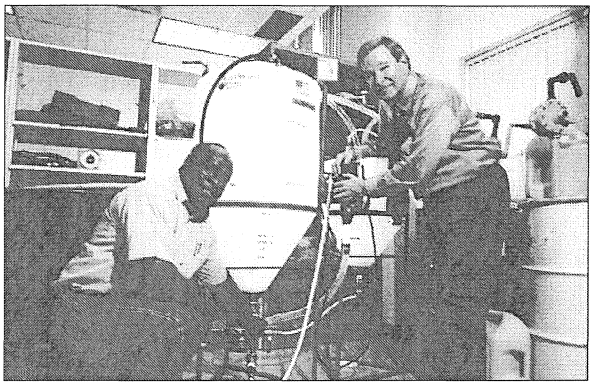

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Unfortunately, methanol is not available in rural villages and rural villagers would not have money with which to purchase methanol, even if it were available.

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Plan B—Creating Biocomposite Materials from Coconut Shell and Coconut Husks: The Possible Dream

Next we turned our attention to the 50 billion kilograms of agricultural waste created each year in the production of coconut oil. What unique combinations of physical properties might biomass in coconut husks and shells have that would not only be useful but would also have a competitive advantage in providing market opportunities and value for this abundant but poorly utilized agricultural waste?

There are currently relatively few markets for the coconut shell and husk. Consequently, the shell and husk are often burned as fuel or as agricultural waste (see figure 4), providing little or no economic benefit to the farmers. The goal of my research since 2006 has been to create polymeric composite materials that utilize coconut fiber (called coir) and coconut shell powder as functional fillers in polymers such as polypropylene, giving significantly enhanced value to the 50 billion kilograms of agricultural waste that is owned by poor coconut farmers.

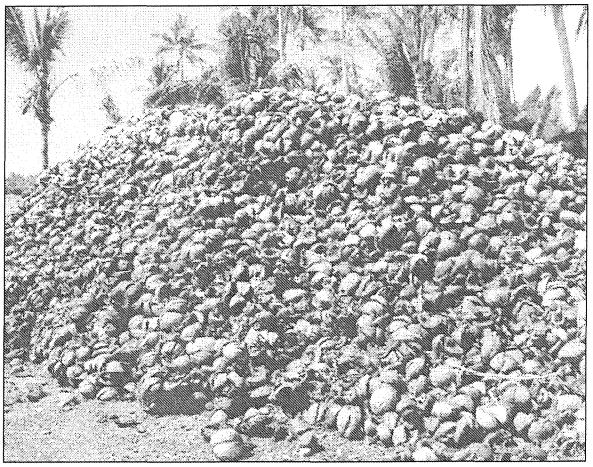


Figure 4. Coconut husk in the Philippines, an abundant agricultural waste worldwide.

A cross section of a coconut is seen in figure 5, with the primary constituents being the husk that surrounds the coconut, the shell of the coconut, and the white coconut meat, usually called copra. The coconut husk consists of 50 wt% fiber called "coir" and 50 wt% pith, which is a fine, powdery biomass.

The Properties and Use of the Coconut Husk

What are the physical properties of the various constituent parts of the coconut husk and what commercial opportunities do these properties provide?

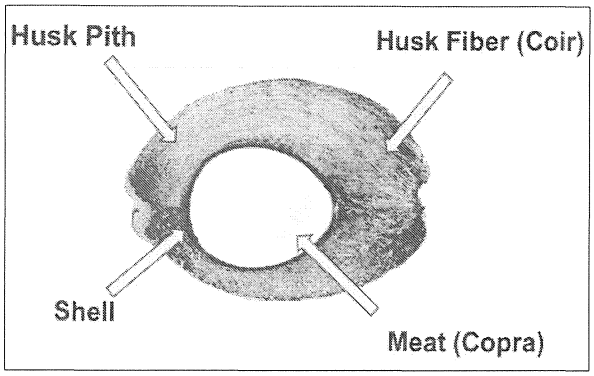


Figure 5. A cross section of a coconut husk and imbedded coconut shell.

The pith can absorb ten times its weight in water and is already widely used in horticultural applications. The function of the husk in nature is to absorb the impact energy from a 60–80-ft fall so that the seed, the coconut, is not broken. The husk must also protect the seed from fire and microbial attack. As a result, the coconut fiber has an unusually high elongation of 25–30% compared to most natural fibers with an elongation of only 1–3%. This gives excellent formability when it is used in nonwoven fabric composites.

The high lignin content of more than 35% makes the fiber resistant to microbial attack and difficult to burn. Natural fibers that are susceptible to microbial attack develop odor problems in service. The coir fiber has a remarkable structure (see figure 6) that

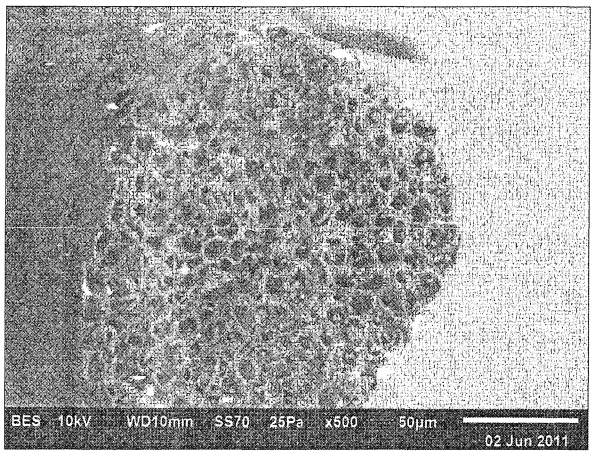


Figure 6. Cross section of a coconut fiber as seen in SEM showing a remarkable honeycomb-like structure.

gives it a very high stiffness-to-weight ratio, which reduces the cost per pound (it has a honeycomb-like core) and makes it particularly attractive for automotive applications. Finally, the coir fiber has a fiber diameter of ~200 µm, while most natural or synthetic fibers are ~50 µm in diameter. Flexural rigidity is proportional to the diameter.

Coir fiber can be blended with a synthetic "binder" fiber such as polypropylene or polyester and processed into a nonwoven fabric composite by carding and needle punching or by air-laid processing. The fabric composite can then be processed into parts such as door panels for automobiles, as seen in figure 7, or mattresses for beds, cushions for furniture, or many other applications.

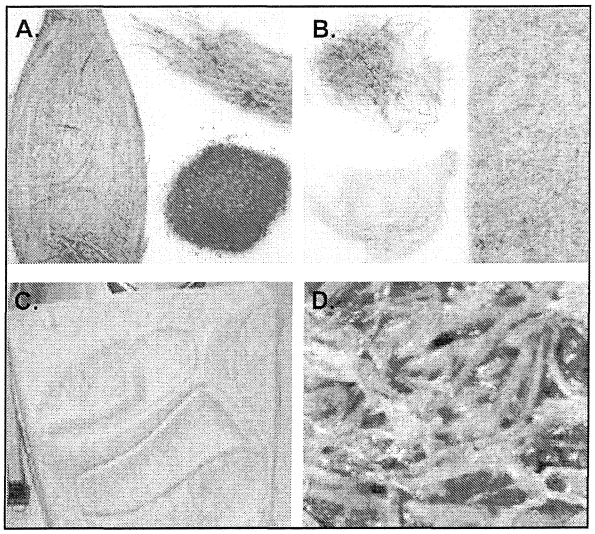


Figure 7. A. Coconut husk contains fiber and pith; **B.** Coconut fiber is blended with polypropylene fiber to make a felt; **C.** Automobile door panel made by heating felt and compression molding it; **D.** Felt after compression molding.

The high fiber elongation of coir, as compared to other natural fibers, provides excellent formability for production of parts by compression molding of nonwoven fabric composites that utilize coir, as seen in figure 8.

One part in the 2012 Ford Focus is manufactured using coir fiber in a nonwoven fabric composite. Ford Motors nominated this part of an automotive innovation award from the Society of Plastics Engineers in 2011, and it was selected as the first runner-up in its category of sustainable materials. Several major nonautomotive applications are at

various stages of development in collaboration with major companies.

