FOCUS

Technique • Friday, March 26, 2004

Dance dance revolution

Tech's first Dance Marathon took place last Friday, giving Tech students an excuse to shake a little booty for a good cause. Page 18

Killing me softly

Tom Hanks plays it funny with Marlon Wayans in the Coen Brothers' *Ladykillers*, a remake of a 1955 heist movie. **Page 25**



Band helps Cagers keep "pep" in their step

They may be the game's most overlooked fans, but the pep band has always provided the basketball soundtrack

By Kimberly Rieck Sports Editor

While Boston College had to enlist Marquette University's band after it couldn't find enough willing members to make the trip to the NCAA tournament this weekend, Tech's pep band had no problems at all.

"It's crazy trying to pick 30 band members to go out of our 120-piece basketball band," said Chris Moore, the pep band's director, who came to Tech in 1995. "Most of it is based on if they can get out of class for a couple of days, and then on seniority."

March Madness has been crazy for everyone involved; the band was no exception. They only had a few short days to decide who would go to Milwaukee and make travel arrangements accordingly.

The band left Atlanta on Wednesday night, which also meant that members had to miss a few days of school. "My teachers were very accommodating," said David Harman, a second-year Mechanical Engineering major. Harman is also going to the tournament in St. Louis this coming weekend, despite the fact that he has tests during the days he'll be gone.

"When I look back, if I happen to do poorly on one of those tests, that's not what I'm going to remember about these three weeks in March," he said. "[It's] a once in a lifetime opportunity. I expect our team to be back in the NCAA tour-



By Christopher Gooley / STUDENT PUBLICATIONS

The pep band accompanied the basketball team to Milwaukee this weekend. In addition to the prime seats, one of the perks of being a pep band member was flying in the same charter plane as the players and cheerleaders.

nament, but even then it's a different place, it's a different team—it's just always going to be different," he said.

However, there are plenty of perks to being in pep band that make the job worth it, according to its members

One of these perks is, of course, the ability to go in the first place. The NCAA is covering the airfare, lodging and meal costs for the basketball team, coaches, team managers, support staff, cheerleaders,

Buzz—and the 29 members of the pep band and its director.

In addition, the pep band got to ride on the charter plane with the team and support staff as well. It was the first time in a few years that the pep band had flown with the team,

as the band flew commercial for the women's team's 2003 NCAA appearance.

"It's a lot different going on a charter plane than just a regular flight," Brian Galloway, a fifth-year Computer Engineering major, said with a smile. "They take care of you a lot better."

Also, the pep band never has to worry about tickets: sitting on the floor behind the basket, the band can claim some of the best seats in the house.

Because they flew into Milwaukee so early, and the Tech games were Friday and Sunday, the pep band members had plenty of time to kill. They visited Chicago, a two-hour drive away, on Thursday. On Saturday, they toured Milwaukee, sightseeing. "Some of the other band members went and toured the Miller brewery, stufflike that," Harman said.

Besides playing at the tournament, the pep band's many duties this year have included performing at the women's volleyball games, regular season men's and women's basketball games, the men's and women's ACC basketball tournaments and pep rallies. They also put together impromptu performances to see the team off as well as welcome them home.

In addition, the musicians are always learning new music. This year the band has added Beyonce's "Crazy in Love" and Outkast's "Hey Ya!"

See Pep Band, page 22

Faces at Georgia Tech

Twice as nice: Gupta wins Churchill after last year's Goldwater

By Grace Nam Contributing Writer

Monique Gupta, an Industrial and Systems Engineering senior, made news when she won the prestigious Goldwater scholarship last year.

Not content to rest on her laurels, however, she recently received the Churchill scholarship, an award given to only 11 students in the country every year.

Herscholarships are well deserved; not only has Gupta achieved excellence academically, but she has also been an integral part of many campus organizations such as Freshmen Council, Residence Hall Association and Alpha Chi Omega sorority. She was also part of FASET cabinet and is currently the vice president of the selection committee for the leadership honor society Omicron Delta Kappa.

Therefore, one would imagine that Gupta would be the kind of super-campus leader that is always busy, always working.

However, when she received the phone call informing her that she had been selected as a scholarship recipient, she was doing what many ordinary people do on a typical Thursday night: eating Chinese food and watching *Friends*.

"Now, looking back, I don't know how I did all that," Gupta said of her resume. "But one of the most important things that helped get me through was organizing. I write down and plan out my day exactly.

