2003 Summary of Activities
Civil & Environmental Engineering

ASCE Spring Picnic

Field Trip Class at Soldier Field, Chicago

Professor Lizhi Sun

Concrete Canoe Team
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Summary of Activities
Civil & Environmental Engineering
From the Department Chair

This Summary of Activities briefly overviews the accomplishments of The University of Iowa’s Department of Civil and Environmental Engineering (CEE) during the 2003 calendar year. The Summary lists, for example, CEE’s graduating classes of undergraduate students and graduate students, CEE’s current graduate-student body, faculty, staff, adjunct faculty, and CEE’s Advisory Board.

Notable events of the past year include

- accreditation of CEE’s undergraduate program in civil engineering
- launching of CEE’s new curriculum for undergraduate students
- several faculty recognitions and appointments on substantive committees
- hosting of the Midwest Environmental Chemistry Workshop
- faculty promotions, recruitments, as well as retirements
- national ranking for CEE’s graduate programs
- further meritorious performance of CEE’s student groups in the Fundamentals of Engineering Exam as well as in the Concrete-Canoe and Steel-Bridge contests

CEE passed a major milestone this year when it received a further six years of accreditation for its undergraduate civil engineering program. The Accreditation Board of Engineering and Technology (ABET) granted accreditation after an extensive, though routine, review of CEE. To be sure, this outcome was to be expected. Nevertheless, it took much work on the part of faculty, staff, and the Advisory Board to assemble all the requisite documentation. The effort continues through the pursuit of performance-metrics charting the Outcomes and Objectives of the curriculum.

During the Fall Semester of 2003, CEE launched the new version of the curriculum for its undergraduate civil engineering program. The curriculum includes several new courses, the first of which was 53:015 Civil and Environmental Engineering Practice. Taught by Professor Bill Eichinger, this course provides first-semester sophomore students a road map that lays out the curriculum. Additionally, it introduces students to AutoCAD, the drafting and design software that the students will use extensively in subsequent courses throughout the curriculum. The course went very well. The next new course is 53:105 Engineering Geology. Professor Walter Illman will offer the course in the Spring Semester of 2004. The former course 53:150 Environmental Engineering: Natural Systems will be modified and offered in the Spring Semester of 2004 as 53:050 Natural Environmental Systems; the modification entails shifting the laboratory component of 53:150 to the course 53:055 Principles of Environmental Engineering, which will be offered in the Spring Semester of 2005. If you think keeping track of these adjustments seems a bit confusing, you can imagine the challenges facing
Professor Jim Stoner, CEE’s Director of Student Affairs, as he tries to straighten out students, faculty, and staff on how to transition from the old to the new curriculum.

The new curriculum enables students to attain the B.S. degree in civil engineering while working also toward a minor in another area or toward obtaining further depth of knowledge in focal areas of civil and environmental engineering. Eighteen semester hours are provided for courses associated with an elective focus area (EFA) that students must select and pursue. EFAs can be quite diverse, but must be reasonably coordinated. Within certain bounds, students are free to select focus areas unrelated to engineering, and could be in the humanities or arts; e.g., music, language, history. CEE in conjunction with other engineering departments also offers the following set of EFA opportunities:

- Civil Engineering Practice
- Environmental Remediation & Control
- Environmental Health Engineering
- Environmental Transport Processes
- Green Engineering
- Structures & Materials
- Transportation Engineering
- Water-Resources Engineering
- Entrepreneurial Career Path
- Urban and Regional Planning

CEE’s faculty members see EFAs as providing an opportunity for CEE to work with other University of Iowa departments, and for strengthening graduate studies. Notably, CEE is advancing with its plans to implement a fast-track B.S.-M.S. degree combo. CEE already has established a fast-track B.S. (Civil) and M.S. (Urban and Regional Planning) path with the Department of Urban and Regional Planning.

Two faculty colleagues, Professors Forrest Holly and Subhash Jain stepped down from CEE in June 2003. Professor Jain retired after a career of service with the Engineering College. Professor Holly made a career change, stepping down from academia so as to hang out his consulting-practice shingle: “Holly & Associates.” Forrest frequently visits CEE for counseling and coffee with former colleagues. Subhash has taken a slightly more transcendental path; he now devotes much of his time to studying the Jain religion.

CEE gained a new faculty colleague, Associate Professor Thanos Papanicoulou, formerly of Washington State University. Thanos’ expertise is in the area of hydraulic engineering. A new faculty colleague, Assistant Professor George Constantinescu, was recruited late in 2003. He will join CEE in January 2004. The department also gained a new staff colleague, Colin Just. Colin will take over the running of CEE’s environmental laboratories (a challenge somewhat akin to “the running of the bulls” in Spain). His brother, Craig Just, who used to run the environmental laboratories, was promoted to the position of Associate Research Scientist. Craig has become largely involved with research. During Spring Break, he led a group of students to Xicotepec, Mexico to continue work on a water supply project for the community there.

Assistant Professors Michelle Scherer and Lizhi Sun went up for promotion to the rank of Associate Professor with tenure, and indeed were successful. At the time of preparing this Activities Summary, CEE learned that, in July 2004, Michelle and Lizhi will be begin life as tenure Associate Professors. CEE colleagues congratulate Michelle and Lizhi for this well-earned step in their career development.