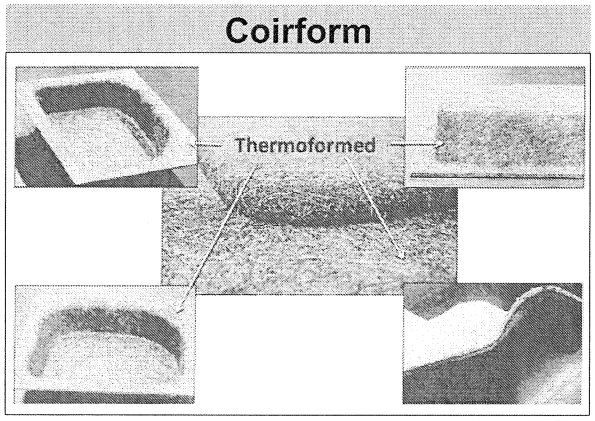


Figure 8. Excellent formability in compression molding of non-woven fabric composites with 50 wt% coir.

The coir research and development work was made possible by two grants from the National Collegiate Inventors and Innovators Alliance (NCIIA) totaling $40,000 and subsequently by three National Science Foundation Small Business Innovation Research Grants totaling $1.1 million.

The Properties and Use of the Coconut Shell

What are the physical properties of the various constituent parts of the coconut shell and what commercial opportunities do these properties provide?

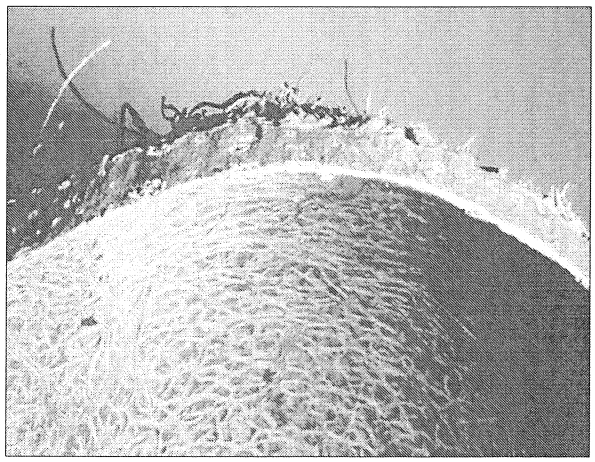


Figure 9. Coconut shell.

Coconut shell is extremely dense (1.2 g/cm^3 compared to most wood at 0.3–0.6 g/cm^3), which makes it very hard (four times harder than maple and ten times harder than pine). Its high lignin content makes it resistant to attack by microbes including mold, and also more difficult to burn.

The coconut shell can be processed into coconut shell powder (CSP) (see figure 10) and utilized as functional filler in plastics such as polypropylene to increase their hardness and stiffness. The coconut shell powder is eight times as hard as polypropylene and can easily double the stiffness of polypropylene when added at the level of 40 wt% as functional filler. It can be used in applications in which consumer goods are manufactured using injection molding, extrusion, or thermal forming (see figure 11).

Figure 10. Coconut shell powder as seen in a scanning electron microscope.

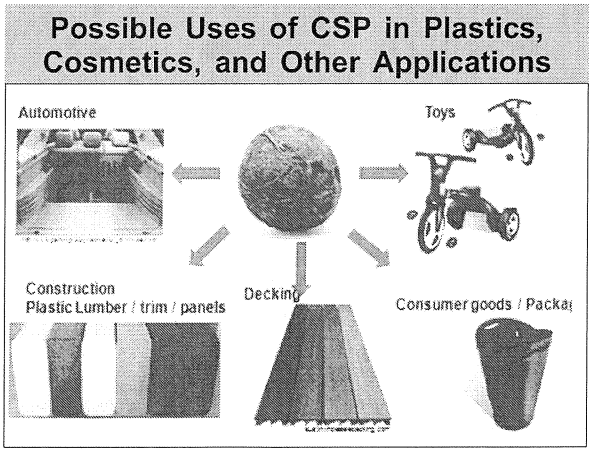


Figure 11. Examples of consumer goods that can be made from coconut shell powder (CSP).

Joint development projects with major manufacturing companies are already underway, with multiple products to be introduced in 2013 that utilize coconut shell powder as a functional filler in polypropylene.

Benefits to the Poor in Developing Countries

Production facilities have been purchased in Indonesia by Natural Composites Inc., the company that I founded in partnership with Christian friends who share my vision of helping poor people in developing countries in a for-profit company. This facility is capable of producing 10 million pounds of coconut shell powder per year and provides employment for ~100 people working in the plant. The employees are treated extremely well and are thankful to have a job to support their families. The number of employees should grow significantly over time as the use of coconut shell powder as a functional filler in polypropylene, and coir as a constituent in nonwoven fabric composites, expands. We also anticipate creating other production facilities in the Philippines, India, Sri Lanka, Brazil, and maybe in a country in the Caribbean.

We also plan to develop cooperatives with the coconut farmers so that we can buy coconut husks and shells from them directly. Currently, we buy from middlemen. Direct buying will allow us to provide more benefits to the coconut farmers and to build relationships with them. Rather than paying a premium for what is currently a very cheap commodity (even free in some cases), we will seek creative ways to benefit the farmers and their families, such as by providing vouchers for their children to go to nearby schools that would be created by concerned Christian businessmen and churches, or by providing fertilizer to help them double the yields of their coconut trees.

Concerning our employees and our coconut farmer suppliers, we plan to bless them by dealing with them in a Christ-like manner and, over time, by taking the opportunity to share the love of Christ with them.

Personal Postscript

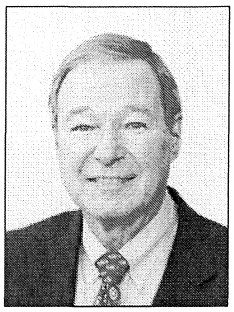
When I moved from Texas A&M University to Baylor University in 2002, my goal was to redirect my research toward something that would directly help poor people in developing countries. I had no idea what that might be. God has led me on an amazing faith-stretching journey for which the past thirty years of my life were a preparation. The skills I developed and the friends I made prior to coming to Baylor have become the technical tools I needed and the partnerships I must have to be successful in this venture. It is very clear to me that "unless the Lord builds the house, those who build it labor in vain" (Ps. 127:1a).

When I was asked by ABC News in 2009 how I ever thought to use coconut husks to make automobile interior parts, they assumed that I would explain how I tirelessly tried every natural fiber and determined, by a process of elimination, that coir was the best. But God directed me to coir as he brought to my attention, through John Pumwa, the plight of the poor coconut farmers. Happily, their agricultural waste was pregnant with possibilities. The amazing band of brothers and sisters who have become part of this journey include former members of a young married couples Sunday School class that I taught twenty years ago, friends I made at a Christian businessmen's annual ski conference in Colorado over a period of ten years, and a whole host of students whom God brought to my classes, especially John Pumwa, the first student from Papua New Guinea to earn a PhD in engineering and whose parents were the first in his mountain village to accept Christ as their Savior many years ago.

Oddly enough, I was diagnosed with leukemia about the time I started this journey, with a life expectancy of three years. Here I am seven years later, living on "borrowed" time, doing perhaps the most important work of my life. When I was first diagnosed with leukemia, I prayed to God for fifteen more years, just as Hezekiah did, with the promise that I would try to be a better steward than he was with such a gift. This work is my down payment on that promise. Hopefully, God will grant me the privilege of seeing it come to full bloom. *

ASA Members: Submit comments and questions on this article at www.asa3.org → FORUMS → PSCF DISCUSSION.

Science and Technology in Service of the Poor: The Case of the Coconut



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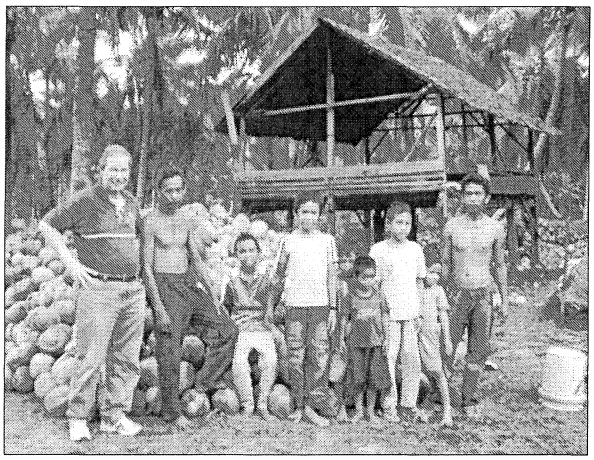

