

# CEAS Graduate Programs & Research Newsletter

## CEAS Industry Research Collaboration

Over the last six months, CEAS administration has devoted significant efforts to establish research collaboration opportunities between the college faculty and local industry. As a result, several meetings between the faculty and industry partners have been held at both UWM and various industry facilities to initiate such collaboration. The industry research collaboration efforts have been enhanced by a significant increase in the membership of the Dean's Industrial Liaison Council. The current

membership stands at thirty five members and it is expected to increase to between 45 to 50 members. An updated list of the ILC members can be seen at the college web site. The industry partners involved in the current research collaboration efforts include Badger Meter, Kohler Company, Harley Davidson, Johnson Controls, GE Healthcare Systems and Rockwell Automation. Additional discussions are also underway to include other companies in research collaboration.

## Student Accomplishments

Congratulations to our graduate students! CEAS is pleased to recognize the following accomplishments:

**Qualifying Exam:** The Ph.D. Qualifying Exam took place on April 13 & 14. Ten students from five of our six departments passed the exam. The next Qualifying Exam is tentatively scheduled for November 17 & 18, 2006.

**Graduation:** Graduation was Sunday, May 21. Four Ph.D. students graduated: Y. Familiant, J.B. Ferguson, T. Roy, and S. Wutnipong. Nine Engineering M.S. students graduated, and an additional 13 will be using the "window dates," and plan to graduate in August. The Computer Science M.S. program also had nine graduates.

**Graduate School Fellowship:** Ms. Yang Liu, Civil Ph.D. student, has received the Graduate School Fellowship for 2006-2007.

**Dissertation Fellowship:** Mr. Ganhua Lu, Mechanical Ph.D. student, has received the Graduate School Dissertation Fellowship for 2006-2007.

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## 2006 Dean's Award Recipient:

**Dr. William Berezowitz**

General Manager, Engineering & Operations—Imaging Subsystems, General Electric Healthcare Division

## 2006 Outstanding Alumni Award Recipients:

Civil Engineering & Mechanics

**Mr. Roger Becker**

Vice President—Precast Division, The Spancrete Group, Inc.  
 B.S. and M.S., Engineering, 1972 and 1973

Computer Science

**Mr. Manoj Mittal**

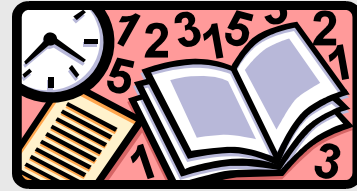
Director for Strategic Mergers and Acquisitions, Hewlett Packard Co.  
 M.S., Computer Science, 1988

## New Faculty Member in Computer Sciences

Joseph Bockhorst has been hired as a new Assistant Professor in Computer Science. He received his Ph.D. from the University of Wisconsin-Madison in 2004. His areas of research are: machine learning, bioinformatics, computational biology, immunoinformatics, probabilistic methods, and data mining. He will join the Computer Science Department for the Fall 2006 semester. We welcome Dr. Bockhorst to UWM and the College of Engineering and Applied Science.

### Important Date

**June 7, 2006, 1-3 p.m.**  
Grant Workshop: "NSF CAREER Grants: Strategies for Success"



## Dr. Kojasoy Retires at End of Academic Year

Dr. Gunol Kojasoy has announced his retirement, effective at the end of the 2005-2006 academic year. His colleagues from CEAS and other friends and former students honored him at a retirement dinner on April 28 at Pandl's of Bayside. He served for 26 years at UWM, teaching over a dozen different topics in thermal sciences, ranging from

introductory courses to graduate seminars. During his tenure at UWM he generated over two million dollars in sponsored research, established two research labs and supervised many doctoral and master's students, the last one now completing a dissertation.

In retirement, Dr. Kojasoy expects to do more traveling

to visit his immediate family, which is spread over three continents, and to spend more time in his native city of Istanbul. In between traveling and fishing, he will be doing some sponsored research, and is contemplating writing at least two graduate text books in his areas of specialization. We offer our best wishes as he begins this new phase of his life.