"All my credentials have come from things that...Tech has offered, like research and leadership experiences."

Monique Gupta ISYE senior

I'm all about sticky notes," she said.
Gupta also attributed her success to friends and family. "Anytime I needed them for whatever little thing, they were always willing to help me."

The scholarship, whose full value is estimated to be about \$26,000,

covers full tuition and fees for a year of graduate study at the University of Cambridge. It also provides living and travel allowances.

Previous Churchill scholarship winners include former Prime Minister Margaret Thatcher, and former Presidents Ronald Reagan and George Bush.

A phone interview was part of the application process. Even though the interviewers couldn't see her in person, Gupta was still able to convey her enthusiasm.

"The best thing [is] to show that you are confident, enthusiastic and happy," shesaid. "Even on the phone, you can hear a smile of enthusiasm."

"Don't get bogged down about saying the right thing," she added. "If they get caught up in your enthusiasm and smiles, that's half the battle."

Another aspect that stood out about Gupta is her deeply-rooted love for her school. She was influenced even before she came to Tech through the President's Scholarship program.

"The people that I met when I

See Gupta, page 19



By June Zhang / STUDENT PUBLICATIONS

Monique Gupta, an ISYE senior, won the Goldwater scholarship last year. This year she won the equally prestigious Churchill scholarship, which will allow her to obtain her master's in genetics before going to med school.

Students get down, get funky at first-ever Dance Marathon

By Kristen Kerns Contributing Writer

Last Friday, when most Tech students were winding down from another stressful week of classes, the first Georgia Tech Dance Marathon was held in the CRC. This event, which was sponsored by Lambda Sigma and executed with the help of Phi Mu, raised over \$17,000 to benefit the Children's Miracle Network, an organization that helps sick children.

The dance marathon was the

brainchild of Mike Casner, a Biomedical Engineering major and the Vice President of Lambda Sigma. "I actually heard about dance marathons when I visited Northwestern back in high school," Casner said. "Because [Lambda Sigma] is a service organization, I thought it would be cool to try it here."

The event ran from 10 p.m. to 4 a.m., and all participants were required to stay the entire time. Most students entered by joining a team, but individuals could sign up as well. Each team member had to raise at least \$25, but the teams were not required to have a member on the floor at all times.

Despite the fact that Tech students aren't really known for their ability to shake it on a dance floor, over 300 students signed up to participate. Caroline Mahoney, a Management major and a member of Lambda Sigma's executive committee, said that the high turnout may have been due to the "emphasis that the event wasn't only dancing." Instead, the committee tried to cater to everyone's interests with activities such as poker, three-on-three basketball and dodgeball.

Some students did come for the dancing, though. Nathan Garcia, a first-year Computer Science major, said, "I heard about the event a couple times and since I liked DDR [Dance Dance Revolution] and just regular dancing, [I] signed up immediately.'

In addition, there was also the opportunity to "have a great time with all of the music, the contests

and the performances by various student groups," Casner said. These student groups included Nothin' but Treble, the women's a capella group, the Georgia Tech Dance Team and the Georgia Tech Breakdancing Club.

here."

Mike Casner

"I actually heard

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Vice-President, Lambda Sigma

about dance

Though Casner came up with the idea, other students signed on to help. "About fifteen students took charge of most of the event," he said. "A lot went into it such as contacting sponsors, getting donations, meeting with school officials, etc. Then we found out that Phi Mu was interested in helping out, which was great because of how large of an organization they are.

Nevertheless, Mahoney felt that one of the biggest challenges the committee faced was in "building [this event] from the ground up. The committee had to find space,

design a T-shirt, logo and website...then they had to find prizes and sponsors.'

However, the night of the event went smoothly, which Mahoney attributed to the amount of careful planning done by the executive committee. They managed to "plan every detail of the event," she said, from performances to tournament times to food delivery.

Hopefully, the work the committee put into this year's event will

> help to lay a foundation for next year. Both Casner and Mahoney emphasized that the event is not intended to be a one-time thing. "We are already planning next year's," Casner said.

Katie McKinnon, a first year Chem-

ical Engineering major who attended the event, agreed that it should become an annual event. "[GTDM] is a great idea for a fundraiser because it is fun and gets people involved," she said.

Sponsors this year included the Georgia Tech Student Foundation, Georgia Tech Auxilary Services, and GTSmart. GT Dining Services donated food items, and the Residence Hall Association also lent supplies such as poker chips. Corporate donations included Einstein Bagel Bros., Krispy Kreme, Kroger, All-Star Pizza and Coca-Cola.