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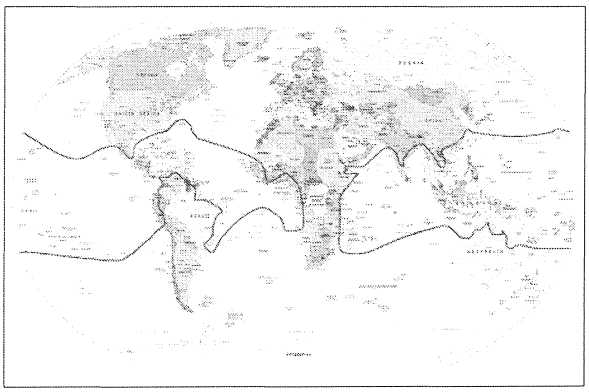

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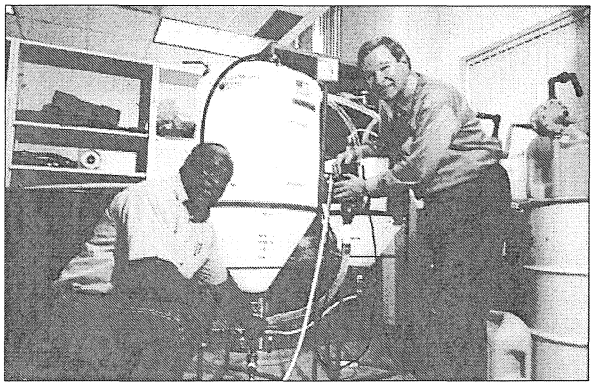

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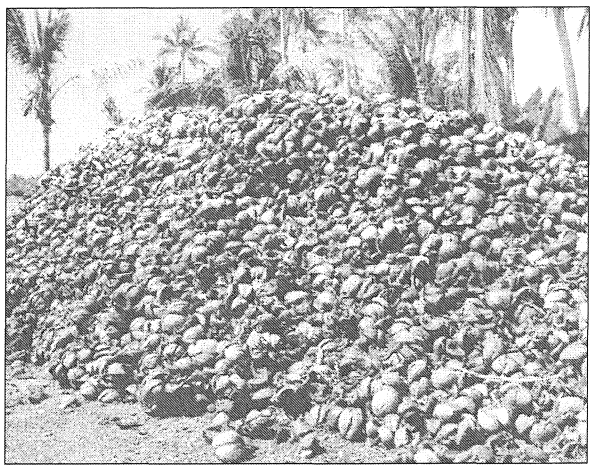

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The Properties and Use of the Coconut Husk

What are the physical properties of the various constituent parts of the coconut husk and what commercial opportunities do these properties provide?

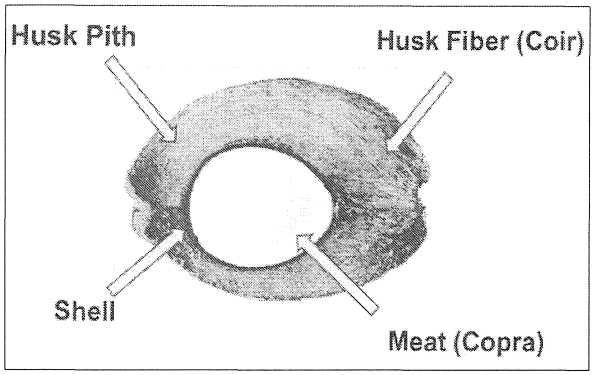


Figure 5. A cross section of a coconut husk and imbedded coconut shell.

The pith can absorb ten times its weight in water and is already widely used in horticultural applications. The function of the husk in nature is to absorb the impact energy from a 60–80-ft fall so that the seed, the coconut, is not broken. The husk must also protect the seed from fire and microbial attack. As a result, the coconut fiber has an unusually high elongation of 25–30% compared to most natural fibers with an elongation of only 1–3%. This gives excellent formability when it is used in nonwoven fabric composites.

The high lignin content of more than 35% makes the fiber resistant to microbial attack and difficult to burn. Natural fibers that are susceptible to microbial attack develop odor problems in service. The coir fiber has a remarkable structure (see figure 6) that gives it a very high stiffness-to-weight ratio, which reduces the cost per pound (it has a honeycomb-like core) and makes it particularly attractive for automotive applications. Finally, the coir fiber has a fiber diameter of ~200 μm, while most natural or synthetic fibers are ~50 μm in diameter. Flexural rigidity is proportional to the diameter.

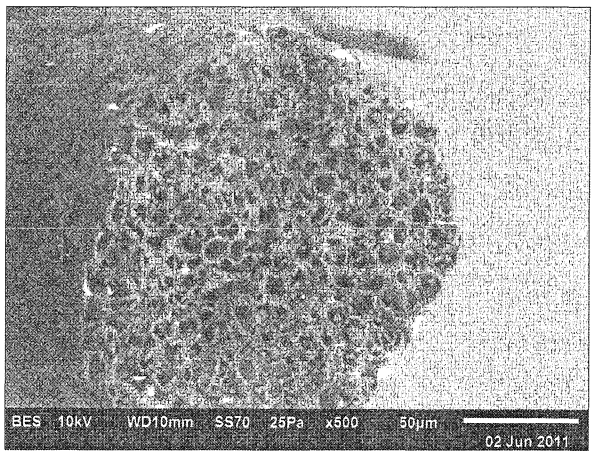


Figure 6. Cross section of a coconut fiber as seen in SEM showing a remarkable honeycomb-like structure.

Coir fiber can be blended with a synthetic "binder" fiber such as polypropylene or polyester and processed into a nonwoven fabric composite by carding and needle punching or by air-laid processing. The fabric composite can then be processed into parts such as door panels for automobiles, as seen in figure 7, or mattresses for beds, cushions for furniture, or many other applications.

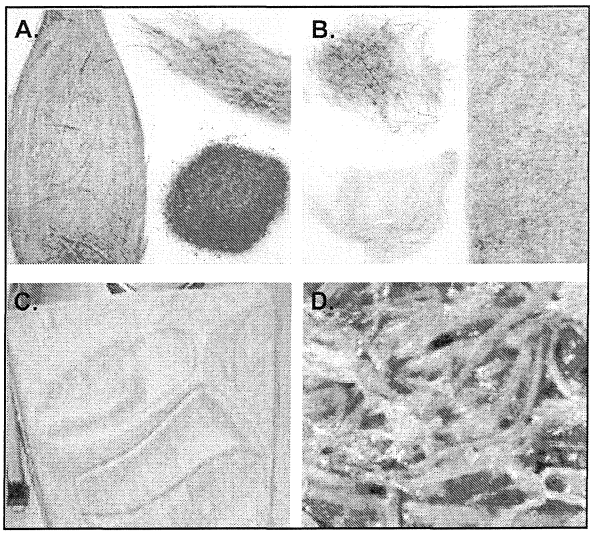


Figure 7. A. Coconut husk contains fiber and pith; **B.** Coconut fiber is blended with polypropylene fiber to make a felt; **C.** Automobile door panel made by heating felt and compression molding it; **D.** Felt after compression molding.

The high fiber elongation of coir, as compared to other natural fibers, provides excellent formability for production of parts by compression molding of nonwoven fabric composites that utilize coir, as seen in figure 8.

One part in the 2012 Ford Focus is manufactured using coir fiber in a nonwoven fabric composite. Ford Motors nominated this part of an automotive innovation award from the Society of Plastics Engineers in 2011, and it was selected as the first runner-up in its category of sustainable materials. Several major nonautomotive applications are at

various stages of development in collaboration with major companies.

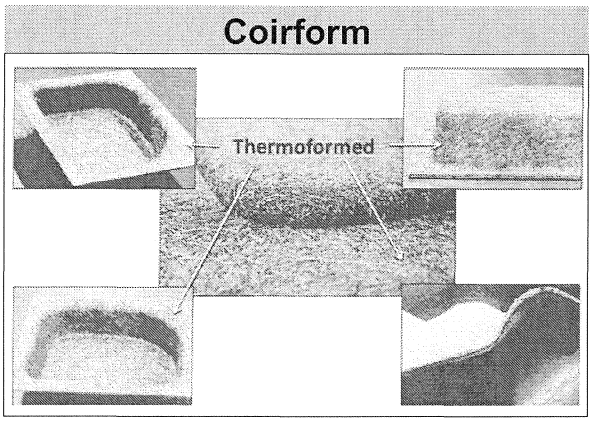


Figure 8. Excellent formability in compression molding of nonwoven fabric composites with 50 wt% coir.

The coir research and development work was made possible by two grants from the National Collegiate Inventors and Innovators Alliance (NCIIA) totaling $40,000 and subsequently by three National Science Foundation Small Business Innovation Research Grants totaling $1.1 million.

The Properties and Use of the Coconut Shell

What are the physical properties of the various constituent parts of the coconut shell and what commercial opportunities do these properties provide?

