Leading the way

Annual Earth Day Celebration caps a week of events

ROBERT NESMITH
COMMUNICATIONS & MARKETING

The Southeast’s largest Earth Day event continues, as Georgia Tech’s annual celebration on April 17 caps off a week’s worth of sustainability themed initiatives and events.

Tech’s 12th annual Earth Day Celebration, set for April 17 from 10 a.m. to 2 p.m., aims to improve on past years in every way, showcasing the Institute as a sustainability leader, in keeping with this year’s theme of “Lead the Way—Tomorrow is Today.”

Established Earth Day events will be open to the community, such as the clothing swap, electronics recycling, an office supply exchange. Earth Day maze, live music and more recycling. According to Cindy Jackson, chairman of the Earth Day Committee and manager of the Office of Solid Waste Management and Recycling, several new initiatives are on tap for this year.

In fact, she says, this year the Earth Day planning committee has worked to make the celebration as close to a “zero-waste” event as possible.

Jackson has secured a solar power generator supplier, Tree Power and Sound for several events during Think Green Week—the Green Rally and Battle of the Bands—which precedes the Earth Day celebration. While the company is unavailable for April 17, Jackson says she will work to ensure that future celebrations include solar or biodiesel power when available.

“It’s amazing to see the progress we’ve made,” Jackson said. “This year, we’re serving game popcorn with biodegradable bags, wrist bands made from recycled silicone and a record number of 72 booth attendees.”

Booths include the Atlanta Bicycle Campaign, Chattahoochee Nature Center, Eco Moto, Green Buzz, Intown Bicycles, Trees Atlanta, Zipcar and other sustainable groups, as well as Institute and student organizations.

The first 1,000 attendees will receive reusable water bottles, and everyone who completes the maze will receive a Tech Earth Day T-shirt. Two stations will be set up at the event, where attendees can make a personal environmental commitment and register for a bicycle, to be given away at the Earth Day Celebration. Members of the Tech community can register for the prize at the Institute’s sustainability Web site, www.greenbuzz.gatech.edu.

New this year, a farmer’s market will allow local organic food vendors to sell their products from a cellphone.

Medical collaboration

Partnership to study pancreatic cancer

Tech and Saint Joseph’s Hospital are initiating the first regional research program to study the genetics and cell biology of pancreatic cancer.

Tissue and serum samples from patients with cancer are being scrutinized to identify the differences in genetic and cellular features between normal and tumor cells. Findings from this research will be used for the ultimate purpose of developing tests for early diagnosis and identifying specific, targeted therapies to treat pancreatic cancer.

“The traditional treatment philosophy of ‘one size fits all’ is quickly becoming obsolete,” says George Daneker, medical director of Oncology Research at Saint Joseph’s Hospital and co-principal investigator of the study. “No two individuals are alike, nor are two cancers; each is unique based on genetic and protein makeup.”

Working with John McDonald, chair of the School of Biology, and based on the research strategies from the acclaimed work of McDonald and Benedict Benningo with ovarian cancer patients, the current research is the first to focus on pancreatic cancer, believed to be the most fatal of common cancers. Pancreatic cancer is similar to ovarian cancer in that it often goes undetected until the disease is too far advanced for curative therapy.

McDonald, recognized as a world authority in molecular genetics and genomics and Daneker, a surgical oncologist with an extensive background in basic and translational cancer research, are initiating the first regional research program to study the genetics and cell biology of pancreatic cancer.

