

Volume 2, Number 3

Featured Story

Student Web Language Gains International Recognition



Working and learning in a community that includes students and researchers from around the world can lead to the occasional language barrier. Luckily, we can quickly adapt and work out ways to cross these barriers. Unfortunately, our computers run into language barriers all the time and until recently had no way of crossing the communication gap, greatly limiting their functionality and stalling further advancement of the World Wide Web.

Gregory Williams, a Rensselaer doctoral student in computer science who works in the new Tetherless World Constellation, single-handedly implemented a Web language that allows Web sites to speak and share data with one another. His language was given high marks by the World Wide Web Consortium (W3C) and will form a baseline for other companies and researchers to build upon.

"The Semantic Web allows computers to interact without the need for human interpretation," said James Hendler, senior chair of the Tetherless World Constellation. "Currently the Web is written to look pretty for human eyes to read, but computers cannot

read it in the same way as a person. The Semantic Web makes that information more readable to the computer and it makes the information more readable to another Web application." [Read more.](#)

Honors and Awards

Faculty

- **Joseph Ecker** (E.P. Hamilton Distinguished Professor, Mathematical Sciences) has been named an Edelman Laureate for his past work as a finalist in the Edelman Prize Competition in Operations Research.
- **Fengyan Li** (Assistant Professor, Mathematical Sciences) was selected as a 2008 Alfred P. Sloan Research Fellow. The Sloan Research Fellowships were established in 1955 to provide support and recognition to early-career scientists and scholars. Selection procedures for the Sloan Research Fellowships are designed to identify those who show the most outstanding promise of making fundamental contributions to new knowledge.
- **Toh-Ming Lu** (R.P. Baker Distinguished Professor, Physics, Applied Physics, and Astronomy) has been selected for recognition as a Materials Research Society (MRS) Fellow in its inaugural class of Fellows. The title MRS Fellow honors MRS members who are notable for their distinguished research accomplishments and their outstanding contributions to the advancement of material research, world-wide.
- **Bulent Yener** (Associate Professor, Computer Science) was named an EU Marie Currie Fellow. This fellowship provides support for visiting a research university in Europe.

Students

- The following School of Science students were named to the 2007-2008 Liberty League Winter All-American Team. A student must be at least a sophomore with a minimum grade-point average of 3.20.

Men's Swimming & Diving

- Doug Totten (BCBP)

Women's Swimming & Diving

- Meredith Eger (Biology)
- Amanda Moyer (Bioinfo & Mol. Bio)
- Stephanie Tomasulo (Physics)

Men's Indoor Track

- Eric Choudhary (Chemistry)
- Max Molleo (Chemistry)

Women's Indoor Track

- Heather Buletti (Computer Science)
- Ariel Hubert (Biology)
- Lauren Schneider (Math)