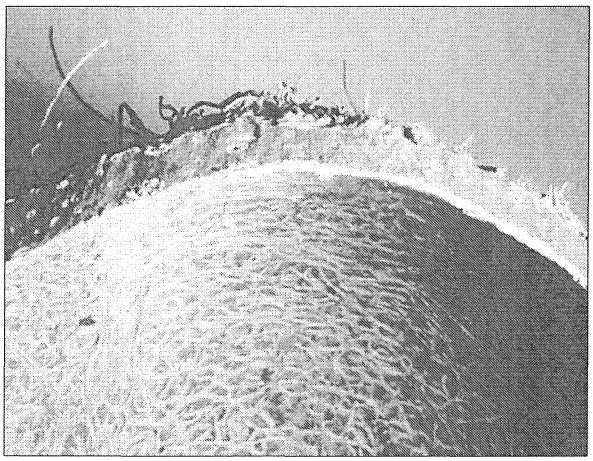


Figure 9. Coconut shell.

Coconut shell is extremely dense (1.2 g/cm^3 compared to most wood at 0.3–0.6 g/cm^3), which makes it very hard (four times harder than maple and ten times harder than pine). Its high lignin content makes it resistant to attack by microbes including mold, and also more difficult to burn.

The coconut shell can be processed into coconut shell powder (CSP) (see figure 10) and utilized as functional filler in plastics such as polypropylene to increase their hardness and stiffness. The coconut shell powder is eight times as hard as polypropylene and can easily double the stiffness of polypropylene when added at the level of 40 wt% as functional filler. It can be used in applications in which consumer goods are manufactured using injection molding, extrusion, or thermal forming (see figure 11).

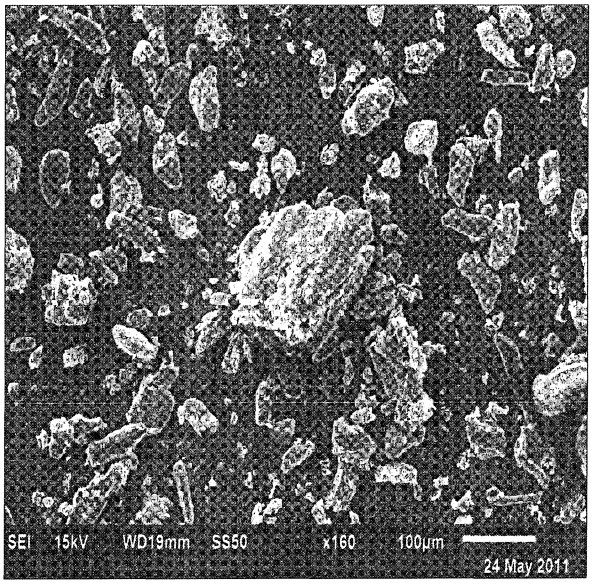


Figure 10. Coconut shell powder as seen in a scanning electron microscope.

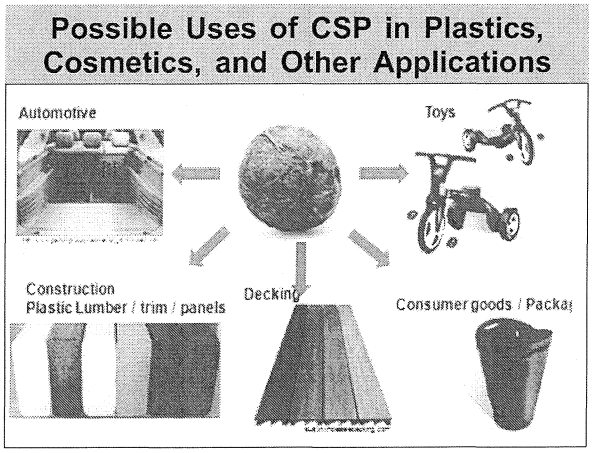


Figure 11. Examples of consumer goods that can be made from coconut shell powder (CSP).

Joint development projects with major manufacturing companies are already underway, with multiple products to be introduced in 2013 that utilize coconut shell powder as a functional filler in polypropylene.

Benefits to the Poor in Developing Countries

Production facilities have been purchased in Indonesia by Natural Composites Inc., the company that I founded in partnership with Christian friends who share my vision of helping poor people in developing countries in a for-profit company. This facility is capable of producing 10 million pounds of coconut shell powder per year and provides employment for ~100 people working in the plant. The employees are treated extremely well and are thankful to have a job to support their families. The number of employees should grow significantly over time as the use of coconut shell powder as a functional filler in polypropylene, and coir as a constituent in nonwoven fabric composites, expands. We also anticipate creating other production facilities in the Philippines, India, Sri Lanka, Brazil, and maybe in a country in the Caribbean.

We also plan to develop cooperatives with the coconut farmers so that we can buy coconut husks and shells from them directly. Currently, we buy from middlemen. Direct buying will allow us to provide more benefits to the coconut farmers and to build relationships with them. Rather than paying a premium for what is currently a very cheap commodity (even free in some cases), we will seek creative ways to benefit the farmers and their families, such as by providing vouchers for their children to go to nearby schools that would be created by concerned Christian businessmen and churches, or by providing fertilizer to help them double the yields of their coconut trees.

Concerning our employees and our coconut farmer suppliers, we plan to bless them by dealing with them in a Christ-like manner and, over time, by taking the opportunity to share the love of Christ with them.