Nothing can replace the joy that a loved one or cherished friend brings to our lives. Each year, the Georgia Tech community is deeply saddened by the loss of its members. This spring we will again honor the memory of each student, faculty and staff member who has died in the last year. Join us, Tuesday, April 14, at 5 p.m. on the green space east of the Tech Tower adjacent to Cherry Street, as we pay tribute to these individuals who have touched our lives and contributed to our community. www.whenwhistleblows.gatech.edu

Welcome: President G.P. “Bud” Peterson
Speaker: Provost Gary B. Schuster

Olen R. Ashe III
Undergraduate, Industrial and Systems Engineering
Pamela P. McAllister
Technical Manager, Parking and Transportation

Sheila Eshraghi
Undergraduate, History, Technology and Society
Christopher Russell
Graduate Student, Chemical Engineering

Sergio Gonzalez Navarro
Undergraduate
Qaadir Siddeeq
Graduate Student, Architecture

John C. Handley
Principal Research Engineer, Georgia Tech Research Institute
Jason L. Vellinga
Undergraduate, Aerospace Engineering

Michael T. Huitt
Undergraduate, Management
Zachery E. Wansley
Graduate Student, Civil Engineering

Sheila R. Jackson
Architectural Designer, Facilities, Design and Construction
Joyce A. White
Custodian, Building Services

Paul J. Liedberg
Associate, Accounts Payable

Ram location: Alumni House Ballroom
Fueling the future
Tech powers Southeast's first solar cell manufacturer

RICK ROBINSON
RESEARCH NEWS

Using technology developed at Georgia Tech, Suniva Inc. has become the first solar cell manufacturer in the Southeast. The company is making high-efficiency crystalline-silicon photovoltaic cells around the clock at a 73,000-square-foot facility in Norcross, north of Atlanta.

Moreover, Suniva expects to expand quickly. Using technology based on the research of Regents’ Professor Ajeet Rohatgi, the company is presently manufacturing its ARTisun solar cells at a rate of 32 megawatts (MW) annually. Since an average U.S. home requires about five kilowatts of power, Suniva’s present annual output can furnish enough solar cells to supply about 6,300 homes, Rohatgi says.

Suniva plans to ramp up to an annual solar-cell output of nearly 100 MW—enough to power about 19,000 homes. The company currently employs about 70 people and expects to add more staff as it grows. A solar cell contains several layers, and every layer plays a role in the cell’s overall efficiency. Rohatgi, who also runs the University Center of Excellence for Photovoltaic Research and Education in the School of Electrical and Computer Engineering, has studied solar cells in depth for some 30 years, learning how to optimize each layer to get maximum output—at the least cost.

“We want to be right at the sweet spot,” said Rohatgi, who is both Suniva’s founder and chief technology officer. “We want cells that are highly efficient but low in cost, and that can generate power at a cost comparable to the power you buy from the electric company.”

Rohatgi’s solar-cell research has received significant funding over many years from the U.S. Department of Energy.

“Suniva is a shining example of how government support for research can lead to very real job creation,” said Robert Knots, director of Federal Relations at Tech. “It’s a strong reminder of why we should invest in research.”

Suniva’s current solar-cell output falls in the 17- to 18-percent efficiency range, which Rohatgi classifies as high, especially in a lower-cost cell. But the company is continuing to improve its technology, and recently the National Renewable Energy Laboratory certified a new Suniva cell and cell structure at 20 percent efficiency, generally considered very high.

Suniva founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.

The research efforts will also focus on screening and early detection. By using a powerful analytical tool called mass spectrometry, coupled with data analysis using a “super-computer,” the group hopes to identify patterns of molecular expression unique to cancer patients. This can lead to a sensitive screening test that only requires one drop of blood to run.

“Georgia Tech has the most advanced technology and the scientists who can help move these ‘bench’ research projects closer to ‘bedside’ treatments for patients at a very rapid rate,” says Daneker. “Saint Joseph’s brings the clinical expertise to take the treatments directly to the patient faster.” It’s a very unique partnership that facilitates rapid discovery and satisfies both our missions to bring the best treatments to patients in the quickest, safest way.”

Saint Joseph’s and Tech plan on expanding the collaborative research to lung cancers in April, as well as to prostate and colorectal cancers in the following months.

For more information
www.biology.gatech.edu
www.saintjosephsatlanta.org

Suniva’s founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.

CANCER, continued from page 1
research, are applying state-of-the-art technologies toward identifying aberrant molecular and cellular mechanisms.