By Andrew Saulters / STUDENT PUBLICATIONS

A member of the Breakdancing Club performs at the first Georgia Tech Dance Marathon, held last Friday at the CRC. Sponsored by Lambda Sigma, the event raised over \$17,000 for the Children's Miracle Network.

in the real world you have to write

clearly cleanly concisely

we can teach you how

TECHNIQUE

Gupta

from page 17

came up for the... interview was really what brought me up here," she said. "They were the people that were missing in my high school. I just knew when I came, this was the place for me."

As a result, she happily attributes most of her accomplishments to Tech.

"Tech is really good in giving me the resources and credentials to apply to these scholarships," she said. "I've learned so much about leadership, education, resources, networking [and] being yourself at Tech."

In addition, she added, "I don't know if I would have even known about these

scholarships. There are mentors that have motivated and shown me these scholarships. They have shown me that maybe I do have some credentials...[and] all my credentials have come from things that Georgia Tech has offered, like research and

leadership experiences."

Like many students, Gupta came to Tech not knowing whether she wanted to be an engineer. Though she is happy with her major in Industrial Engineering, one reason Gupta may have stood out from a pool of worthy applicants was because she pursued research in a field outside of her major, working with genetics.

"I've had a lot of really good research background through Georgia Tech," she said. "I got to work with Dr. Joseph Ledoux in the biomedical department; I did gene therapy and gene transfer research for about a year through the Under-

graduate Research Scholars Program."

Although Gupta is planning on going to medical school, a free year in England was an opportunity that she could not pass. At Cambridge, she will pursue a Master of Philosophy in genetics.

"My interests point to treating patients and finding the best health care suited for them," she said. "My interest in biomedical engineering came about because the medical field is one of the most inefficient in America—or in the world, even. And Industrial and Systems Engineering is all about improving systems. It's a great major to apply to any field."

Believe it or not, Gupta does have

some free time. During these moments, she likes to watch TV, read, travel and dance. She has had years of Indian dance training and has taught an options class on shag dancing in the fall semester.

Having fiveminute dance breaks are Gupta's "favorite part of the day," she

said.

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Monique Gupta

ISYE senior

improving systems."

inefficient in

"Just any kind of dancing is stress relieving."

Having done so many things in her college career, however, her proudest accomplishment is seeing others succeed. "I've team-led for Psych1000, [and] been mentors for other organizations," she said. "Knowing that I've made some impact on somebody, not just in the lab or in school books."

"I would say that my proudest accomplishment would be seeing them succeed," she added, "and see them as presidents of different organizations, or figuring out what they want to do with their life." Winner receives a free student combo at Li'l Dinos







Last week's winner:
Tram Dinh

Last week's Tech Up Close: Camera on the new Coke machines



By Jamie Howell / STUDENT PUBLICATIONS

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Campus Research Review =

Seismic landmine detection system promises to shake things up

By Jennifer Lee Focus Editor

The large number of buried landmines around the world is a small, yet persistent, problems that continues to plague the U.S. military—and the rest of the world. Besides rendering useless large tracts of land, landmines are also responsible for thousands of injuries and deaths each year.

"It's a deceptively hard problem," said Waymond Scott, Jr., a professor in the School of Electrical and Computer Engineering. "You would think that if you took something this big and buried it an inch below the ground that

you could find it, but it's really hard."

Scott is intimately acquainted with the problem of landmine detection. He and a multidisciplinary group of researchers from several departments, including the School of Mechanical Engi-

neering and the Georgia Tech Research Institute's Electro-Optics, Environment and Materials Laboratory, have been developing and testing a method of detecting landmines that involves the use of seismic waves.

Because seismic waves are mechanical waves, they disturb the soil slightly (less than ten-thousandths of an inch) as they propagate through the ground. Since most mines are buried at a relatively shallow depth, a subset of seismic wave that propagates close to the surface of the

ground—Rayleigh waves—are of particular interest.

"The best analogy...is when you take a pebble and drop it in the water, it'll make water waves, which look a lot like Rayleigh waves propagating through the ground," Scott said.

"If you put something underneath the surface of the water, if that something...is fairly close to the surface, you'll be able to see it," he continued. "Sailors know this and a lot of times, you can tell what's under the water just by watching the waves."