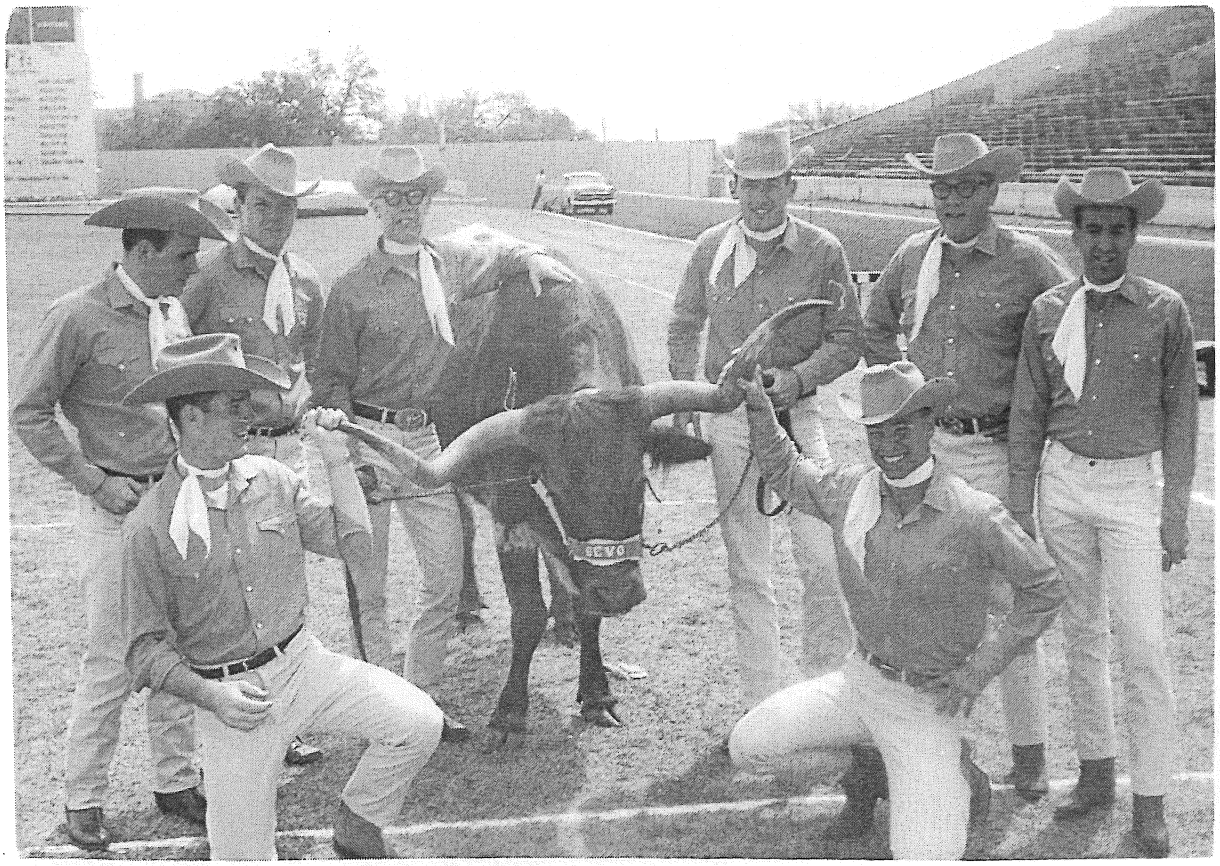
Personal Postscript

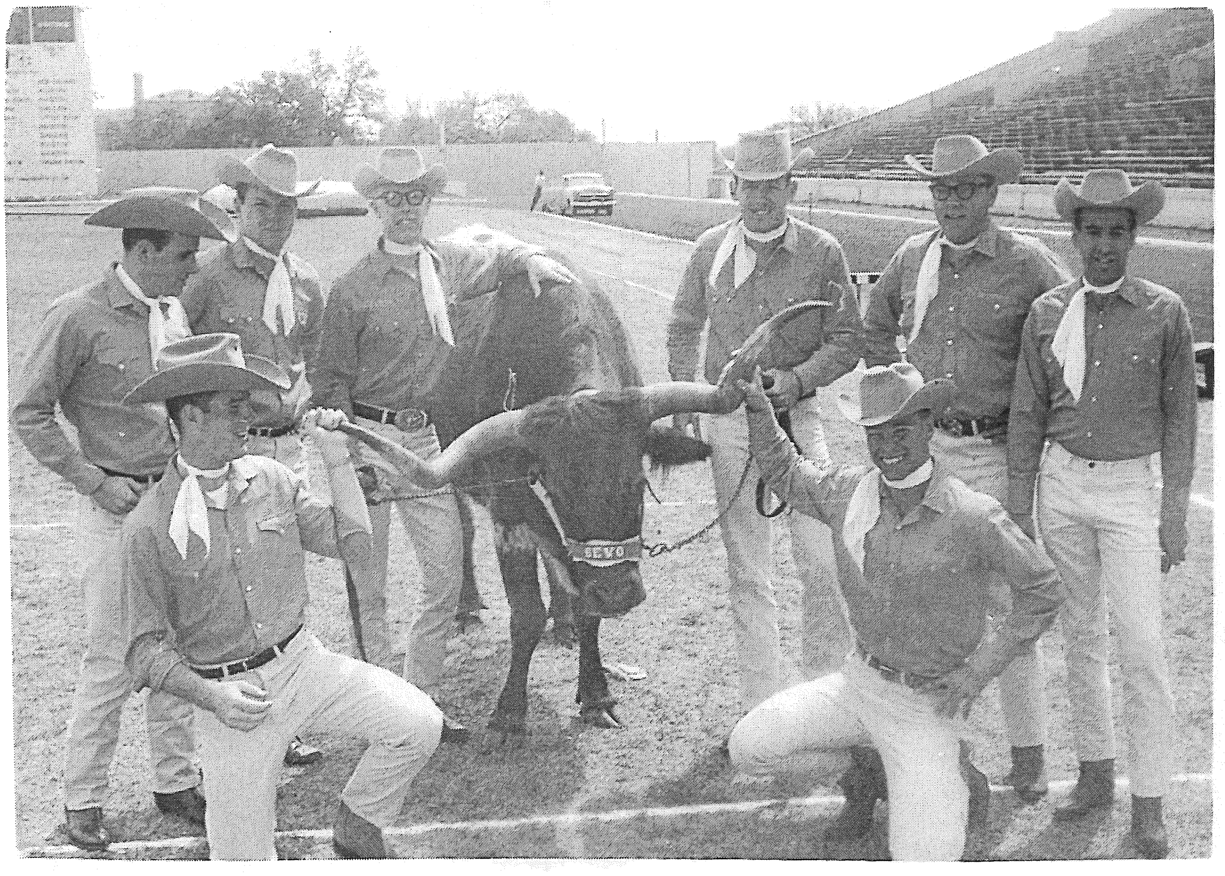
When I moved from Texas A&M University to Baylor University in 2002, my goal was to redirect my research toward something that would directly help poor people in developing countries. I had no idea what that might be. God has led me on an amazing faith-stretching journey for which the past thirty years of my life were a preparation. The skills I developed and the friends I made prior to coming to Baylor have become the technical tools I needed and the partnerships I must have to be successful in this venture. It is very clear to me that "unless the Lord builds the house, those who build it labor in vain" (Ps. 127:1a).

When I was asked by ABC News in 2009 how I ever thought to use coconut husks to make automobile interior parts, they assumed that I would explain how I tirelessly tried every natural fiber and determined, by a process of elimination, that coir was the best. But God directed me to coir as he brought to my attention, through John Pumwa, the plight of the poor coconut farmers. Happily, their agricultural waste was pregnant with possibilities. The amazing band of brothers and sisters who have become part of this journey include former members of a young married couples Sunday School class that I taught twenty years ago, friends I made at a Christian businessmen's annual ski conference in Colorado over a period of ten years, and a whole host of students whom God brought to my classes, especially John Pumwa, the first student from Papua New Guinea to earn a PhD in engineering and whose parents were the first in his mountain village to accept Christ as their Savior many years ago.

Oddly enough, I was diagnosed with leukemia about the time I started this journey, with a life expectancy of three years. Here I am seven years later, living on "borrowed" time, doing perhaps the most important work of my life. When I was first diagnosed with leukemia, I prayed to God for fifteen more years, just as Hezekiah did, with the promise that I would try to be a better steward than he was with such a gift. This work is my down payment on that promise. Hopefully, God will grant me the privilege of seeing it come to full bloom. ✠

ASA Members: Submit comments and questions on this article at www.asa3.org → FORUMS → PSCF DISCUSSION.





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Dr. Walter Bradley
230 Coffee Mill Creek Rd
Georgetown, TX 78633

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thank you

Science & Culture Network
HOUSTON

Dr. Bradley,

On behalf of the Houston chapter of the Science & Culture Network, thank you so much for being our featured speaker last week in The Woodlands! I'm so regretful that I personally ended up having to miss the event due to my business trip to Singapore, but since I've returned I have received nothing but overwhelmingly positive feedback from those who were there. Your winsome, engaging style coupled with your almost unparalleled historical perspective and understanding of the debates and issues surrounding design arguments and in particular the origin of life topic clearly had the impact that we hoped for and expected. Thank you!

We're excited to see what God is doing through the efforts of our small group in the Houston area as we seek to open minds and incent individual change at the local level, leveraging all of the great work and thinking that you and many others have and are doing. It's still only the beginning of the journey, but already you've been a key part of helping us move forward.

Thank you for making the long roundtrip drive from and back to Austin on the same day, and I'm sorry you had bad weather along the way for part of it. We're all thankful you arrived and returned home safely!

Please accept the enclosed honorarium as a token of our appreciation. We look forward to maintaining contact and working together further in the future!

Jarrett L McCleskey
President, Houston Science & Culture Network

RICK HOVE

EXECUTIVE DIRECTOR, FACULTY COMMONS

Walter,

Jan 10

We did it! Thanks be to God! This is an early "author's copy." We will have the big order mid-end of February. I definitely want to talk to you about distribution ideas.

I'm so grateful for your love, example, and leadership. Chapter 7 will be a blessing for professors around the world, for years to come. May God use this for his purposes in professors everywhere. That's our humble prayer. Rick


handmade
with
love!

For the eyes of the Lord range throughout the Earth to strengthen those whose hearts are fully committed to Him. 2 Chron 16:9

Walter + Anne -

Just wanted you to know that we continue to lift you in prayer. We know God's power is being displayed through y'all - cause that is what you've done all your adult lives. Walter, we consider you a modern day Paul. You have both touched so many lives, including ours, + inspired people to do the impossible for + through Jesus. As we have our 1st outside speaker for CFN this semester, know that this is a result of your training in us.

