Welcome to the New Year!

The Holidays are behind us. I don’t know about you, but I’ve always experienced a bit of a let-down when the festivities diminish. The good news is that the festivities are just beginning for the College of Science, because this year we will be celebrating our 100th anniversary! Purdue’s first Dean of Science, Stanley Coulter, was appointed in 1907. I think we look pretty good for our age, don’t you?

A reporter who once interviewed a 100 year old woman asked her, “What is the best thing about turning 100?” She simply responded, “No peer pressure.”

Like the elderly centenarian, we ring in the New Year understanding our uniqueness, while pondering how the next century will shape and change the future. With age comes wisdom and responsibility. Therefore, we in the College of Science have decided to use our age to our advantage. In fact, we have decided to make our own resolutions that will not only shape this year, but impact future generations to come.

Many of you know that one of our greatest national challenges is to encourage upcoming generations to pursue careers in science and provide the needed expertise to drive our country’s future. In academic circles, we call it rising above the gathering storm; however, I prefer to call it sowing the seeds of tomorrow with our youth.

As we continue our push to recruit students, we must resolve to continuously improve the learning experiences we provide—to help students develop critical thinking abilities, with the practical training to flourish with today’s technology, as well as a theoretical basis for adapting to an ever-changing world. That rationale is guiding the outcome-based revision to the College of Science curriculum that we’re piloting this current academic year. So far, response from the students in EAS and Actuarial Sciences who are the participants in the pilot has been

In this Issue:

- Road trip to Naples!
- Noah Diffenbaugh Earns James R. Holton Award
- Negishi Wins 2007 Yamada-Koga prize for asymmetric synthesis
- Atallah Selected as ACM Fellow
- Outstanding Undergrads Win Computing Award
- Andrew Feustal chosen by NASA to fly on the space shuttle mission to repair the Hubble Telescope
- Spafford Earns Award for Security Contributions
- A Picture Paints a Thousand Words
- Indiana Entrepreneur Lends His Expertise to Students
- A simpler, cheaper method for cell fusion
- Scientists develop method to find genetic basis for plant variation
- Not YouTube, HUGETube: Purdue researchers stream massive Internet video
- Purdue doubles the work life of computers with overtime
- I.B.M. and Universities Plan Collaboration
Our resolution for discovery is multi-pronged. First, it involves achieving worldwide recognition for excellence in our core disciplinary programs as well as leadership in our multidisciplinary collaborations. Topping our list of resolutions remains our commitment to fund and complete the Hockmeyer Hall of Structural Biology, one of our cornerstone projects to position Purdue as a leader in the life sciences.

We are proud of the outstanding new faculty we have recruited to the college. In the next six years, we plan to excel in making 100 more faculty hires—our final 10 of 60 (strategic plan) faculty additions plus 90 replacement hires for retirements. We seek to acquire significant resources to recruit, retain, and equip faculty members and their students, such as endowed professorships and scholarships. We resolve to heighten our collaborations with the 10 Discovery Park centers as well as with affiliated centers in science education (CRESME), climate change (PCCRC), and information security (CERIAS). We also plan to further our diversity initiatives—including multicultural and gender forums, LEAD, and AGEP—to improve our talent pool and provide a welcoming learning environment for all students.

One of our most important resolutions is to engage the state, the nation, and the world in promoting scientific applications for the benefit of society. We just inaugurated an exciting new Science Business Partners Program (SBPP) to build mutually beneficial corporate partnerships.

We will continue several new traditions we initiated last year, including hosting national events like the CEO Health Care Summit, whose intriguing white paper on the design of a new health care system for the next generation will soon be released. Planning is underway for year two of the very successful Science Laureates program, whose goal is to promote appreciation of the strategic importance of science journalists in our everyday lives as well as get the word out about the exciting things going on in science, especially at Purdue.

The Purdue University Research Expertise (PURE) database that we pioneered in Science allows anyone seeking information about a research area to identify the relevant faculty members on campus. It is being used to forge new faculty collaborations, build corporate partnerships, recruit new faculty and students, and let the outside world see what Purdue has to offer. PURE has gotten so popular so quickly that we’re currently working on a statewide project to include faculty from other major Indiana

---

**Science Alumni News**

Road Trip to Naples, Florida for a CoS Luncheon

**Science Events and Calendar**

---

Science alumni: We want to hear from you! Share your professional news and your personal and family milestones by clicking here.

