Landman recipient of Humboldt Award

David Terraso
Communications & Marketing

School of Physics Professor Uzi Landman has received a Humboldt Research Award for Senior U.S. Scientists. He will accept the award in June at the annual meeting of the Alexander von Humboldt Foundation, to be held in Berlin.

Landman received the Humboldt Award in recognition of his past accomplishments in research and teaching. Humboldt Awards are given to researchers whose fundamental discoveries have had a significant impact on their own discipline and who are expected to continue producing significant achievements in the future. Landman’s nomination was sponsored by the Technical University of Munich and the Max Planck Institute.

“I am most grateful to my colleagues who nominated me and supported my candidacy for this prestigious award. It is a happy moment when one’s work is acknowledged and recognized by his peers, and I trust that this will encourage us to continue our joint endeavors of research and discovery,” Landman said.

In addition to the monetary prize, Landman continued, page 3

Tech continues to excel in rankings

In three separate college rankings released in the last month, Georgia Tech was rated as a “best value” for public colleges and universities. The surveys were conducted by Kiplinger, SmartMoney and the Princeton Review.

Kiplinger, which rated universities based on their academic excellence combined with an affordable tuition, ranked Tech 16th in its list of 100 schools. University of North Carolina, University of Florida, University of Virginia, University of Georgia and the College of William and

Benefactor Crawford remembered

Helen D. Crawford of Atlanta died Jan. 6. She was 87.

Mrs. Crawford was the widow of Vernon D. Crawford, who served as chancellor of the University System of Georgia Board of Regents from 1979 to 1985.

Prior to being named chancellor, Vernon Crawford was a member of the Georgia Tech faculty for 30 years, serving as associate professor and director of the School of Physics, acting dean of the College of Architecture and the former College of Industrial Management, and acting president of the Institute. Named an honorary alumnus in 1966, he died in 1994.

Along with her husband, Crawford was a loyal and devoted supporter of the Institute. A former first grade teacher, Crawford was the daughter of missionaries who served for many years in Asia. Named an honorary alumna in 1984, she was an active member of the Georgia Tech Faculty Wives Club and participated in the Alumni Association’s Living

Professors recognized with PECASE awards

David Terraso
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Kim Cobb, assistant professor in the School of Earth and Atmospheric Sciences in the College of Sciences, and Nick Feamster, assistant professor in the School of Computer Science and the Georgia Tech Information Security Center in the College of Computing, have been recognized as two of the nation’s top young scientists with a Presidential Early Career Award for Scientists and Engineers (PECASE). The ceremony was held Dec. 19 at the White House.

The PECASE program recognizes outstanding scientists and engineers who, early in their careers, show exceptional potential for leadership at the frontiers of knowledge. This Presidential Award is the highest honor bestowed by the U.S. government on scientists and engineers beginning their careers.

“I am delighted that the achievements and extraordinary potential of these two exceptional faculty members are being recognized by the National Science Foundation and by the President of the United States,” said Interim President Gary Schuster.

“This is outstanding news for them—a PECASE award and the accompanying support can have a lasting positive effect on a career research.”

And this is yet another indicator that Georgia Tech’s reputation is strong as a leading research institution. I am proud to serve at a university that has such dedicated and committed faculty members.”

Cobb and Feamster were nominated for the PECASE by the National Science Foundation. Eight federal departments and agencies annually nominate scientists and engineers at the start of their careers whose work shows exceptional promise for leadership at the frontiers of scientific knowledge during the twenty-first century. Participating agencies award recipients up to five years of funding to further their research in support of critical government missions.

PECASE continued, page 2

WWW.WHISTLE.GATECH.EDU
"We designed a coating that specifically communicates with cells, and we’re telling the cells to grow bone around the implant. Our coating consists of a high density of polymer strands, akin to the bristles of a toothbrush, that we can then modify to present our bio-inspired, bioactive protein."

—Woodruff School of Mechanical Engineering Professor Andrés Garcia, explaining a new biologically based coating for titanium artificial joints and implants that enhance bone growth and tissue healing. (Assembly Magazine)

Cobb’s research focuses on understanding climate change using geological archives such as corals and cave stalagmites. By reconstructing the climate from the past few decades to the last several millennia, Cobb aims to inform current climate models that help predict how changes might occur in the future.

"I’m happy that my climate change research seems to be a focus on the national stage," said Cobb. "I hope that it serves to emphasize the importance of paleoclimate research in this field."

She joined the faculty in 2004 after earning her doctorate in oceanography in 2002 from the Scripps Institute of Oceanography and spending two years as a postdoctoral fellow at the California Institute of Technology.