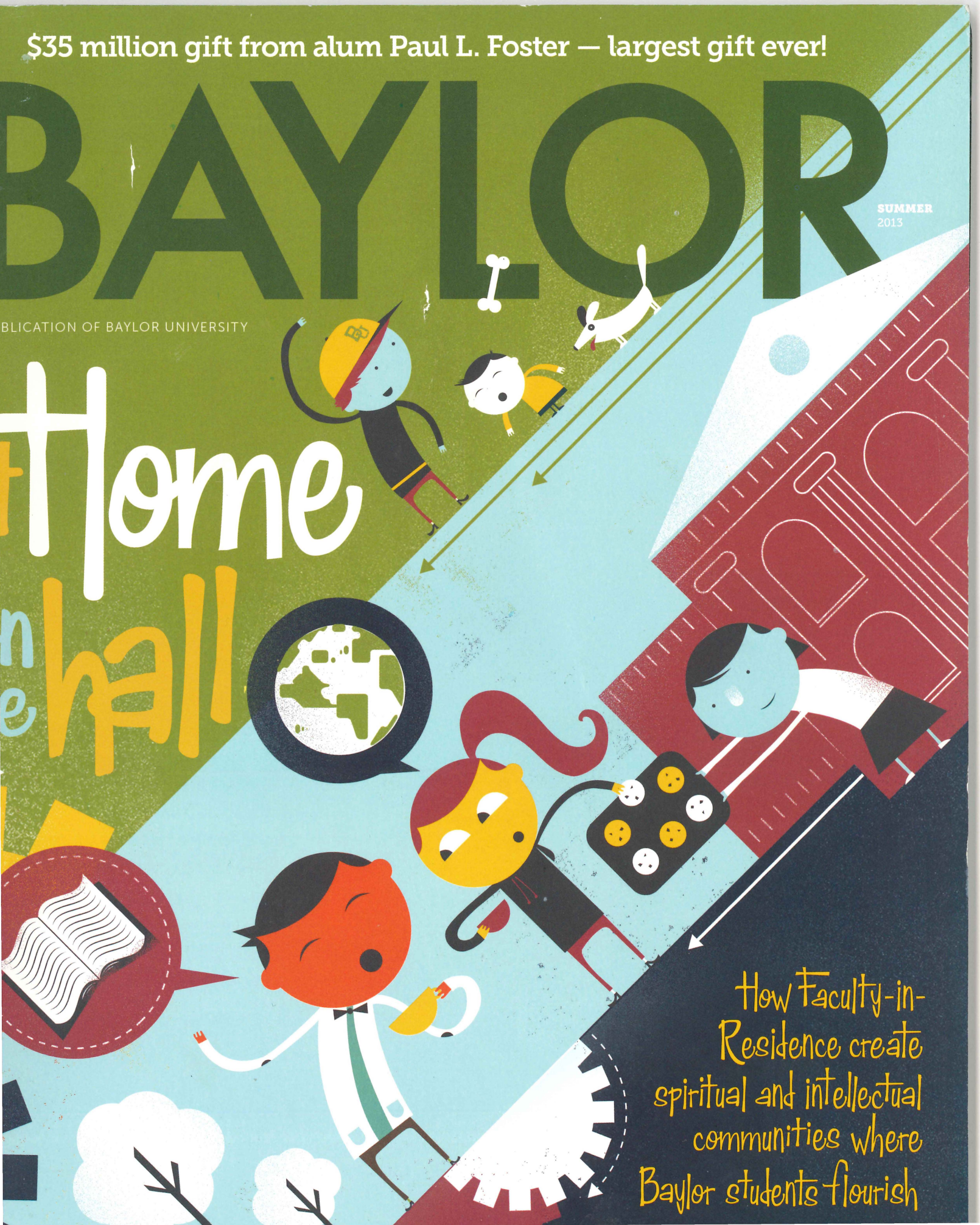
Love, Murphy + Kathy

$35 million gift from alum Paul L. Foster — largest gift ever!

BAYLOR

SUMMER
2013

BLICATION OF BAYLOR UNIVERSITY



t Home
n hall

How Faculty-in-Residence create spiritual and intellectual communities where Baylor students flourish

at Home on the Hall

How Faculty-in-Residence create spiritual and intellectual communities where Baylor students flourish

By Lane Murphy, BA '04, MA '06
Illustration by Shaw Nielsen

"I never had a Christian professor — at least not one who admitted it. I also never darkened the door of a faculty member's home during my college years. The same for [my wife] Ann," said Dr. Walter Bradley, Distinguished Professor of Engineering, in a 2003 interview as he was poised to become Baylor's first Faculty-in-Residence in North Village, Baylor's first new residential hall since LBJ was in office. "Ann and I decided that God was calling us to a career in academia to be for our students what no professor ever was for us."

Nearly a decade later, faculty members now live alongside students in residence halls all over campus, as Baylor's rich heritage of professors who invest in their students is bolstered by the immediacy of living in close community.

With the growth of Baylor's Faculty-in-Residence program — now 11 professors in 10 communities, with plans to introduce several more over the next decade — the university is being more intentional than ever about getting faculty and students into closer proximity so that more frequent and more meaningful interactions can take place. These interactions build fruitful relationships for students and affirm that Baylor is fulfilling its mission to create servant leaders.

BEGINNINGS

The push began with the Bradleys 10 years ago and expanded when Drs. Doug and Michele Henry were named Faculty Master and Associate Master for the newly built Brooks Residential College in 2007.

"A Faculty Master is integral to the residential college model," says Terri Garrett, associate director for academic initiatives for Campus Living & Learning. "The leadership they offer is significant because of the way in which they live in the community, while also providing direction and continuity for students through the implementation of traditions and events aimed at the development of community and academic excellence."

In this era of large public institutions fighting the unsavory labels of "degree mills" or "diploma factories," college faculty around the world are hired and promoted almost entirely based on their research activity. It isn't at all surprising that faculty by and large aren't interested in living among students. The current system isn't really designed for that purpose.

But it wasn't always this way, explains Dr. Jeff Doyle, dean for student learning and engagement. For the first few centuries of United States' higher education, the faculty played the roles of teachers, disciplinarians,

teven Pounders,
ine Arts LLC (Heritage House, North Village)

Dr. **Jonathan Tran,**
Leadership LLC (Allen-Dawson)

"So if a Baylor education is really about formation of the whole person, and formation is an inherently communal project, then Baylor has to take responsibility for building and sustaining that ntellectual community that forms those whole persons. It's really not enough for Baylor just to give an excellent academic classroom experience."

— **TODD BURAS,** HONORS RESIDENTIAL COLLEGE FACULTY MASTER

social organizers and character-builders at universities until the German model became more widespread during the Industrial Revolution and faculty more often donned the hats of scientists and researchers. With the advent of world wars and developments such as the space race with the Soviet Union, the United States felt the need to keep up with other world powers and prioritize science and research. As a result, professors had less time to work with students outside of the classroom.

"At a lot of schools, the Faculty-in-Residence program is run by the housing department," says Doyle. "At Baylor, Academic Affairs really understands the importance of faculty engaging with students outside the classroom. We have never seen this elsewhere, but our executive vice president and provost, Dr. Elizabeth Davis, interviews every Faculty-in-Residence finalist. Not every faculty member wants to be involved in this opportunity, but those who do apply have been outstanding. For instance, when we had selection pools

with three searches this spring, we had very deep, rich interviews with people who really care about students and how the university shapes them, so it has been a smooth process integrating some of Baylor's most student-focused and friendly professors into these opportunities."

Davis, BBA '84, says she wants to know first-hand why the applicants apply and how they see the program being integrated into their own lives. She is amazed at their "selfless and generous spirits."

"It's an incredible experience for our students to be able to watch and learn from these faculty members," Davis says. "If our students can observe our faculty excel in their classroom and in their scholarly pursuits while also living out their Christian commitments in various ways, then those students will have good examples and points of reference as they consider how they want to approach their vocations and personal lives after they graduate."

An intentional effort

Universities are beginning to realize the lack of faculty involvement in students' lives in the system that has been created. In the past dozen years, at least 30 U.S. institutions have begun residential colleges on their campuses.

Faculty living among students "is a trend, but it's a very intentional choice to make," Doyle says. "Some very selective, prestigious universities have made that choice because that's important to them, while maybe some other schools have put a higher priority on the size of their swimming pool or other things focused primarily on student satisfaction instead of student learning or formation. We've invested in enriching the environment for mentoring and character-development through the Faculty-in-Residence program."

Dr. Todd Buras, the Honors Residential College Faculty Master in Memorial and Alexander halls, is among those convinced that faculty have a critical role to play in

Faculty-in-Residence at a glance

The heart of the Baylor experience is developed on campus in the union of shared experiences and relationships. The Faculty-in-Residence (FIR) program exists to assist Baylor's Campus Living and Learning department (CL&L) with fostering and shaping the social, cultural and educational life within residential communities. As such, FIRs work collaboratively with residence hall directors and CL&L leadership to nurture a heightened sense of community that fosters academic excellence, promotes faculty-student interaction, and enriches the student living experience.