In addition, because landmines have a flexible casing that allow them

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but it's really hard."

Waymond Scott

ECE professor

below the ground,

to be detonated by pressure, the seismic waves produce a kind of resonance when they reflect off the mine. This is not the case for many of the other types of debris commonly found in a mine field, such as rocks, sticks and scrap metal. In this way, "we

can eliminate large amounts of clutter," Scott said.

There are two parts to the sensing process. First, the team uses a mechanical vibrator to launch the wave. This source of seismic waves can be put at the side of a minefield, and the waves produced will propagate across the minefield.

The second component is a radar that detects the vibrations produced by the waves. "We've made a radar that can measure these small displacements, which is...hard to do because you're trying to measure

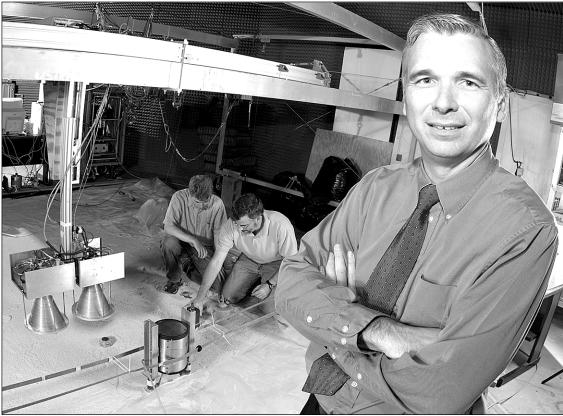


Photo courtesy Institute Communications and Public Affairs

Waymond Scott, Jr., a professor in the School of Electrical and Computer Engineering, serves as the principal investigator in a project that uses seismic waves instead of metal detectors or radar for landmine detection.

the...displacements in soil, which is very very rough," Scott said.

Scott became involved in landmine detection as a graduate student. His specialization was in electromagnetics, and much of his research centered around measuring the electromagnetic properties of materials, including soil. This led to work in ground-penetrating radars, another type of landmine detection system.

Despite the fact that the study of seismic waves was is somewhat outside the realm of electromagnetics and more along the lines of what a civil engineer or geoscientist would study, Scott realized its potential in landmine detection.

"If you look at a plastic mine, electromagnetically it's not much different than the soil," he said. "But mechanically, it's way different. So it just seemed like a seismic technique would have advantages."

The U.S. government was eager to fund his proposal, and Scott has been working on the project with a growing group of researchers since 1997. Currently, they are working to understanding the underlying physics of the technique. "We do a lot of numerical modeling...[and] some signal processing."

Testing is also crucial. Much of the research has been supplemented by trips to actual federal testing sites around the country, including a June 2003 visit to Skidaway Island on the Georgia coast.

"The field tests are extremely important," Scott said, in order to identify problems. "If you just stay in the lab, more than likely you will concentrate on the wrong problem."

Working on such a multidisciplinary problem has been an interesting experience for Scott. "Part of that was what attracted me," he said.

See Landmine, page 22

Celebrating Teaching Day showcases Tech's education efforts

By Joshua Cuneo Senior Staff Writer

Who knew that Georgia Tech could teach people how to teach? In a university that has historically emphasized research at the expense of teaching, a number of students and faculty were surprised and impressed by the myriad displays on education that decorated the Library West Commons last Thursday.

This event, called Celebrating Teaching Day, is an annual exhibit run by the Center for the Enhancement of Teaching and Learning (CETL) where the Teaching Fellows of 1969 and the Student and Teacher Enhancement Partnership (STEP) Fellows put up backboards that brag about their accomplishments as teachers or teaching assistants.

"[The purpose] is to honor our...Fellows," said Dr. Donna Llewellyn, Director of CETL. "[And]...the purpose of the poster display is to show each other [and] the larger campus community what innovative things our teachers are doing."

Those Fellows from the STEP program are mostly graduate students who work at various metro Atlanta high schools. For instance, Cynthia Vance-Harris, a third-year Earth and Atmospheric Sciences Ph.D. student, and Alexander Ross, a second-year graduate student in Information Design and Technology in the School of Literature, Communications, and Culture, both serve as teaching assistants for chemistry and physics classes at Stone Mountain High School.

"[I] developed...a lab testing the pHs of different household items," said Vance-Harris, listing some of the highlights that she presented during Celebrating Teaching Day. "I made up a bingo game for them to identify elements and ions, and...we

made ice cream last week. That was a hit," she laughed.