## CEAS Faculty Receive RGI Awards

Five CEAS faculty members received first-round awards from the Research Growth Initiative (RGI) competition either as Principal Investigators or Co-Investigators.

Collaborators	Project Title
<b>Shaoqin Sarah Gong</b> Mechanical Engineering	Sustainable and Eco-Friendly Bio-Based Polymer Composites
<b>Adeeb Rahman (PI) and Chris Papadopoulos (Co-PI)</b> Civil Engineering and Mechanics	An Engineering Approach to Improve the Assessment and Prevention of Hip Fractures in the Elderly: Initial Development of Concept and Methodology
<b>Jin Li (Co-PI)</b> Civil Engineering	Impact of Nano-materials on Microbial Community in Pyllosphere: A Genome Study
<b>Brian Armstrong (Co-PI)</b> Electrical Engineering	An Innovative Diagnostic Tool for Reducing Traumatic Knee Injuries

**Graduate School/UWM Foundation Award:** Dr. Krishna Pillai of the Mechanical Engineering Department and Dr. Adrian Dumitrescu of the Computer Science Department have received the 2006 Graduate School/UWM Foundation Award. We congratulate them on this outstanding research achievement!

## **New Research Initiative on Global Warming / Climate Change**

Organized initially by Dr. Tarun Naik and endorsed by Vice Chancellor Abbas Ourmazd, a university-wide interest group has formed to explore research issues related to global warming and climate change. Two meetings have been held, with over 50 faculty members attending. They represent such diverse academic areas as geography, economics, education, nursing, biological sciences, chemistry, civil engineering, electrical engineering, mechanical engineering, mathematics, architecture and urban planning, continuing education, the

WATER institute and the UWM Field Station.

The final academic year meeting was held on May 23. Among the topics of discussion were follow-up activities, including collaborative grant opportunities. A steering committee also was formed to continue discussions over the summer, exploring the feasibility of applying for a planning grant to form an interdisciplinary institute on broad issues related to global warming and climate change. CEAS faculty members who wish to be included on the mailing list or to receive information and materials from the previous meetings should contact Professor Tarun Naik.

## **Rohatgi Honored at TMMS Symposium**

The Minerals, Metals and Materials Society (TMMS) organized the Rohatgi Honorary Symposium as a recognition of the UWM Composites Center on Cast Composites' world leadership. The symposium, held from March 13 –16, 2006 in San Antonio, Texas, honored Dr. Pradeep Rohatgi's discoveries and contributions on Cast Metal Matrix Composites for the last 40 years. More than 30 technical papers from the U.S., Europe, Asia, and Latin American countries were presented at the symposium by scientists and engineers who have worked in

this field as a result of Dr. Rohatgi's initial work. Several current and former UWM students also presented their work at the event.

Dr. Rohatgi's research team first synthesized and cast a metal matrix composite material in 1965. The American Foundry Society listed this work as a major landmark in the 11,000 year history of Metal Casting.

Following the symposium, Dr. Rohatgi hosted visiting research scientists from Brazil, India, and Poland who had presented papers at the symposium. They toured the center and signed formal research agreements with UWM.

## **Cindy Rubio Selected as Scholarship Finalist**

Ms. Cindy Rubio, Computer Science Ph.D. candidate, was selected as one of the 47 finalists for the 2006 Google Anita Borg Scholarship. The scholarship was established to honor the legacy of Anita Borg and her efforts to encourage women to pursue careers in computer science and technology. As a finalist, Cindy received a \$1,000 scholarship, and was invited to visit Google headquarters in Mountain View, CA, in early April. Finalists were selected from 324 applicants from 90 different universities across the country. Please join us as we congratulate Cindy on this accomplishment!

**Chancellor's Award:** The allocation to the college has remained relatively similar to previous academic years. CEAS departments are encouraged to begin awarding that money to academically strong graduate applicants they are reviewing for the coming fall and spring semesters. Interim Dean Ghorbanpoor will announce exact departmental allocations before June 1, 2006.