As new residence halls have been built and others renovated, faculty have moved into campus housing at a rate of about one per year. Although no plans are currently in place to build more housing in the next few years, the trend of adding more faculty to residence halls will continue as all of Baylor's older residence halls are renovated over the next decade. South Russell is first in line for renovation, with North Russell following in the next year; Martin, Penland, Collins, Memorial-Alexander, Allen-Dawson and Kokernot will follow, one per year, in an order yet to be determined. As part of the refurbishing, each hall that does not already have one will add a Faculty-in-Residence apartment.

As of Fall 2013, 11 faculty members live on campus and work with residence hall directors and CL&L to nurture a heightened sense of community that fosters academic excellence, stimulates spiritual formation, promotes faculty-student interaction and enriches the student living experience.

Faculty masters are the FIRs in residential colleges and have additional leadership roles.

Faculty Masters for Fall '13

- Dr. **Todd Buras**, MA '94, associate professor of philosophy (Memorial and Alexander halls, Honors Residential College). Joining him are wife Allison Germer Buras, BA '92, and boys Benjamin (12), Jonathan (9) and Michael (7).
- Dr. **Ian Gravagne**, associate professor of electrical and computer engineering (Gordon Teal Residential College, East Village). He and his wife, Ann, have three children: Gina (9), Lydia (6) and Ray (3).
- Dr. **Rishi Sriram**, BA '01, MSEd '03, assistant professor in educational administration and program coordinator of the Higher Education and Student Affairs graduate program in the School of Education (Brooks Residential College). Joining him are his wife, Amanda Jackson Sriram, BSEd '02, their three children, Ellis (9), Lily (6) and Stella (4); and their dog, Bear.

Faculty-in-Residence for Fall '13

- Dr. **R. Robert Creech**, PhD '84 (University House, North Village) holds The Hubert H. & Gladys S. Raborn Chair for Pastoral Leadership in the George W. Truett Theological Seminary. He also serves as director of pastoral ministries. His wife, Melinda, is pursuing a PhD in literature and religion at Baylor. They have four grown children.
- Dr. **James A. Marcum**, professor of philosophy and director of Baylor's medical humanities program (Hallie Earle Hall, East Village) and the Science & Health LLC.
- Dr. **Carson Mencken,** sociology professor, and his wife, **Kimberly Mencken**, economics senior lecturer (University Parks) Transfer Year Experience LLC. Joining them is their son, Carter (12), and dog, Snickers.
- **Steven Pounders**, theatre professor, Fine Arts LLC (Heritage House, North Village). He and his wife, Hope, and have two daughters: Luci, BA '13, and Robin (15).
- Dr. **Laine Scales**, professor of social work and educational administration, assistant dean of the Graduate School (Kokernot).
- Dr. **Jonathan Tran**, assistant professor of theological ethics and graduate faculty in the Department of Religion (Allen-Dawson) and the Leadership LLC. Joining him are his wife, Carrie, and their children, Thalia and David.
- At press time, searches were running for positions at Brooks Flats and Texana House.

tion for students. He describes what it is to be formed as a whole person as similar to what happens when someone is part of a family.

"As a faculty, I think the light has been dawning across the country, and it's been dawning here at Baylor, as the university proclaims in *Pro Futuris* and in its traditional description of itself, that education really is about formation of the whole person. Baylor is about that, and the *Pro Futuris* document uses language like 'transformative education.'

"So if a Baylor education is really about formation of the whole person, and formation is an inherently communal project, then Baylor has to take responsibility for building and sustaining that intellectual community that forms those whole persons," he explains. "It's really not enough for Baylor just to give an excellent academic classroom experience. And I think faculty owe it to students to play a leading role in building and sustaining the intellectual communities that form us as whole persons. We have to get in there and

Perhaps because of the national trend of emphasis on research over teaching, many universities have had trouble finding faculty who want to engage with students in such a fashion. That's not the case at Baylor.

"Nationally, they say it's just amazing to hear that we have search processes with five applicants for one selection," says Tiffany Lowe, director for Campus Living and Learning. "It takes a university that understands that learning doesn't just happen in the classroom, that it's really the integrated experience of living on a completely residential campus that creates that for students."

A wide range of schools — including MIT, Virginia Tech, Texas A&M, TCU, BYU, Hardin-Simmons, Arkansas, National University of Singapore and Hong Kong University — have visited Baylor over the past few years to learn about Baylor's Living-Learning Programs, which include the Faculty-in-Residence program.

"People know that Baylor has been

Living-Learning Centers, but they may not realize how this is an additional effort to enhance the students experience on campus," explains Garrett. "We are still trying to create a campus experience in which students thrive and want to live on campus, where students recognize that the best of their college experience can rest solely in them living on campus, because of what we provide. They have the rest of their lives to go off campus and have that kind of experience, but they only have this short window of time to share the best student experience that Baylor has to offer."

"The question is not whether or not students will be formed as whole persons by living in our halls," adds Buras. "It's whether or not they'll be formed toward the end Baylor hopes to achieve."

A worthy investment

In the face of rising higher education costs across the nation, another Baylor Facul-

"Our mission ... is to be the embodiment of Christ in the world of higher education, and to do that, we have to be together. We have to live together, experience together, laugh and cry together, all of those things have to happen together. All the people who support Baylor need to understand that we know that, and therefore, we are strengthening our system of residential experience as much as we can, and as fast as we can."

dential universities like Baylor must trumpet why their structure is and always will be valuable, especially in the Internet age.

"Institutions of more traditional form are going to be under the gun going forward to answer the question of why it costs so much more to do this kind of education," says Dr. Ian Gravagne, who has been a Faculty-in-Residence in North Village for two years and will transition to Faculty Master in Teal Residential College within East Village this fall. "We need to be prepared to say that part of the reason is because our mission goes beyond simply telling students how circuits work.

"Our mission, especially at Baylor, in no small part, is to be the embodiment of Christ in the world of higher education, and to do that, we have to be together. We have to live together, experience together, laugh and cry together, all of those things have to happen together. All the people who support Baylor need to understand that we know that, and therefore, we are strengthening our system of residential experience as much as we can, and as fast as we can."

While some institutions are moving faculty into halls with students as a way to make professors seem more approachable, Garrett says Baylor's goals are broader.

"We are looking to enhance the academic and intellectual community of Baylor by having faculty in the students' living environment as one more bridge that reinforces how we value the academic experience at Baylor, to create for them that seamless learning experience. We're hoping to increase the intellectual climate of that residential community by having faculty members there."

There is a body of research findings that affirm high levels of faculty involvement with students is positive for students, faculty, and the universities themselves. Baylor accumulates information about their Faculty-in-Residence programs through faculty year-end portfolios and student evaluations.

"From an assessment standpoint, we are in the process of developing a plan to do more formal assessment of our Faculty-in-Residence program so we can begin to really examine how our halls and students are different as a result of the program. If the social integration or academic climate is improved within each of those communities, then we can start to look at what it is that those Faculty-in-Residence are doing specifically," says Lowe.

What interests Gravagne is the idea of using the residential structure as a co-curricular educational platform.

"We don't, as an educational institution, strive to merely transmit information to our students in the classroom. We want also to have opportunities and venues to transmit the values of a Christian institution," he says. "In many ways, that kind of objective can happen more effectively and more efficiently in the residential context, in the living room. That's 'living room education,' as opposed to classroom education."

As the campus has expanded and enrollment has grown more than ever, Baylor faces the challenge of making sure that it maintains that highly transformative opportunity for each student it welcomes to campus. Building even stronger bonds between faculty and students can make a valuable Baylor education worth even more.

While the overarching goals for faculty living on campus are the same, each professor and residence hall has its own dynamic, its own "fingerprint," according to Dr. Ian Gravagne. For instance, Brooks College and University Parks house students from a variety of majors, while Gravagne's assembly, which is moving from North Village to East Village, is geared toward engineering and computer science majors. ¶ Life unquestionably changes for a professor who moves into a residence hall alongside hundreds of 18- to 22-year-olds — all the more so for those with spouses and children. And through their efforts, life — and even life paths — also change for the students who live down the hall.

Carson and Kim Mencken TRANSFER YEAR EXPERIENCE LLC // UNIVERSITY PARKS APARTMENTS

Dr. Carson Mencken, a sociology professor, and his wife, Kim, a senior lecturer in economics, were drawn to be more involved with their students after leading a study abroad opportunity in Maastricht two years ago, where they developed strong relationships with their students.

A year ago, the Menckens jumped at the chance to play a more intentional role in the lives of Baylor students, moving as Faculty-in-Residence into University Parks, an apartment complex Baylor purchased two years ago and began managing this past year.