Her partner, Ross, took on more technical responsibilities and presented his efforts digitally. "My role has been to bring the computer into the classroom," he said. "I've created several online simulations/ tools/games that have been used in class, [like] a simulated thermometer used in a lecture, a shuffleboard game used to reinforce lessons on friction and force, and a periodic table tool."

But intermixed with these students were the faculty members of the Teaching Fellows of 1969 pro-

"A couple of students...did a double take...They're not used to seeing faculty on this campus celebrate teaching."

Donna Llewellyn Director, CETL

gram, which provides guidance to junior, untenured faculty at Tech. Dr. Jeff Pierce, an Assistant Professor at the College of Computing, used a \$1000 stipend given to all Teaching fellows to highlight his work in human-computer interaction.

"I used most of the money for...things like construction paper and crayons and markers and scissors and tape" to construct replicas of computers with human-friendly interfaces, Pierce said. "Students could go very hands-on exploring creating interfaces...and they came up with some really strange and interesting ideas."

These were the sorts of activities

that CETL hoped would turn the heads of other students and faculty as they wandered through the West Commons Thursday. Celebrating Teaching Day now generates much more attention than it used to, considering the event started with a simple luncheon with the President and other top-level administrators at Georgia Tech. The program dates back to 1990, when the Lily Foundation began funding a program called the Lily Teaching Fellows.

However, a few years later, the class of 1969 took over the endowment of the program.

"Exactly 10 years ago this month, the Committee to plan and implement the Class of 1969's 25th reunion celebration met to decide which of several alternative programs we would adopt as our reunion project," said George Stewart, an aerospace engineering graduate of the class of 1969 and the committee chair. "The committee immediately picked up on the worthiness of the 'Teaching Fellows' program. We could each relate teaching 'horror stories' from our days at Tech. We recognized the potential for this program to significantly benefit students by making teaching an even higher priority than research for faculty members.'

And, according to the people involved, the program, including Celebrating Teaching Day, has done just that. Vance-Harris, Ross and Pierce all reported that, while the steady flow of traffic didn't attract as much attention as they had hoped, they did enjoy the exchange of ideas with other Fellows and sharing them with the passersby who did take an interest in their work.

"There were many students who stopped to ask about what we were doing when they were just coming to use the library," added Ross. "Several people asked how that could get apply to be a STEP Fellow."

Pierce, who had samples of student work on display, said he caught the attention of several students because "It's been awhile since [they've] seen construction paper and tape and scissors used on college projects, which is actually one of the reasons I went for those low-tech materials. One of the things that I learned from someone who works at Nickelodeon is that you can sort of bring people back to childhood by asking them to smell crayons."

These visitors also often include assorted faculty and staff members, Tech classes that have taken a field trip to visit the event, and special guests like Stewart who functions as the official representative for the class of 1969. But, said Llewellyn, the students constitute the most impor-

tant audience.

"All our programs are ultimately meant to benefit [the students]," she said.

Overall, CETL considers Celebrating Teaching Day a successful and informative influence on Tech's student body.

"A couple of students started to walk by our central display did a double take and went back to look at all the pictures," Llewellyn said. "They're not used to seeing faculty on this campus celebrate teaching."

Meanwhile, the class of 1969 is swelling with pride.

"Without the Class of 1969's financial support for the Teaching Fellows program, I don't believe there would be a Celebrating Teaching Day," Stewart said.



Photo Courtesy Center for the Enhancement of Teaching and Learning

Dr. Barbara Blackbourn-Jansma, an Associate Professor of Modern Languages and Hesburgh Award Teaching Fellow, presents her display on "French for the Professions" as George Stewart, Jr., AE '69, looks on.

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Pep Band from page 17

to their repertoire.

"We're trying to do more of the R&B, rap stuff. Last year we tried to focus more on funk. It was a theme. We were trying to broaden the whole spectrum," Moore explained. Besides his duties as the director of the athletic bands, Moore is the composer and arranger for the band, and is also the co-coordinator of the Turner Field Bands for the Atlanta Braves.

While the marching band focuses on the football halftime show and offensive and defensive cheers, the pep band plays during the short 30-second and two-minute timeouts and doesn't have to worry about a halftime show, which is taken care of at home by the GT dance team.

The shorter playing times have their advantages. "We can get harder songs...and more difficult songs," said Chris Rankine, a fifth-year Computer Engineering major.