## **Associate Technical Grant Writer Search**

The search and screen process is well underway for an Associate Technical Grant Writer. Initial screening has been completed and finalists are expected to be on campus for interviews during the last two weeks of May, with an early summer start date.

## Proposals Submitted January 1, 2006 through May 5, 2006

(Data Source: CEAS Database)

Prin. Investigator	Title	Agency	Amount
Armstrong, B.	RGR-Based Motion Tracking for Real-Time Adjustment of MRI and MRS Acquisitions	National Institutes of Health	\$1,629,894
Bravo, H.	Spectral-Based Predication of Trends and Patterns of Water Availability Indicators	National Institutes for Water Resources	\$123,161
Dhingra, A.	Graduate Internship Program I	Harley-Davidson Motor Company	\$32,427
Dhingra, A.	Tablet PCs for Concept Learning and Real-Time Assessment in Mechanics and Mechanical Design	Hewlett-Packard	\$70,000
Garg, A.	Low Back Pain: Quantifying Risk Factor—Renewal 1	Center for Disease Prevention and Control	\$75,000
Garg, A.	Upper Limb Musculoskeletal Disorder: Identifying Risk—Renewal 1	Center for Disease Prevention and Control	\$1,723,246
Gong, S.	High-Performance Microcellular Components Made of Sustainable Biobased Polymer Composites and Produced Via an Environmentally Benign Injection Molding Process	Environmental Protection Agency	\$338,401
Gong, S.	Development and Characterization of Polymer Nanocomposites for Optical Applications	UW Systems Applied Research Program	\$120,000
Gong, S.	Active Nanotube-Liquified Crystalline Elastomer Nanocomposites	National Science Foundation	\$349,369
Gong, S.	Sustainable and Eco-Friendly Biobased Polymer Composites	Wisconsin Department of Agriculture	\$148,541
Helwany, S. (Ghorbanpoor, A.)	Construction Vibration Attenuation	Wisconsin Department of Transportation	\$110,171
Horowitz, A.	UWM Participation in University Transportation Center Consortium Year 7	University of Wisconsin—Madison	\$8,000
Horowitz, A.	A Wisconsin Evaluation of a Tool to Estimate the Economic Development Benefits of Highway Projects	Midwest Regional University Transportation Center	\$47,669
Jen, T. (Chen, J.)	Electrostatic-Force-Assisted Cold Gas Dynamic Spray of Nanoparticles IV A New Low Temperature Process for Producing Nanostructured Coatings and Bulk Materials	UW Systems Applied Research Program	\$50,000
Jen, T. (Chen, J.)	A Feasibility Study on Metalworking Fluid and Solid Waste Elimination for Environmentally Benign Machining Processes	Environmental Protection Agency	\$349,978
Klemer, D. (Weber, D.)	Investigation of Quantum Dot Nanotoxicity Using a Zebrafish (Danio Rerio) Model	National Center for Environmental Research	\$199,792