Using microarray technology, gene expression patterns in pancreatic tumor tissue are compared with those present in the normal pancreas tissue. Microarray technology allows examination of more than 20,000 genes in a single experiment. Differences in the expression of genes encoding cellular proteins are of special interest with regard to the development of specific treatments.

There is also interest in the molecular basis of chemotherapy resistance. Some tumors respond very well to chemotherapy while others acquire resistance. By comparing the gene expression patterns in tumors that have become resistant to chemotherapy with patterns of the same tumors prior to chemotherapy, the research team hopes to identify the genes that mediate resistance.

Identification of the mechanisms of resistance could lead to the development of treatment strategies that overcome the resistant pathways, making all tumors more responsive to treatment.

The research efforts will also focus on screening and early detection. By using a powerful analytical tool called mass spectrometry, coupled with data analysis using a “super-computer,” the group hopes to identify patterns of molecular expression unique to cancer patients.

This can lead to a sensitive screening test that only requires one drop of blood to run.

“Georgia Tech has the most advanced technology and the scientists who can help move these ‘bench’ research projects closer to ‘bedside’ treatments for patients at a very rapid rate,” says Daneker. “Saint Joseph’s brings the clinical expertise to take the treatments directly to the patient faster.” It’s a very unique partnership that facilitates rapid discovery and satisfies both our missions to bring the best treatments to patients in the quickest, safest way.”

Saint Joseph’s and Tech plan on expanding the collaborative research to lung cancers in April, as well as to prostate and colorectal cancers in the following months.

For more information
www.biology.gatech.edu
www.saintjosephsatlanta.org

Suniva’s founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.

CANCER, continued from page 1

Research

Fueling the future
Tech powers Southeast’s first solar cell manufacturer

Rick Robinson
Research News

Using technology developed at Georgia Tech, Suniva Inc. has become the first solar cell manufacturer in the Southeast. The company is making high-efficiency crystalline-silicon photovoltaic cells around the clock at a 73,000-square-foot facility in Norcross, north of Atlanta. Moreover, Suniva expects to expand quickly. Using technology based on the research of Regents’ Professor Ajeet Rohatgi, the company is presently manufacturing its ARTisun solar cells at a rate of 32 megawatts (MW) annually. Since an average U.S. home requires about five kilowatts of power, Suniva’s present annual output can furnish enough solar cells to supply about 6,300 homes, Rohatgi says.

Suniva plans to ramp up to an annual solar-cell output of nearly 100 MW—enough to power about 19,000 homes. The company currently employs about 70 people and expects to add more staff as it grows. A solar cell contains several layers, and every layer plays a role in the cell’s overall efficiency. Rohatgi, who also runs the University Center of Excellence for Photovoltaic Research and Education in the School of Electrical and Computer Engineering, has studied solar cells in depth for some 30 years, learning how to optimize each layer to get maximum output—at the least cost.

“We want to be right at the sweet spot,” said Rohatgi, who is both Suniva’s founder and chief technology officer. “We want cells that are highly efficient but low in cost, and that can generate power at a cost comparable to the power you buy from the electric company.”

Rohatgi’s solar-cell research has received significant funding over many years from the U.S. Department of Energy.

“Suniva is a shining example of how government support for research can lead to very real job creation,” said Robert Knots, director of Federal Relations at Tech. “It’s a strong reminder of why we should invest in research.”

Suniva’s current solar-cell output falls in the 17- to 18-percent efficiency range, which Rohatgi classifies as high, especially in a lower-cost cell. But the company is continuing to improve its technology, and recently the National Renewable Energy Laboratory certified a new Suniva cell and cell structure at 20 percent efficiency, generally considered very high.

Suniva founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.

The research efforts will also focus on screening and early detection. By using a powerful analytical tool called mass spectrometry, coupled with data analysis using a “super-computer,” the group hopes to identify patterns of molecular expression unique to cancer patients. This can lead to a sensitive screening test that only requires one drop of blood to run.