**Contact us**

---

**Past issues of Science@Purdue**

*Insights, the College of Science Magazine*
If I had a crystal ball, I would predict that 2007 will prove to be a dynamic and exciting time for everyone in the College of Science, as well as our alumni, our friends, and everyone in the Purdue family whom we rely upon as partners in our efforts. Stay tuned for announcements of events and opportunities where you can be involved. Meanwhile, I’ll help you keep your New Year’s resolutions if you help me keep mine!

Happy New Year!

Jeff Vitter

---

**Road Trip to Naples, Florida for a CoS Luncheon**

While participating in the President’s Council events, enjoy lunch with Dean Vitter and other College of Science alumni and guests at the Naples Grande Resort and Club on Sunday, February 11 at 1:00pm. During the luncheon, we will be presenting a **The College of Science Ovation! Award** to David and Nancy Moore. The Ovation! Award is presented to individuals, corporations, and businesses, who have demonstrated extraordinary financial support and/or extraordinary service to the College. Recipients are chosen by the Dean of the College of Science. See you in sunny Florida!

To RSVP for the event or for more information, please contact events@science.purdue.edu or 765-494-0586.

---

**SPOTLIGHT ON NEW FACULTY**

**Edward Bartlett**

Edward Bartlett, Assistant Professor of Biological Science and Biological Engineering, comes to us from Johns Hopkins University where he worked as a research assistant from 2003-2006. Ed uses the laboratory to understand how physical signals, especially sound, are represented by neural activity in the auditory thalamus and auditory cortex in normal and pathological conditions. These neural representations then form the basis for sound perception and the decisions or actions that arise as a consequence. [Full Story](#)

**Erik S. Barton**
Biological Sciences, did his post-doctoral work in the lab of Herbert Virgin IV at the Washington University School of Medicine in St. Louis from 2001-2006. Erik uses genetic and cell biological approaches to dissect mechanisms of immune function during HV68 infection. Erik is specifically focused on understanding the role of interferons (a key antiviral cytokine family secreted during virus infection) in regulating latent virus infection, and the effects of prolonged interferon expression during latency on immune physiology. Full Story

Dr. Xiangyu Zhang

Dr. Xiangyu Zhang joined Purdue as an Assistant Professor of Computer Science after completing his Ph.D. in the Department of Computer Science at the University of Arizona. Xiangyu's research is on automatic debugging, software reliability, computer security, and program profiling. In particular, he has designed efficient and effective dynamic slicing techniques that have a lot of applications in debugging runtime errors, intrusion detection, and preventing software piracy. Xiangyu is interested in program analysis, both dynamic and static, and their applications in software engineering and security-related issues. Full Story

SCIENCE PEOPLE

Noah Diffenbaugh Earns James R. Holton Award

Noah Diffenbaugh, Assistant Professor in the Department of Earth and Atmospheric Sciences, received the 2006 James R. Holton Award, presented in December at the annual meeting of the American Geophysical Union (AGU) in San Francisco. This award is presented by the Atmospheric Sciences Section of the AGU in recognition of outstanding contributions by a young scientist within three years of his/her PhD. Noah is known for his advances in understanding the mechanisms and impacts of climate change, particularly on regional-scale natural and human systems. His work also includes high resolution projections of future climate change, as well as comparisons of paleoclimate simulations with the
**Negishi wins 2007 Yamada-Koga prize for asymmetric synthesis**

Ei-ichi Negishi, Herbert C. Brown
Distinguished Professor of Organic Chemistry, Negishi
has been selected to receive the 2007 Yamada-Koga prize for his ground-breaking work in asymmetric synthesis. The Yamada-Koga prize is annually awarded to a scientist whose research has a major impact in the fields of the synthesis of optically active compounds. Recent winners include S.E. Denmark, S.V. Levy, H. Yamamoto, A.B. Smith, L.E. Oerman, and B.M Trost.