**Proposals Submitted January 1, 2006 through May 5, 2006 (cont.)**

<b>Prin. Investigator</b>	<b>Title</b>	<b>Agency</b>	<b>Amount</b>
Kouklin, N. (Geissinger, P.)	Acquisition of a High-Resolution Scanning Electron Microscope for an Interdisciplinary Multi-User Facility Serving Life, Physical, and Materials Sciences	National Science Foundation	\$606,269
Kouklin, N.	Precisely Engineered, Scalable Carbon Nanotube Arrays and Nanotube-Polymer Nanowires for Wavelength-Tunable IR Optical Detection and Sensing Applications	National Science Foundation	\$366,141
Kraus, R. (Chun, Y.)	Recycling of Wood Pin Chips and Fines to Enhance Durability of Concrete	UW System Solid Waste Research Program	\$30,000
Li, J. (Burlage, R.)	GIS Tracking of Pathogens in the Milwaukee River Watershed	United States Department of Agriculture	\$389,268
Naik, T. (Chun, Y.)	Recycling Opportunity for Gypsum Wallboard in Concrete	UW System Solid Waste Research Program	\$30,000
Naik, T.	Developing Recycling Opportunities for Coal Combustion Products Through Educational Seminars	UW System Solid Waste Research Program	\$17,780
Neusen, K.	Producing Ethanol Using Renewable Energy	Wisconsin Department of Agriculture, Trade and Consumer Products	\$141,224
Papadopoulos, C. (Rahman, A.)	Creating an Undergraduate Honors Sequence in Mechanics Based on the Implementation of Computation Modeling and Numerical Simulation Into the Course Curricula	National Science Foundation	\$1,364,043
Rohatgi, P.	Optimization of Cast Foundry Sand Reinforced Aluminum Composites	UW System Applied Research Program	\$49,979
Wang, W.	Novel Spin Based Content Addressable Memories	National Science Foundation	\$283,381
Yu, D. (Tsonis, A.)	A Novel Integrated Electric Load Forecasting Method Considering the Wind Power Contribution	UW System Applied Research Program	\$47,545
Zhao, T. (Peng, Z.)	A Geospatial Semantic Web Framework for Feature-Level Data, Search, Access, Retrieval, Integration and Visualization: A Case of Transportation Network Data	National Science Foundation	\$291,071
Zhao, T. (Zeng, C.)	FlyExpert: A Genomic Data Integration System	UW System Applied Research Program	\$49,176
Zhao, T. (Peng, Z.)	Framework Client for Feature-Level Transportation Data Access, Maintenance and Usage	United States Geological Survey	\$74,956
<b>Total</b>			<b>\$9,116,482</b>

## Proposals Funded January 1, 2006 through May 5, 2006

*(Data Source: Graduate School Reports)*

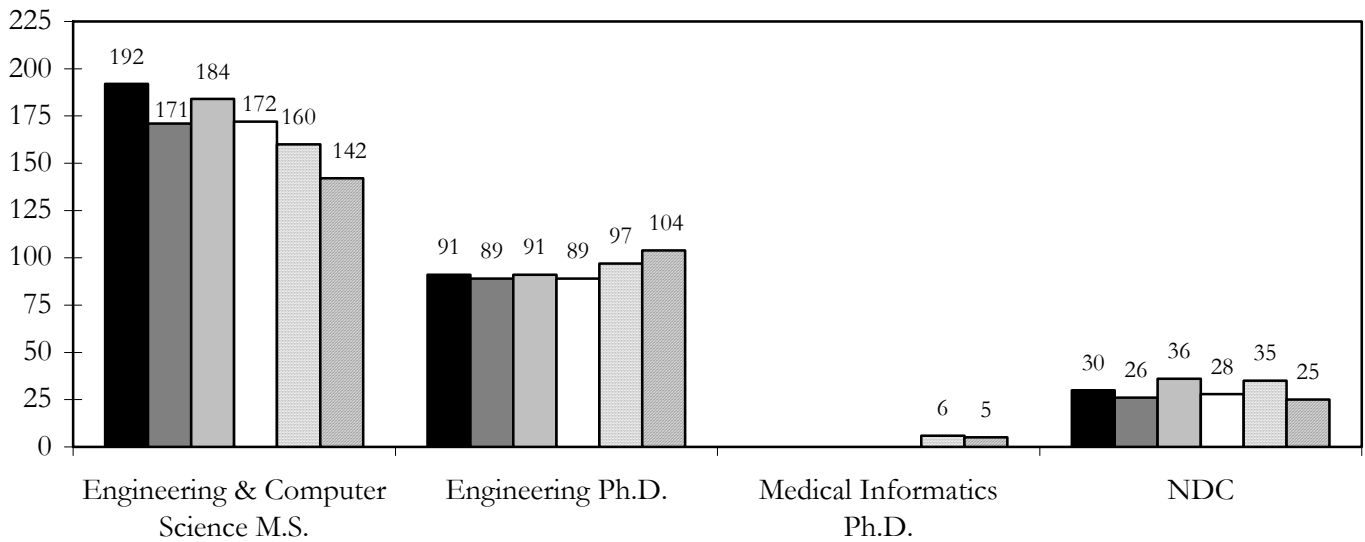
<b>Principal Investigator</b>	<b>Proposal</b>	<b>Agency</b>	<b>Amount</b>
Chen, J.	Research in Corona Discharges Based on Carbon Nanotubes	Xerox Corporation	\$20,000
Christensen, E.	Receptor Models for the Evaluation of Fate and Transport of Organic Pollutants in Aquatic Environment: Supplement	National Science Foundation	\$3,000
Garg, A.	Openfirst, LLC Production Facility Evaluation and Design	Openfirst, LLC	\$92,439
Helwany, S.	Development and Full Scale Testing of an Alternate Foundation System for Post and Panel Retaining Walls	Wisconsin Highway Research Program	\$80,000
Horowitz, A.	Prime Contractor With Trans Freeway Work Zone Lane Capacity	Iowa Department of Transportation	\$17,556
Li, Y.	Data-Driven Surge Modeling and Inlet Guide Vane Control for Centrifugal Air Compressors	Toyota Motors	\$22,943
Munson, E.	ITWF: Collaborative Research: Increasing the Representation of Undergraduate Women and Minorities in Computer Science	National Science Foundation	\$53,276
Pillai, K.	Career Research Experience for Undergraduates Supplement: Modeling the Unsaturated Flow During Fiber Wetting in the Manufacture of Composite Materials	National Science Foundation	\$6,406
Pillai, K.	Understanding and Modeling the Phenomenon of Wiping a Surface	S.C. Johnson & Son, Inc.	\$29,566
Rohatgi, P.	Match Funds for Wisconsin Distinguished Professorship - Pradeep Rohatgi	Spartan Light Metal Products, Inc.	\$36,000
		<b>Total</b>	<b>\$361,186</b>