"Models can only take you so far in seeing how the climate may change over the next few decades," said Cobb. "In many cases, the data is too short, so the paleoclimate data is added to make a more complete record, so we can see how temperature and precipitation patterns respond to climate forcing."

Cobb has spent time in the caves of Borneo, analyzing stalagmites in search of clues about the climate of the earth’s past. This month, she’s traveling to the Bahamas to take high-definition footage of coral reefs so they can be rendered in a 3D virtual environment.

The multidisciplinary research team, which also includes Frank Bollaert from the College of Computing and Brian Nagerko from the Ivan Allen College of Liberal Arts, will also be using the high-definition images they take of the reef to create a virtual ecosystem that scientists can use to collaborate and share data.

"This current research has educational uses for schools and museums, but we can also use the technology to capture large tracts of the reef in detail so other scientists can see species diversity and coral health without having to spend the money to go there," she said.

Feamster received his doctorate in computer science from the Massachusetts Institute of Technology (MIT) in 2005, and his bachelor’s and master’s degrees in electrical engineering and computer science from MIT in 2000 and 2001, respectively. He joined Georgia Tech in January 2006.
Next week’s issue delivers a day later

The Jan. 20 issue of The Whistle will be delivered a day later because of the Martin Luther King Jr. holiday. In addition, we at Communications & Marketing wish to address the issue of adding color to the publication, starting with the Jan. 5, 2009, issue.

Due to a longstanding relationship with our printer, we entered into an agreement to print in color at no additional cost. When the current contract comes up for renewal, we will revisit production costs and make adjustments as necessary.

For those of you who are ‘a day late and a dollar short’, we say ‘It looks good!’ and ‘Why now?’. Feedback is always appreciated and helpful as we continue delivering Institute news to our community.

Landman, cont’d from page 1

Landman will also have the opportunity to conduct research with colleagues in Germany. He plans to continue his research into nanocatalysis with Ueli Heiz, professor of chemistry at the Technical University of Munich, and to develop joint research projects with Professor Klaus Kern at the Max Planck Institute in Stuttgart on surface-supported nanostructures, quantum dots and self-assembly.

“The Humboldt Research Award is given only to those researchers who are in leading positions and at the peak of their careers,” said Interim President Gary Schuster. “The competition is intensive and essentially worldwide. This much-deserved honor is a testament to Professor Landman’s leadership in contributions to unraveling the physics of microscopic-level interactions of materials.

“His work is recognized around the world for pioneering the analytical models and computer-based simulations that reveal physical phenomena underlying the properties of matter. Georgia Tech is fortunate to have a scientist of the caliber of Uzi Landman.”

Landman is a pioneer of using computer simulations to discover new phenomena on the nanoscale. His main areas of scientific interest are in condensed matter physics, clusters, quantum dots, correlated states and spontaneous symmetry breaking in confined ferromagnetic and bosonic systems, nanowires, nanotribology, nanocatalysis, nanoelectronics, stochastic hydrodynamics, self-assembly, the electronic and transport properties of DVA, and the properties of biomembranes and trans membrane transport, with an emphasis on the development and use of advanced computational methodologies.

In 1999 his team, in collaboration with Heiz, discovered that gold is a very effective catalyst when it is aggregated in clusters of eight to two dozen atoms. They also found that electrical charging of gold is crucial to its catalytic capabilities. These theoretical predictions have been verified experimentally, and the research team stands ready to further explore finding ways for control of nanocatalytic activity through the design and modification of the substrates supporting the catalytic clusters, as well as through the use of external fields.

“This collaboration, where theory and experiment complement and challenge each other, had already resulted in several key discoveries,” said Landman. “We expect that the continuation and strengthening of the interaction between our research groups, enabled by the Humboldt Award, would open new research directions in nanocatalysis, including in areas related to energy research and environmental issues.”

Throughout the past decade, Landman and his coworkers have been investigating the properties of electrons confined in quantum dots fabricated at the interfaces of semiconductor heterostructures, and studied as potential logic gates in quantum computers.

“Small is different,” said Landman. “We cannot use the way physical systems behave on the large scale to predict what will happen when we go to levels only a few atoms in size. But we know the rules of physics, and we can use them to create model environments in which we can discover new phenomena through high-level computer-based simulation which serve as a ‘computational microscope’, supplementing, complementing, challenging and motivating laboratory experiments. In this way we employ computers and novel computational methodologies as tools of discovery.”

Landman joined the School of Physics in 1977. He is currently a Regents’ and Institute Professor, holding the Callaway endowed Chair in Computational Materials Science, and serves as the director of the Georgia Tech Center for Computational Materials Science. He received the Georgia Tech Distinguished Professor Award in 1992.