“Georgia Tech has the most advanced technology and the scientists who can help move these ‘bench’ research projects closer to ‘bedside’ treatments for patients at a very rapid rate,” says Daneker. “Saint Joseph’s brings the clinical expertise to take the treatments directly to the patient faster.” It’s a very unique partnership that facilitates rapid discovery and satisfies both our missions to bring the best treatments to patients in the quickest, safest way.”

Saint Joseph’s and Tech plan on expanding the collaborative research to lung cancers in April, as well as to prostate and colorectal cancers in the following months.

For more information
www.biology.gatech.edu
www.saintjosephsatlanta.org

Suniva’s founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.

CANCER, continued from page 1

research, are applying state-of-the-art technologies toward identifying aberrant molecular and cellular mechanisms.

Using microarray technology, gene expression patterns in pancreatic tumor tissue are compared with those present in the normal pancreas tissue. Microarray technology allows examination of more than 20,000 genes in a single experiment. Differences in the expression of genes encoding cellular proteins are of special interest with regard to the development of specific treatments.

There is also interest in the molecular basis of chemotherapy resistance. Some tumors respond very well to chemotherapy while others acquire resistance. By comparing the gene expression patterns in tumors that have become resistant to chemotherapy with patterns of the same tumors prior to chemotherapy, the research team hopes to identify the genes that mediate resistance.

Identification of the mechanisms of resistance could lead to the development of treatment strategies that overcome the resistant pathways, making all tumors more responsive to treatment.

The research efforts will also focus on screening and early detection. By using a powerful analytical tool called mass spectrometry, coupled with data analysis using a “super-computer,” the group hopes to identify patterns of molecular expression unique to cancer patients. This can lead to a sensitive screening test that only requires one drop of blood to run.

“Georgia Tech has the most advanced technology and the scientists who can help move these ‘bench’ research projects closer to ‘bedside’ treatments for patients at a very rapid rate,” says Daneker. “Saint Joseph’s brings the clinical expertise to take the treatments directly to the patient faster.” It’s a very unique partnership that facilitates rapid discovery and satisfies both our missions to bring the best treatments to patients in the quickest, safest way.”

Saint Joseph’s and Tech plan on expanding the collaborative research to lung cancers in April, as well as to prostate and colorectal cancers in the following months.

For more information
www.biology.gatech.edu
www.saintjosephsatlanta.org

Suniva’s founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.

CANCER, continued from page 1

research, are applying state-of-the-art technologies toward identifying aberrant molecular and cellular mechanisms.

Using microarray technology, gene expression patterns in pancreatic tumor tissue are compared with those present in the normal pancreas tissue. Microarray technology allows examination of more than 20,000 genes in a single experiment. Differences in the expression of genes encoding cellular proteins are of special interest with regard to the development of specific treatments.

There is also interest in the molecular basis of chemotherapy resistance. Some tumors respond very well to chemotherapy while others acquire resistance. By comparing the gene expression patterns in tumors that have become resistant to chemotherapy with patterns of the same tumors prior to chemotherapy, the research team hopes to identify the genes that mediate resistance.

Identification of the mechanisms of resistance could lead to the development of treatment strategies that overcome the resistant pathways, making all tumors more responsive to treatment.

The research efforts will also focus on screening and early detection. By using a powerful analytical tool called mass spectrometry, coupled with data analysis using a “super-computer,” the group hopes to identify patterns of molecular expression unique to cancer patients. This can lead to a sensitive screening test that only requires one drop of blood to run.

“Georgia Tech has the most advanced technology and the scientists who can help move these ‘bench’ research projects closer to ‘bedside’ treatments for patients at a very rapid rate,” says Daneker. “Saint Joseph’s brings the clinical expertise to take the treatments directly to the patient faster.” It’s a very unique partnership that facilitates rapid discovery and satisfies both our missions to bring the best treatments to patients in the quickest, safest way.”

Saint Joseph’s and Tech plan on expanding the collaborative research to lung cancers in April, as well as to prostate and colorectal cancers in the following months.