## Graduate Applications

(As of May 15, 2006)

	Spring 2004	Fall 2004	Spring 2005	Fall 2005	Spring 2006	Fall 2006
M. S. Candidates <i>(Eng. &amp; Comp. Science)</i>	117	205	81	140	90	171
Engineering Ph.D. Candidates	26	82	25	73	29	63
Engineering Ph.D. Candidates w/o M.S.	6	18	2	11	4	23
Medical Informatics Ph.D.	-	-	-	11	5	16
Medical Informatics Ph.D. w/o M.S.						3
<b>Total</b>	<b>149</b>	<b>305</b>	<b>108</b>	<b>235</b>	<b>128</b>	<b>276</b>

## Graduate Student Enrollment



**Awards, *continued from page 1***

Electrical Engineering

**Dr. Bob Turney**

Senior Staff DSP Research and Design Engineer, Xilinx, Inc.  
B.S., M.S. and Ph.D., Electrical Engineering, 1989, 1992 and  
2005

Industrial Engineering

**Mr. Jay Kapellusch**

Research Specialist and Senior Lecturer, UWM College of  
Engineering and Applied Science  
Candidate for M.S. and Ph.D., Industrial Engineering

Materials Engineering

**Dr. Rajiv Asthana**

Professor of Engineering & Technology, University of  
Wisconsin-Stout  
Ph.D., Materials Engineering, 1991

Mechanical Engineering

**Dr. Sherman C. Jen**

Project Manager/MBB, Perlick Corp.  
Ph.D., Mechanical Engineering, 1992



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**New Position for Betty  
Warras**

The college completed its search for the  
Administrative Specialist position in the  
Graduate Programs and Research Office of  
CEAS. Elisabeth Warras accepted an offer,  
with her new role effective May 8, 2006.  
Welcome to CEAS, Betty!! ;)

UNIVERSITY of WISCONSIN



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