Landman has published more than 350 articles and co-authored a book titled Nanocatalysis. He is an elected fellow of the American Physical Society and the British Institute of Physics, and he has received several honors and awards, with the most recent ones being an invited lecture at the 2000 Nobel symposium on clusters, the 2000 Feynman Prize in Nanotechnology, the 2002 American Material Research Society (MRS) medal for his pioneering molecular dynamics simulations that led to elucidation of the microscopic mechanisms of tribological processes, and the 2005 American Physical Society Rahman Prize in computational physics.

Abdel-Khalik on advisory board

Southern Nuclear Distinguished Professor Said Abdel-Khalik in December was named vice chairman of the Advisory Committee on Reactor Safeguards of the U.S. Nuclear Regulatory Commission. For more information, visit www.me.gatech.edu/faculty/abdulkhalik.shtml.

Bratcher nominations sought

The Office of Diversity Programs and the Office of Employee Relations are seeking nominations for the Don Bratcher Human Relations Awards. The Faculty/Staff Award includes $5,000. The deadline for nominations is Jan. 23. For more information and nomination forms, visit www.diversity.gatech.edu.

Disclosure deadline approaching

Any business transactions with the state of Georgia or any state agency conducted by faculty or staff members on their own or any business’s behalf in which the employee or any family member has a substantial interest must be disclosed to the Georgia Secretary of State’s office by Jan. 31. The State Business Transaction Disclosure Report is available at www.usg.edu/legal/documents/bus_transact.pdf.

AIESEC applications sought

Faculty members are asked to advise their students interested in participating in international internships; professional, business and leadership development; and global awareness to apply with AIESEC, a student organization existing in more than 1,100 universities and more than 105 countries and territories.

For more information, visit www.aiesecgt.org.
C A M P U S  E V E N T S

Art & Culture

Through February 13
The Robert C. Williams Paper Museum displays the works of a renowned paper engineer and book artist with "The Paper Engineer: The Art of Carol Barton." Museum hours are 9 a.m. to 5 p.m. weekdays. For more information, visit www.ipst.gatech.edu.

January 18
The Fert Center for the Arts presents an "Evening of Celtic/Traditional and Contemporary Irish Music" by the Dublin Philharmonic Orchestra and conductor Derek Gleeson, starting at 5 p.m. Tickets are $20 to $40. For more information, visit www.fertcenter.gatech.edu.

January 22
The College of Architecture and the Library and Information Center open the exhibition "Documenting Design: The Work of Alan Buchsbaum," in the Neely Lobby. The exhibition runs through February. For more information, visit www.library.gatech.edu/archives.

January 24
Dancers and Illusionists Moxim will perform at the Fert Center for the Arts, starting at 8 p.m. Tickets are $20 to $44. For more information, visit www.fertcenter.gatech.edu.

February 5
Poetry at Tech presents the Seventh Annual McEyer Poetry Reading, featuring Karen Head, alumnus Bruce McEyer, Chebea Ruthburn and John Skoyles, starting at 7 p.m. in the Clary Theater of the Bill Moore Student Success Center. For more information, visit www.poetry.gatech.edu.

February 13
DramaTech Theater presents the comedy "Keeping Up with the Joneses," starting at 8 p.m. in the Library East Commons performance space. The lecture is part of the 2008-09 LCC Distinguished Speaker Series. For more information, visit www.lcc.gatech.edu.

February 27
School of Civil and Environmental Engineering Assistant Professor Jochem Teizer presents "Nanotechnology and Its Impact on Construction," as part of the NanoTech Lecture Series, from noon to 1 p.m. in room 102A of the Microelectronics Research Center. For more information, visit www.mirc.gatech.edu.

March 5
School of Chemistry and Biochemistry Assistant Professor Facundo Fernandez presents "Enabling Mass Spectrometry Technologies for High Throughput Direct Analysis, Molecular Imaging and Metabolomics," starting at 3 p.m. in room G011 of the Molecular Science and Engineering building. For more information, visit www.chemistry.gatech.edu.

Conference & Lectures

January 15
Duke University Professor Katherine Hayles presents "Minds, Machines and Media," from 4:30 to 5 p.m. in the Petit Microelectronics Building. For more information, visit wwworgdev.gatech.edu.

January 15
The Office of Organizational Development presents the brown bag seminar "The Power of Goal Setting," from 1:30 to 3 p.m., in room 343 of the Student Center. For more information, visit www.orgdev.gatech.edu.

January 14
The Office of Organizational Development presents the micro-brown bag seminar "Collaboration: A New Model of Work," from 2:30 to 3 p.m. in room 102A of the Library East Commons performance space. For more information, visit www.orgdev.gatech.edu.