For more information
www.biology.gatech.edu
www.saintjosephsatlanta.org

Suniva’s founder, Professor Ajeet Rohatgi, holds a 6-by-6 inch “pseudo-square” solar cell.
As the month of March closed with several robberies on the periphery of campus, reported incidents of crime on campus dropped 3.1 percent for the first three months of 2009 compared to a year ago.

Robbery and assault statistics on campus experienced the largest increase. Three robberies, one rape and two aggravated assault complaints were filed in 2009, compared to zero and zero during the same period a year ago. As of press time, the most recent incident was an armed robbery at 11:20 p.m. on March 30 between the J.S. Coon and the Space Science and Technology buildings.

The department, according to Police Chief Teresa Crocker, is able to shift resources to address campus incidents. The Institute’s React Team works primarily at night, in addition to regular patrols. “Their focus is on wherever there is high crime,” Crocker said. “They hit the hot spots. We’ve had a lot of success working with the team, both in arrests and in assisting the [Atlanta Police Department].”

Regular patrols—on foot, bicycle, motorcycle and in cars—also are assigned and deployed every 12 hours after review of current crime trends and patterns. From January to March, the department has made 65 arrests. For the month of February, Tech Police issued 144 citations, 175 warnings and 31 criminal trespass warnings. During the same period, motor vehicle thefts increased from 13 to 15, while burglary and larceny decreased, from 23 to 14 and 175 to 133, respectively.

“The majority of campus crime is from people taking items left in cars,” Crocker said. “The top things taken are iPods, GPS systems or laptops.”

Overall, the campus crime statistics mirror the Atlanta Police Department’s Zone 3, in which the Institute is located. From January to March 20, the APD received reports of 75 robberies, 46 aggravated assaults, three rapes, 168 burglaries and 627 thefts of items from motor vehicles.

Several armed robberies involving Tech students are included in these statistics, as they are occurred on the outskirts of the campus.

Regarding the robberies near and on campus, Crocker urges students—and faculty and staff—to use campus services such as the Stingerette at night, as well as be aware of surroundings, both for themselves and others. “If you see something suspicious, report it. If it looks suspicious to you, it probably is.”

Dialing 911 on campus land-line phones will connect callers directly to the Tech Police. Crocker advises that Institute community members program the department’s phone number, 404-894-2300, into their mobile phones.

Members of the campus community can also register for crime alerts and Georgia Tech Emergency Notification System (GTENS) alerts on the Police Department’s Web site.

For more information  
www.gatech.edu/emergency

In Brief . . .

Online parking permit registration begins

Online registration for 2009-2010 parking permits begins April 15. To register, visit Parking and Transportation’s Web site, and click on the registration prompt. Registration continues through June 30. Questions should be directed to info.parking@parking.gatech.edu

www.parking.gatech.edu

Tuition assistance deadlines approaching

April 15 is the application deadline for the Board of Regents Tuition Assistance Program (TAP) and the Staff Tuition Reimbursement Assistance Program (STRAP). Applications can be acquired from the Office of Organizational Development Web site. www.orgdev.gatech.edu

Retirement seminar information available online

Presentations from the March 25 pre-retirement seminar sponsored by Human Resources are now online. Visit www.ohr.gatech.edu/content.asp?page=1370&vid=1 to listen to and view the information. Seminar attendees should complete their feedback survey by April 15.

www.ohr.gatech.edu

DLPE garners marketing kudos from UCEA

The University Continuing Education Association awarded Distance Learning and Professional Education (DLPE) five marketing awards in its annual competition. DLPE earned three bronze awards in the print category for its annual report, the First Quarter 2009 Defense Technology quarterly and the 2009 Defense Technology professional education annual. DLPE’s “save the date” postcard for its Revenue Management Conference earned a gold award. For interactive marketing, DLPE earned a silver award for its redesigned Web site.

www.dlpe.gatech.edu

Journal opinions

Community input sought regarding library serial subscription cancellations

ROBERT NESMITH  COMMUNICATIONS & MARKETING

Due to increasing subscription costs and University System budget cuts, the Library and Information Center is examining its journal collection for potential subscription cancellations.