**Atallah Selected as ACM Fellow**

Mike Atallah, Professor of Computer Science and Associate Director of CERIAS, has been selected as a Fellow of the ACM. The ACM Fellows Program was established by ACM Council in 1993 to recognize and honor outstanding ACM members for their achievements in computer science and information technology, and for their significant contributions to the mission of the ACM. Mike was selected for his contributions to parallel and distributed computation, secure protocols, and information hiding. The ACM Fellows serve as distinguished colleagues to whom the ACM and its members look for guidance and leadership as the world of information technology evolves. Mike will be inducted at the ACM Awards Banquet on June 9th, 2007. He now joins an elite group from Purdue, who have been named as Fellows, including Elisa Bertino, Doug Comer, John Rice, Ahmed Sameh, Eugene Spafford, and Jeff Vitter.

**Full Story**

**Outstanding Undergrads Win Computing Award**

Alexei Czeskis and Ryan Stutsman have been selected for Honorable Mentions in the Computing Research Association's Outstanding Undergraduate Award for 2007. The CRA Outstanding Undergraduate Award program recognizes students who show outstanding research potential in an area of computing research. Full Story
Flying High, Again

Purdue EAS graduate and astronaut Andrew Feustal (BS, Earth Science; MS, Geophysics, 1991) has been selected by NASA to fly on the space shuttle mission to repair the Hubble Telescope. Shuttle astronauts will make one final house call to NASA's Hubble Space Telescope as part of a mission to extend and improve the observatory's capabilities through 2014. Full Story

Spafford's Earns Award for Security Contributions

Eugene Spafford, executive director of the Center for Education, and Research in Information Assurance and Security (CERIAS), was awarded the Association of Computing Machinery's SIGSAC (Special Interest Group on Security, Audit, and Control) Outstanding Contributions Award for his role in influencing national cybersecurity policy, education, and research. Spaf's research is focused on the prevention, detection, and remediation of information system failures and misuse. He has represented the security community on several national panels responsible for establishing the nation's cybersecurity policy. Full Story

A Picture Paints a Thousand Words

In a national effort to promote Computer Science, the K-12 outreach program sponsored a poster contest to celebrate Computer Science Education Day. Students were given the theme, “Computer Science Makes Everything Possible” and were encouraged to create a poster that promoted and displayed this theme. There were 259 submissions to the contest! Full Story

Indiana Entrepreneur Lends His Expertise To Students

Scott Jones, Indiana entrepreneur, inventor of voice mail, and adjunct professor of computer science, and Jack M. Gill Ph.D., will teach Purdue students about the dynamics of becoming an entrepreneur. The course is cross-listed as 490B ENTR Capstone, Management 590S, and SCI 490E, and involves several members of the Science Dean's Leadership Council. The course places a heavy emphasis on developing business plans and is open to students in all disciplines, including Science, IT, Informatics, and Medicine. Scott has been creating companies and solutions more than twenty years. Billions of
inventions around the world. More in upcoming issues.

**Hoosier Entrepreneur Launches Search Engine With Human Touch**

Hoosier entrepreneur and adjunct professor of computer science, Scott Jones, is not just teaching the entrepreneurship class described above, but he’s also launching a new Internet search engine that will give users a more human touch. ChaCha is the first search engine to connect searchers instantly with live people, who will act as guides to make sure that searchers get the best results. Full Story

---

**SCIENCE NEWS AND RESEARCH**

**A simpler, cheaper method for cell fusion**

It's not easy to make one plus one equal one. But biological engineer Chang Lu has done just that with a new and cheaper method to electrically fuse cells — a vital technology for studying stem cells, creating clones, and finding disease antibodies. Full Story

**Scientists develop method to find genetic basis for plant variation**

A new research approach that allowed scientists to rapidly identify the gene responsible for high sodium levels in certain naturally occurring plant populations could have applications for the study of a wide variety of other important plant properties. Full Story

**Not YouTube, HUGETube: Purdue researchers stream massive Internet video**

Researchers at Purdue University's Envision Center for Data Perceptualization have transmitted what may be the largest movie ever streamed over the Internet. Full Story

**Purdue doubles the work life of computers with overtime**

Computers are lazy — they only work when they have to, and almost all of them spend most of their time loafing. Computers...
hardworking hardware. Full Story

I.B.M. and Universities Plan Collaboration

IBM and seven universities have agreed to embark on a series of collaborative software research projects and to make the results of the work in fields like privacy, security, and medical decision-making freely available. Full Story

Technique quickly identifies bacteria for food safety, health care and homeland security

Researchers at Purdue University have used a new technique to rapidly detect and precisely identify bacteria, including dangerous E. coli, without time-consuming treatments usually required.