January 14
The Office of Organizational Development presents the brown bag seminar "Career Planning and Professional Development," from 1:30 to 3 p.m. in room 301 of the Student Center. For more information, visit www.orgdev.gatech.edu.

February 3
The Office of Sponsored Programs hosts its "New Faculty Orientation to Sponsored Programs," from noon to 1:30 p.m. in the seminar room of the Research Administration Building. For more information, visit www.osp.gatech.edu.

Ongoing

Ongoing
Georgia Tech Training Services offers a Web-based tutorial for "Using a state purchasing Card." For more information, visit www.training.gatech.edu.

January 21

March 1
Georgia Tech Faculty Women's Club offers scholarships to Tech undergraduates who are children of faculty or staff. Up to five $1,000 scholarships will be awarded, based on financial need and academic achievement. Applications are due by March 1. For more information, e-mail Marjan Van Iitersum at vaniitersum@bellsouth.net.

Ongoing

Ongoing
The Women's Resource Center, Diversity Programs and the Center for the Enhancement of Teaching and Learning present "Status of Women Students at Georgia Tech: Personal Perspectives," from 3:30 to 5 p.m. in the Clary Theater of the Bill Moore Student Success Center. For more information, visit www.womenscenter.gatech.edu.

January 21
The Alumni Association presents "Taking Charge of Your Health: New Information All Women Should Know," part of the Association's "Women on Wednesdays" program, from 7:30 to 9 a.m. at the Georgia Tech Alumni Association. The cost to attend is $20 per person. For more information, visit www.gtalumni.org/pages/wow.

January 22
The Office of Organizational Development presents the brown bag seminar "Career Planning and Professional Development," from 1:30 to 3 p.m. in room 301 of the Student Center. For more information, visit www.orgdev.gatech.edu.

Miscellaneous

Miscellaneous
Georgia Tech Training Services offers the Emergency Preparedness Certificate, which consists of several smaller courses, including "Fire Safety," "Facilities Hazard Training" and "Basic First Aid/Adult CPR/AED." For more information, visit www.training.gatech.edu.

February 1

Ongoing

Ongoing

C L A S S I F I E D S

A U T O S / M O T O R C Y C L E S

2001 Toyota Camry, 114K miles, good cond. $4,500. Call 770-453-4027 or e-mail sall@mail.gatech.edu.

R E A L E S T A T E / R O O M M A T R I E S

For rent: 2 BR/1BA renovated duplex in Grant Park. Central heat/air, washer/dryer, dishwasher & microwave, fenced back yard. Less than 4 miles from campus, convenient to MARTA. Pets OK. $950/mo. incl. water & yard maint.; Call: 404-806-6096.

320 sq. ft. in beautifully renovated office condo in a historic building in Inman- Highland. Northern light, shared kitchen, dedicated parking space. Clean well-lit space for $800 per month; call 404-374-4760 or e-mail lucie.andre@coa.gatech.edu.

For rent: 3BR/2.5BA in Avondale Estates on cul-de-sac. Near I-285, Hwy 78 and MARTA. Close to Decatur, Emory, CDC. Washer/dryer included; private deck; fireplace. Pets welcome. $1,500/month. Call Clare at 404-377-9550.

For rent: 1BR/1BA, 945 sq. ft. on Peachtree St. at 6th. Renovated in 2002; walk to Tech, Publix, MARTA, Tech Square. 4th floor, HW floors, inl kitchen & bath, granite, $550 application fee, 1 mo. security deposit. Call 404-355-5888 or e-mail Ralph at ralph89@gmail.com. Visit www.comfy.com/PropertyDetails.aspx?id=5087509.

For Lease: Ideal for visiting professionals or grad student. On bus route to Tech, charming, fully furnished house for short-term lease (6-12 months) starting Jan. 2009. 2BR/2BA, 2 dens, living room, dining room, kitchen, fenced back yard. Please call 404-292-4990.

Furniture

Cherry wood dinette set. Table and 4 chairs. Good condition. $200.

Furniture

Cherry wood dinette set. Table and 4 chairs. Good condition. $200.

Miscellaneous

Four tickets needed for the Georgia Tech/Duke basketball game on Jan. 14. E-mail albertsheffer@earthlink.net.

Metropolitan bar tool seven-piece set, never used, 18/10 stainless. A Crate & Barrel exclusive. Set includes bar knife, strainer, double jigger, corkscrew, ice tongs, bottle/ can opener, and mixing spoon. Originally $350, will sell for $12. E-mail troywhyte@coa.gatech.edu for more info.

Pearl 7-piece drum set for sale. Best offer $500. Min. Call 678-862-9258 or e-mail vbhdesai@hotmail.com.