A list of titles has been posted online, and the library is soliciting Institute community input for comments on these journals, asking which are crucial for course instruction and research, as well as to which titles faculty members contribute as editors, writers and reviewers. Journals by publishers Elsevier, and Springer and Wiley are not under consideration due to subscription contracts.

“Cutting serials that graduate students and faculty members need hurts,” said Library Dean Catherine Murray-Rust. “It’s not what libraries like to do. Some of these resources are absolutely vital to faculty and researchers.”

According to Collection Department Head Nancy Simons, 249 users have so far made 821 comments on 400 titles—roughly 30 percent of the journals on the list.

“These have been pleasantly surprised at the number of comments, especially from graduate students, whose input was not solicited during previous reviews,” she said. In conjunction with use and access data on the publications for the last few years, the comments will be used to make a decision on the potential cancellations.

But, Murray-Rust says, in light of these events, something of a silver lining exists. Tech recently joined the RapidILL inter-library loan consortium, which grants the Institute access to a larger group of research libraries than its previous loan agreement. Princeton, Cornell, Texas A&M, Wisconsin and several research libraries in Asia all are part of Tech’s new network.

Instead of paying per journal, Tech pays a monthly fee for access to individual articles.

Turnaround time—

the duration between an article’s request and delivery—will be made during the summer, with cancellation decisions due by May 1. Cancellation decisions will be made during the summer, with a list of titles to be cancelled posted in September. Cancellations are scheduled to take effect in January 2010.

For more information  
www.library.gatech.edu/journalcancellation/index.php

www.rapidill.org

Faculty/staff development

Ongoing  

Georgia Tech Training Services offers a Web-based tutorial on the basics of using a state purchasing card (p-card). www.orgdev.gatech.edu/training/

The “Emergency Preparedness” certificate program, which consists of several smaller courses, including “Fire Safety,” “Facilities Hazard Training,” and “Basic First Aid/Adult CPR/AED,” provides faculty and staff members with valuable information in the case of a campus emergency. www.gatech.edu

The “Defining Customer Service” certificate program provides campus groups and employees with the foundation for offering exemplary service, to those both on and off the campus. Four required courses and an examination are offered. www.orgdev.gatech.edu

Miscellaneous

April 7  

Volunteers are needed for Tech’s 12th Annual Earth Day Celebration, set for April 17. People are needed in various areas, from setting up and distributing lunches to registering visitors and cleaning up. The deadline is 5 p.m. www.earthday.gatech.edu

April 14  

The Institute’s remembrance ceremony, “When the Whitlow Bows,” will be held at 5 p.m. on the green space west of the Tech Tower adjacent to Cherry Street. www.chemistry.gatech.edu

April 15  

The Faculty/Staff Honors Luncheon will be held from noon to 2 p.m. in the Student Center Ballroom. RSVP is requested. www.events.gatech.edu

Ongoing  

Techmasters—Tech’s chapter of Toastmasters International—meets every Thursday at 7:30 a.m. in room 102 of the Microelectronics Research Center. www.techmasters.gatech.edu

For a more comprehensive listing of events updated daily, visit www.gatech.edu/calendar.

www.w Whistle.gatech.edu
InVenture winners named

The 2009 InVenture Prize competition came to a close March 30, as one individual and one team were named the winners. College of Management Professor Terry Bloom, College of Computing Distinguished Professor Merrick Furst, Regents’ Professor David Ku, with the School of Mechanical Engineering and the College of Management, and Electrical and Computer Engineering Professor Joy Laskar (below, right) evaluated eight inventions, inviting those by winners Roger Pincombe for Dialprice and Joseph Abrahamson, William Boyd, Sanjay Challa, Kento Masayama and Andrew Punnoose for their Chlorella Bioreactor (above, right).

Winners received cash prizes, a paid internship to work on their ideas and free business services. Innovators Steve Dickerson, Christopher W. Klaus and Pete Petit selected the competition winners.

“T...