Along with their 12-year-old son, Carter, and chocolate lab, Snickers, the Menckens left their 2,400-square-foot home in the suburb of Hewitt for a 1,300-square-foot unit in an apartment building that houses 500 transfer students, student-athletes and academic-minded upperclassmen.

"Frankly, it's been 100 times better than I expected," says Carson. "It's the students, and it's how seriously Baylor takes its commitment to the students, that has made this such a wonderful experience for us. I just love being with the students. They really energize us."

Whether helping students apply for graduate school or gathering to watch football on TV, the Menckens have been able to aid students in a variety of academic and professional ways and encourage social and bonding activities.

"We feel like our role is to try to help them develop community amongst themselves and to give them opportunities to do that, but they are certainly thrilled to include us in that community, which has been really nice — and a little bit of a surprise," says Kim. "We don't want to be in their business too much, but they want us there."

The familiarity and regularity of weekly events like "Meat and Mingle," during which the couple prepares a Sunday evening home-cooked meal and serves all the residents who choose to attend, up to 70 at a time, blurs the lines between the academic and the social. While enjoying sausage and pancakes, lasagna, and jambalaya, the students bond with the Menckens and with each other.

"I get asked, 'Can you explain diminishing marginal returns to me, please, Mrs. Mencken?' as I'm serving them dinner," says Kim. "Several of the girls give me a hug every week when they come in, and that's really nice. They treat us like surrogate parents."

That Sunday night meal "is a tremendous effort on their part," says junior resident Matthew Reddick. "They know that the key to students' hearts is through their stomachs, especially when it is a quality, home-cooked meal that brings stress relief and a time away from the books every Sunday evening. Even if your upcoming week is going to be rough, you know that the Mencken family has a meal ready for you. Along with the meal, Carson and Kim both allow you to see the faculty away from the traditional faculty role. The little comforts that they both provide made a huge difference in our day-to-day lives as students."

"Baylor really, really cares about its students," affirms Carson. "I always knew that as a faculty member, but being a Faculty-in-Residence, I see that even more so. It's our comparative advantage. Without that kind of support system, we would not have been nearly as successful. This is a big part of what makes Baylor, Baylor."

Todd Buras HONORS RESIDENTIAL COLLEGE // MEMORIAL AND ALEXANDER HALLS

Dr. Todd Buras and his wife, Allson Germer Buras, BA '92, were just looking for the next step in their pursuit of Christ. They found it in Baylor's Honors Residential Community (HRC), housed in Memorial and Alexander halls, where Dr. Buras is Faculty Master. He and his wife reside there with their three boys, Benjamin (12), Jonathan (9) and Michael (7), and a dog, Berkeley.

"This looked to us like a natural and good step to live together as Christians in a way

that forms us as whole persons, even though in some respects, it's highly unusual to live with 325 18- to 22-year-olds," says Buras, an associate professor of philosophy.

"This experience has been a revelation for me — and a revolution, really. Before I lived in this community, I didn't have much of a vision for all the ways that a faculty member might be involved with students, and all the things that they might want to talk to faculty about."

One such conversation started in Buras' First Year Seminar, which is a New Student Experience course for freshmen. The conversation on faith and reason raised large, philosophical puzzles about the problem of evil, heaven and hell, and God's justice and grace.

"That particular conversation with one of the students would pick up and carry on, not just after class, but we would meet at coffee hour in the HRC every Monday at 4:00, and we could just pick up exactly where we had left off. We kept that conversation going in class, and out of class, and back and forth. It was quite a dramatic experience for me, to see the kind of power of the interaction, to just reinforce and collaborate. … It's a good example of a formative Christian intellectual community.

"Topics like the problem of evil, of understanding God and justice, are not really things you can resolve in a classroom. They're things you struggle with as a member of a community, to think intelligently about it, and coherently about it, and to resolve, to make peace with, really."

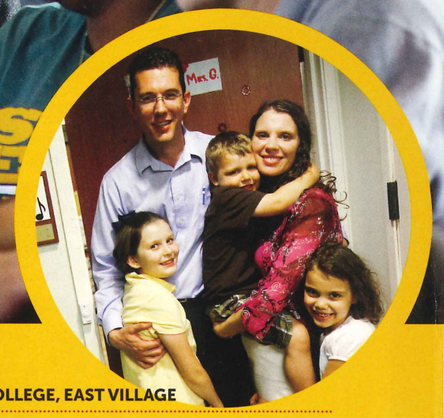
That impact can especially hit home for students going through difficult life experiences, like what sophomore Ali Groves experienced this past year while living in Memorial.

"When I came to Baylor, my dad had recently passed away, leaving me with a lot of doubts about Christianity and questions regarding the problem of evil," she recalls. "After spending time at Baylor, I also realized I did not know much about Christianity other than the mixed messages our society puts forth. I was therefore overflowing with questions.

"Dr. Buras generously spent many hours discussing my concerns and answering my questions about the Christian faith. These conversations were the first time I became aware of the idea that faith and reason are not opposites of each other but can actually exist in harmony together. It was not until coming to Baylor and talking with Dr. Buras that I realized Christianity is not just for those who abandon their reason so that they can believe in its message. I learned that the Christian faith is, in fact, reasonable. Through these discussions I have also come to learn more about Christianity and started to come to peace with many of the questions I have."

Buras knows formative intellectual conversations among Christians, about faith and life, happen on and off campus all the time.

"What I think we achieve by these collaborative Living-Learning programs is to see to it that it happens much more often, and with as much support as we can give it, to make it as good as possible. We're trying to capture the energy that's going to be there, and direct it to help it grow, blossom and be fruitful."



Ian Gravagne ENGINEERING AND COMPUTER SCIENCE LLC // GORDON TEAL RESIDENTIAL COLLEGE, EAST VILLAGE

Early in his career, one of Dr. Ian Gravagne's fellow professors was frustrated by interruptions from students and colleagues.

"Then it dawned on him that those interruptions *were* his work," relates Gravagne, an engineering professor at Baylor since 2002. "As a believer, they ought to be his work. The people who God was putting in his path and bringing to his door — the colleagues who were lingering a bit longer than necessary, the students who just wanted to talk — were his work.

"That example really shaped the way I approach this job as a Faculty-in-Residence. I obviously have things I need to do as a faculty member, as a teacher, a researcher, and a scholar, but at the same time I really began to view the students and their lives as part of that work, not as an addition or tangential component."

Gravagne spent the last two years as a Faculty-in-Residence in North Village; this fall, he will transition into a new role as Faculty Master for the newly opened Teal Residential College in East Village, with a population of primarily engineering and computer science majors. As a trusted mentor, Gravagne has been asked to share advice on relationships and families, careers, family illnesses, cancer and death.

"There are opportunities that come up where students really are searching for some deeper understanding on what their purpose in life is and what Jesus Christ had to say about that, and so we'll talk as much as they want about that."

Freshman Sarah McCarty lived in North Village this past year and says she has both sought out and benefitted from Gravagne's advice on both academic and spiritual matters.

"Dr. Gravagne is an intelligent, godly mentor who invests in our lives," she says. "It contributes to the closeness of our community to see him and his family at all our events, to play 'duck duck goose' with his children in the lobby, and to eat donuts with him while discussing the world every Friday morning. He genuinely cares about each one of us. He helps hold us together and contributes to making us who we are."

Because Gravagne's group is a bit more homogenous in terms of academic major, he steers his programming to expose students to the idea of college as a broad place of intellectual exploration. For instance, his residence have read and discussed books like *Screwtape Letters* and *Mere Christianity*, which Gravagne says opens up lots of opportunity for deep reflection.

"Interestingly enough, many of these very technically astute students are at least initially concerned that if they use that knowledge and those patterns of thought to really begin to analyze the tenets of their Christian faith, that it will weaken their faith. But one of the most enjoyable aspects of this job is getting to see several who have gone through the 'ah ha!' moment, where they say, 'Wow, this Christianity thing is really deeper than I thought, and there are lots of interesting questions which I can delve into and use my technical and logical skills to analyze and understand and deepen my relationship with God through that.'"

He admits to struggling to find boundaries between "work and not work," as he is joined in the residence hall by his wife, Ann, and their children, Gina (9), Lydia (6) and Ray (3). And there's no denying that the role is both time and energy consuming, but Gravagne says he's glad that Baylor has professors who do have that desire.

"Anybody who does this job has to be prepared to think of everything they do as a vocational calling in some way," he says. "You can't do this forever, but my life is different in relationship to my students because I am in the position to just simply know them better — their history, hopes, struggles, and dreams."