Research Accomplishments

- **Kristin Bennett** (Professor, Mathematical Sciences) and **Bulent Yener** (Associate Professor, Computer Science) will receive a R01 grant from NIH for approximately \$1.5M over four years for their work titled "Discovering hidden groups across tuberculosis patient and pathogen genotype data." Other co-investigators include Jeff Driscoll and Barry Kreiswirth.
- **Barbara Cutler** (Assistant Professor, Computer Science) received a grant of \$100K from IBM for a project titled "Physical Reality for Interactive Architectural Daylighting Design," which will be one of the first research projects combining the strengths of EMPAC and CCNI. The project will develop a full-scale interactive design environment to simulate and evaluate the illumination and functionality of an evolving architectural design.
- **Travis Desell** (Graduate Student, Computer Science), **Nathan Cole** (Graduate Student, Computer Science), **Malik Magdon-Ismail** (Associate Professor, Computer Science), **Heidi Newberg** (Associate Professor, Physics, Applied Physics, and Astronomy), **Boleslaw Szymanski** (C. and R. Schmitt Distinguished Professor, Computer Science), and **Carlos Varela** (Associate Professor, Computer Science) received second place in the Best Paper Award competition at the 2007 E-Science conference for their paper "A Distributed and Generic Maximum Likelihood Evaluator."
- **Jim Hendler** (Constellation Professor, Tetherless World Constellation; Professor, Computer Science) was asked to serve on the newly formed NSF Network Science and Engineering Advisory Committee, which will work with the NSF and the Computer Research Association on creating a research agenda for this emerging area.
- **Chjan Lim** (Professor, Mathematical Sciences) and **Tim Anderson** (Graduate Student, Mathematical Science) published a paper in Physical Review Letters titled "Negative Specific Heat in a Quasi-2D Generalized Vorticity Model. The work was partially funded by ARO, DOE, and an NSF VIGRE award. The results, which focus on negative specific heat of vortex filaments, are motivated by extensive quantum Monte-Carlo simulations and are applicable to plasma confinement and other problems where wriggly topological defects are found.
- **Shawn-Yu Lin** (Constellation Professor, Future Chips Constellation; Professor, Physics, Applied Physics, and Astronomy), who created the darkest material ever made by man, continues to receive worldwide recognition for this work, including the front page of the Washington Post. [Read more.](#)
- **Joyce McLaughlin** (Ford Foundation Professor, Mathematical Sciences) is the lead principal investigator on two new grants totaling approximately, \$1M. One is an NIH Business Research Partnership grant with the University of Rochester, GE, and Rensselaer, with Rensselaer co-principal investigators **Antoinette Maniatty** (Professor, MANE) and **Assad Oberal** (Assistant Professor, MANE), titled "3D Prostate Cancer Imaging Based on Crawling Wave Excitation." The second grant is an ONR grant titled "Imaging Biomechanical Properties and Interfaces - Applications to Tissue Imaging and Seabottom Characteristics."
- **Paul Morrow** (Graduate Student, Physics, Applied Physics, and Astronomy) was a finalist for the Lemelson-Rensselaer Student Prize given to a Rensselaer senior or graduate student who has created or improved a product or process, applied a technology in a new way, or otherwise demonstrated remarkable inventiveness. Paul has developed two innovations that could revolutionize magnetic data storage and sensing technology.

- **Heidi Newberg** (Associate Professor, Physics, Applied Physics, and Astronomy) recently gave two colloquia talks. One was at the Drexel University Department of Physics and was titled “Your Textbook is Wrong About the Milky Way.” The other was at the Cornell University Department of Astronomy and was titled “Will the Smooth Stellar Spheroid Please Stand Up?”.

Other News

- The Hirsch Observatory hosted 250 visitors for the lunar eclipse on February 20, 2008, with local news coverage.
- On Wednesday, February 27, 2008 the IT Program took a group of undergraduate and graduate students to New York City for the day. The group visited the New York Stock Exchange to learn about the use of technology in the stock exchange and Capital IQ to learn about how this company develops its software and business analysis tools. This was followed by a reception with Rensselaer alumni working in the New York City area to provide the students with a chance to ask questions about potential careers and start to build their own mentoring networks. The group also took a ride on the Staten Island Ferry as part of a tour of lower Manhattan. The New York City chapter of the Alumni Association hosted the visit.
- **Attention Graduate Students:** The Graduate Student Council Poster Presentation Event will be April 24, 2008. Poster titles are due April 1, 2008. Watch for announcements and a website with details that will be available soon.

Upcoming Events

- President’s Spring Town Meeting, March 17, 2008, 2:00 pm, DCC 308 (all are encouraged to attend).
- First Annual Joseph E. Flaherty Lecture, Jack Dongarra, March 17, 2008, 4:00 pm, Biotech Auditorium (all are encouraged to attend).
- Annual Faculty and Staff Memorial Service, March 24, 2008, 11:00 am, Chapel and Cultural Center (all are encouraged to attend).
- Graduate Accepted Student Celebration, March 28, 2008 (all departments participate).
- Undergraduate Research Forum and Awards Ceremony, March 28, 2008, 2:00 pm, DCC Great Hall (all are encouraged to attend).
- Beginning of GM Week, Friday March 28, 2008.
- No Classes, Wednesday, April 2, 2008.
- Undergraduate Accepted Student Celebration, April 12, 2008 (all departments participate).

This newsletter is prepared monthly and distributed to faculty, staff and students in the School of Science to keep everyone informed of accomplishments and events within the school. Corrections and items for the next newsletter should be sent to spoon@rpi.edu.