The technique, called desorption electrospray ionization, or DESI, could be used to create a new class of fast, accurate, detectors for applications ranging from food safety to homeland security, said R. Graham Cooks, the Henry Bohn Hass Distinguished Professor of Chemistry in Purdue's College of Science. Full Story

PURDUE NEWS

New book instructs anyone how to think like a rocket scientist Full Story

Lumina grants to help Purdue retain, graduate Twenty-first Century Scholars Full Story

Kauffman Foundation awards Purdue $1.5 million grant to bolster campuswide entrepreneurship programs Full Story

Purdue is leading $1.65 million research effort at Muscatatuck urban training facility Full Story

Scientists develop method to find genetic basis for plant variation Full Story

SCIENCE ALUMNI NEWS

Related Searches: Mathematics Education | Department
Purdue plates pad student scholarship fund

More Hoosiers are showing their Boilermaker pride by purchasing Purdue University license plates now than ever. In the 2006 calendar year, 25,046 Purdue license plates were sold for Hoosier vehicles, up from less than 20,000 in 2004. Full Story

Science Kids Club blasts off

The Science Kids Club is off and running! Since we launched the club in October, nearly 150 kids of all ages have joined! Enroll the special kids in your life in the Science Kids Club for Science fun for kids of all ages. More information.

Stay connected!

Join the Purdue Web Community and stay connected to your alma mater. This interactive site will help you keep in touch with your Purdue family—your friends, faculty and staff, and fellow alumni. Sign up and get started.

Increase your reach: Support Science by joining the Purdue President’s Council!

The President's Council is a unique group of alumni and friends who contribute generously to the future of Purdue University. Working closely with the president, these leaders volunteer to support the University in ways that are very personal and meaningful to them. Through special events and programs, members build strong and lasting relationships with one another—relationships that enhance their experiences and change their lives. Join online!

Make the most of your gift!

The newly passed Pension Protection Act of 2006 contains a two-year IRA Charitable Rollover provision that will allow people age 70½ or older to exclude up to $100,000 from their gross income for a taxable year for direct gifts from a traditional or Roth IRA to a qualified charity in 2006 & 2007. To talk about how you can take advantage of this opportunity to increase your giving power, read on!
speaker Hector Cantu, award-winning journalist and co-creator/writer of Baldo, a bilingual newspaper comic strip. Cantu will conduct a book signing following his presentation.

Jan. 16. 6:30-8:30 p.m. American Meteorological Society (AMS) Annual Meeting, San Antonio, TX
Location: Conference Hotel-TBD

Jan. 18. 3:30 p.m. CIVL 1252. “The Past, Present and Future of Carbonaceous Particle Emissions” presented by Dr. Tami C. Bond
Department of Civil and Environmental Engineering
University of Illinois at Urbana-Champaign. Sponsored by EAS. (Refreshments at 3 p.m. in CIVL 2201)

Jan. 19. 8 p.m. Loeb Playhouse. Latin Jazz. Poncho Sanchez is a storyteller, and as the leader of this popular Latin jazz group, it's his congas and seasoned ensemble that do the talking. Show info.

Jan. 23. 12:30 p.m. University Inn, West Lafayette. Lafayette Rotary Club. Jeffrey S. Vitter, Frederick L. Hovde Dean of the College of Science, will talk about the impact of information science and technology in our lives.

Jan. 27. 8 p.m. The Pink Floyd Experience. Elliot Hall of Music. Featuring a stunning nine piece band, state of the art lighting and sound, a huge set and a wide array of special effects, the Pink Floyd Experience performance features "The Dark Side of the Moon," "The Wall," and a selection of classic Pink Floyd songs from the past 30 years. Show info.

Feb. 6. Noon. Faculty and Staff Awards Luncheon. PMU, East/West Faculty Lounge.

Science Events
Science Seminars
Purdue Events