

***Jan 1, 2002 - Dec 31, 2002***

**COMPUTER AND INFORMATION SCIENCES**

**Hossein Hakimzadeh, Chair**

**Chair's Remarks**

Last year was a busy and exciting year for the Department of Computer and Information Sciences. We began the year by preparing for and launching our graduate program in Applied Mathematics and Computer Science. The program started with 17 students in its first semester, and Dr. James Wolfer, our graduate director, reports that the interest in this program continues to grow.

Another exciting development has been the expansion of our programs. In the spring of 2002, the department's proposal for the minor in Informatics was approved and we began offering courses leading to this minor. By the end of Fall 2002, approximately 72 students had taken at least one course leading to this minor. During the Fall 2002, the department also proposed to develop a B.S. degree in Informatics. A number of people are directly responsible for the successful proposals and approval of the Informatics program at IUSB. These include former Chancellor Perrin, Chancellor Reck, Vice Chancellor Guillaume, members of the campus Informatics committee, Dean Shillingsburg, Associate Dean Williams, Dean Schwartz, Dean Miller, members of our department's Informatics committee, and the Informatics Director, Dr. Ruth Schwartz. The Informatics program is a new interdisciplinary initiative at Indiana University and IUSB is the third IU campus which has implemented this initiative. We look forward to work with various academic units within the University to implement a successful program at IUSB. The Informatics program has brought \$300,000 in new state funding to IUSB, and we expect that the B.S. in Informatics will increase this funding to approximately \$700,000 per year.

The computer science faculty are active in their research, and continue to mentor our undergraduate and graduate students. Dr. Scheessele guided Tom Perez in a project in artificial intelligence that has led to professional publications. Dr. Wolfer mentored Jacob Ratkiewicz which has led to an IUSB SMART (Student/Mentor Academic Research Teams) Research Fellowship Award. The result of this research has also been submitted for publication. In addition a number of faculty have been quite active in supporting the student chapter of the ACM (Association of Computing Machinery) at IUSB. Most notable is the role of our ACM faculty advisor, Dr. Scheessele, and the research presentations made by Dr. Knight and Dr. Vrajitoru at ACM events.

The department continues to be active in its out reach mission. Examples of such activity are faculty and student volunteering efforts to provide expertise to our local and regional non-profit organizations, increased interaction with local and regional educational institutions, increased course offerings for non-majors and community members, increased departmental sponsorship of public presentations, increases in fund raising, development of a stronger relationship with our alumni and the creation of endowments and scholarships in computer science.

## Research, Scholarship, and Professional Activities

### Articles

**Scheessele, M. R.**, and Pizlo, Z. "A Pyramid Model of the Perception of Partially Visible Figures," *Proceedings of the Twenty-Fourth Annual Conference of the Cognitive Science Society*, p.1037, 2002.

**Surma, David.** "Reducing Communication Overhead in Multiple Multicasts for Mesh Networks," International Society of Computers and their Applications, *Proceedings of the 17<sup>th</sup> International Conference on Computers and their Applications (CATA)*, 219-222, 4-6 April 2002, San Francisco, CA.

**Vrajtoru, Dana.**, R. Paffenroth, D. Vrajtoru, T. Stone, and J. H. Maddocks. "Data Viewer: A Scene Graph Based Visualization Tool." *Proceedings of the 20<sup>th</sup> Eurographics UK Conference*, 147-148. June 2002.

\_\_\_\_\_. "Simulating Gender Separation with Genetic Algorithms." *Proceedings from the Genetic and Evolutionary Computation Conference (GECCO) 2002*, 634-641, July 2002.

R. Paffenroth, **D. Vrajtoru**, T. Stone, and J. H. Maddocks. "Data Viewer: A Scene Graph Based Visualization Library." *Proceedings of the 5<sup>th</sup> IASTED Conference on Computer Graphics and Imaging (CGIM)*, 200-205, August 2002.

### Presentations

**Knight, William**, "Data Compression", Student Chapter of the ACM, March 6, 2002, IUSB.

**Scheessele, Michael.** "A Computational Model of the Perception of Partially Occluded Figures," Vision Sciences Society, 10 May 2002, Sarasota, FL.