When the pep band plays the Thrillerdome, it can play at every timeout and pause in play, but at the tourney, it's a different story. At the NCAA tournament, because each school had brought their own band, the bands had to conform to certain rules for playing.

"We alternate media timeouts," Moore explained. "The higher seed gets the first timeout of each half. If our team calls a timeout, we play, and if the other team calls a timeout, the other team's band plays."

When they're not playing their instruments, the pep band also makes noise the old-fashioned way. In fact,

in Milwaukee, the band was probably the most vocal group of fans the Tech basketball team had.

"There were only about two full sections of Georgia Tech fans in the entire Bradley Center," Harman said. "Everybody is pulling for the underdog, so everybody's cheering for Boston College or Northern Iowa. But the band is right there, yelling and screaming. [At] the Boston College game on Sunday, Anthony McHenry came up and was pump-

"Every so often, one or two of the players will come over and thank us. It's one of the best feelings in the world."

Chris RankinePep band member

ing his arms right to the band telling us to get all excited."

"We make as much noise as the NCAA will let us," added Galloway. "After the game on Sunday one of the alumni...came up and said, thanks for cheering the team on, [in contrast to] all the fans [who] were just kind of sitting there."

The best situations, though, are when the band plays to a crowd, especially at home. Hewitt and the team's successes on the court have led to the biggest crowds at Alexander Memorial Coliseum in years.

"I personally like [the sold-out

games] better because it's more of a crowd...and the students are there to egg [the team] on," Rankine said.

"We want reactions from the crowd, we want people to be happy about the songs. We're not just there for the players, we're there to have everyone else be entertained. We want to keep the action alive. People start cheering louder with the bands," he added.

And it's not just the crowd noticing the band this year. "Every so often, one or two of the players will come over and thank us. It's one of the best feelings in the world to know the people we're there for really like it," Rankine said.

Paul Hewitt has also expressed his appreciation. "Coach Hewitt actually came to our practice and talked us a little bit just to thank us for playing," Galloway said.

For many of the members, especially those who were avid Tech sports fans even before they joined, being part of the pep band is also a way to get to mingle and see their favorite athletes up close.

On Sunday, on the way back from Milwaukee, "We were all in the terminal waiting, and...the entire concourse was just all Georgia Tech," Harman said. "President Clough was there, and all the basketball players and stuff, and we were just kind of hanging out together."

"It's cool to talk to some of the players and stuff, but you know, they're students as well," he added. "So when I talked to them and stuff, it's not really about basketball so much...because they're regular people too."

Landmine from page 20

"You get bored doing the same thing over and over again," he laughed, "So when you do something different it's a lot more fun."

This varied expertise is an asset in a field where many different approaches have been tried and many others are always being developed.

"Anything you can imagine has been tried to find landmines," Scott said.

"It's more than just

making the sensor

within the...logistics

whoever's using it."

Waymond Scott

ECE professor

and the practicality of

work; it has to fit

Two of the most common methods are metal detectors and ground-penetrating radars (GPR). The problem with both methods, Scottsaid, is again one of clutter. With metal detectors, a lot of nonlandmine debris is also metal, as well.

"There's so much stuff in the ground that you still have a lot of false alarms," he said.

In addition, many mines nowadays are no longer made primarily of metal. Many have plastic casings, with only less than a gram of metal contained inside. In a shell-scarred battlefield, finding these types of mines with a metal detector is almost impossible.

GPR techniques can also give false alarms, depending on the environment. This is where seismic waves may have an advantage. "The thing that seems to be nice about the seismic system is that it's more immune to false alarms," Scott said.

On the other hand, "One of the biggest issues...is that it's slow," he said, since compared to radar waves, which travel at the speed of light, seismic waves are limited by mechanical considerations.

Scott is hopeful that seismic techniques will prove to be useful in the long run; the group is scheduled to work with CyTerra Corp. to ex-

plore the feasibility of implementing seismic detection in a mine detector for the U.S. Army.

"Chances are, the best landmine system will be a multisensor approach to have a consors will all reinforce each other," he said.

He suggested that the seismic sensor, because of its accuracy but slowness, may be useful as a confirmation sensor to take a second look at areas where faster sensors like GPR would not be able to distinguish as well.

"Our hope is that somehow, our work will fit into one of these real sensors," he said.

"That's a real complicated thing," Scott continued. "It's more than just making the sensor work; it has to fit within the politics and the logistics and the practicality of whoever's using it."