\_\_\_\_\_. "A Pyramid Model of the Perception of Partially Visible Figures." Cognitive Science Society, 9 August 2002, George Mason University, Fairfax, VA.

**Surma, David.** "Reducing Communication Overhead in Multiple Multicasts for Mesh Networks," International Society of Computers and their Applications, 17<sup>th</sup> International Conference on Computers and their Applications (CATA), 4-6 April 2002, San Francisco, CA.

**Vrajtoru, Dana.** "Data Viewer: A Scene Graph Based Visualization Tool. Poster and Oral Presentation." The 20<sup>th</sup> Eurographics UK Conference, June 2002, De Montfort University, Leicester, UK.

\_\_\_\_\_. "Simulating Gender Separation with Genetic Algorithms." Oral presentation. Genetic and Evolutionary Computation Conference, July 2002, New York, NY.

\_\_\_\_\_. "Nested Data Viewer: A Scene Graph Based Visualization Library." Oral presentation. The 5<sup>th</sup> IASTED Conference on Computer Graphics and Imaging (CGIM), August 2002, Kauai, Hawaii.

\_\_\_\_\_. “Probabilistic Algorithms for Graph Positioning.” Talk for the Graduate Student Welcome Night. ACM Society, IUSB chapter, 14 November 2002, IUSB.

## **Other**

**Scheessele, M. R.**, & Pizlo, Z. “A Computational Model of the Perception of Partially Occluded Figures” [Abstract]. *Journal of Vision*, **2** (7), 82a, <http://journalofvision.org/2/7/82/>, DOI 10.1167/2.7.82, 2002.

## **Service**

### **Campus**

**Hakimzadeh, Hossein.** Campus Informatics Committee.

**Knight, William.** Secretary of the Academic Senate and Senate Executive Committee; Senate Personnel Committee; chair, LAS Curriculum Committee.

**Scheessele, Michael.** CLAS Master of Liberal Studies Committee; Chair of the CLAS Cognitive Science Committee; Faculty Advisor for the IUSB Student chapter of the ACM.

**Schwartz, Ruth.** Admissions Committee; Campus Directions Committee; Working Group on Diversity; CLAS Advising Committee.

**Surma, David.** CLAS Budget Committee; University Library Committee.

**Vrajitoru, Dana.** Cognitive Science Committee.

**Wolfer, James.** IUSB Graduate Council.

### **University**

**Schwartz, Ruth.** Teaching and Learning Systems.

### **Local Community**

**Schwartz, Ruth.** Women’s Initiative.

**Surma, David.** La Porte Little League Baseball; St. John’s Lutheran Church – La Porte, IN.

### **National and International**

**Hakimzadeh, Hossein.** A referee for the ACM/SAC-2001, Association of the

Computing Machinery/Symposium on Applied Computing.

**Surma, David.** Program Committee for the 15<sup>th</sup> Annual International Conference on Parallel and Distributed Computer Systems (PDCS); paper reviewer for the Institute of Electrical and Electronics Engineers (IEEE) Transactions on Education Journal; reviewer for two Java textbooks during 2002; reviewer for a book Data Structures in C++, by Angela Shiflet for West Publishing Company.

**Vrajitoru, Dana.** Co-chair, the IASTED Computer Graphics and Imaging Conference for Session 5, Visualization and Virtual Reality; referee for the *Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*.

### **Other**

#### **Grants**

**Hakimzadeh, Hossein.** Grant (\$3,400) from McGraw Hill Publishing.

**Scheessele, Michael.** Faculty Research Grant (\$8,000) for research project “A Computational Model of the Perception of Partially Occluded and Fragmented Figures.” April 2002 – April 2003.

**Surma, David.** Grant titled: “RUI: Using Communication Reduction Techniques to Improve Throughput in High-Performance Networks,” to the National Science Foundation (NSF) in December 2002.

**Vrajitoru, Dana.** Curriculum Development Grant from IUSB for the new course Parallel and Distributed Computing.