Ever collegial and companionable, CEE’s faculty members participate in a broad range of activities beyond the University. The Summary includes a listing of some of the extensive service activities that CEE faculty members provide to Iowa as well as nationally and internationally. It also lists several faculty recognitions. Faculty service activities range from work on the editorial boards of journals, organizing conferences, and participation in important committees.
During the Fall, Keri Hornbuckle and Michelle Scherer organized and hosted a very successful meeting of the Midwest Environmental Chemistry Workshop. Larry Weber became a Donald E. Bently - Faculty Fellow, an endowed fellowship aimed at aiding the career development of Associate Professors.

During 2003, the U.S. News and World Report, in its widely regarded analysis of U.S. academic programs, ranked CEE’s graduate programs 28th in the nation. This ranking was shared with Iowa State University’s Department of Civil, Construction, and Environmental Engineering, and with the University of Florida’s Department of Civil and Environmental Engineering. CEE’s Environmental Engineering Program ranked 16th among environmental engineering programs in the U.S. These rankings are fine recognition for all the efforts that CEE’s faculty members have expended in their research and graduate-education endeavors. Faculty’s efforts at research this past year led to important publications, invited talks, a range of recognitions, and to research expenditures totaling $8.3 million.

CEE’s Advisory Board already is in its fourth year of work. The Board meets twice a year, and provides essential guidance to CEE’s faculty on matters pertaining to curriculum development and to the qualities of CEE’s bachelor-degree and master-degree graduates. Over the past year, the Board has had substantial impact in assisting faculty with its tune up of the undergraduate curriculum. Additionally, the Board provides an important role in its exit interviews of CEE’s graduating class of undergraduate students.

CEE’s undergraduate-student enrollment continues to rebound, though mildly. CEE has experienced the overall national concern about declining undergraduate-student enrollments. On average, 149 undergraduate students were enrolled in CEE during the Spring and Fall Semesters of calendar year 2003. This enrollment number does not include the approximately 15 undeclared first-year students who typically enter CEE in their Sophomore years. Over the past year, and into the present year, CEE continued its efforts at raising the undergraduate enrollment to about 175 students. A total of 98 graduate students were advised by, and worked with, CEE faculty and staff this year. CEE’s graduate-student body was comprised of 36 M.S. students and 62 Ph.D. students. During 2003, 20 students attained the M.S. Degree and 6 attained the Ph.D. Degree. The total number of CEE graduate students is down slightly from prior years. CEE also has been busy with several recruiting activities aimed at boosting graduate-student enrollment to approximately 110.

This Summary is an occasion for CEE’s faculty and staff to thank the people and companies that have supported CEE and its student groups during the 2003. That support significantly enhances the quality of the education CEE’s faculty and staff can offer students, and it also really helps CEE’s students compete in regional and national engineering events. We are very appreciative of the support.

Kudos to Tara Stevens (CEE’s Office Assistant) and Ginny Miller (Administrative Assistant) for preparing this year’s Activities Summary. Thanks, also to CEE Secretary Judy Holland and Ginny Miller for their widely appreciated efforts at running CEE’s front office. To all involved with CEE this past year, my sincere thanks. It’s been another good one!

Robert Ettema
Department Executive Officer
Advisory Board Members

from left to right: Richard Fosse, Jennifer Bennett, Sherri McIntyre, Ian McAlister, Marv Martins, Mark Nahra, Phil Larson, Michael A. Vander Wert, Allan Poole, Fred Locher, Jane Carlson

Rebecca Svatos, Advisory Board Chair, Senior Environmental Engineer, Stanley Consultants, Inc., Coralville, Iowa

Jennifer Bennett, Structural Engineer Manager, Ament, Inc., Moline, Illinois

Jane Carlson, Senior Engineer, Strand Consultants, Madison, Wisconsin

Richard Fosse, City Engineer, City of Iowa City

Michael J. Kennerly, Office of Design Director, Iowa DOT, Ames, Iowa

Phil Larson, Senior Engineer, Shive-Hattery, Inc., Iowa City

Fred Locher, Senior Engineer, Bechtel Corp, San Francisco, California

Marv Martins, Senior Engineer, Corps of Engineers, Rock Island, Illinois

Ian McAlister, Principal Civil Engineer, Stanley Consultants, Muscatine, Iowa

Sherri McIntyre, Assistant City Engineer, Public Works Department, City of Kansas City, Missouri

John Meyer, Area Environmental Manager, Tyson Foods, Inc., Dakota Dunes, South Dakota

Mark Nahra, County Engineer, Delaware County, Delaware, Iowa

Allan Poole, Director, Department of Public Utilities, City of Naperville, Illinois

Larbi Sennour, Principal Engineer, Consulting Engineers Group, San Antonio, Texas

Michael A. Vander Wert, Vice President, Calhoun & Associates, West Des Moines, Iowa

The Department’s Advisory Board met twice during 2003: May 1-2, and November 2. The Board discussed undergraduate-curricular issues, ABET accreditation, outcomes assessment of graduating students, and ways to aid the Department’s efforts at fund-raising. The Board’s deliberations are summarized in Minutes available from the Department.
B.S. Degree Recipients

January 2003
Jason Assouline
Jamie Foehrkolb
Andrew Kopacz
Viviana Lit
James Mitchell
Nathan O’Leary-Roseberry
Russel Sawvel
Wayne Schwartz
Derek Skolnik

May 2003
Lydia Abarr
Benjamin Cole
Andrew Craig
Sean Danaher
Benjamin Gasik
Matthew Harlan
Benjamin Hull
Andrea Kalafut
Colleen Kelley
Kristina Kidwell
Zachary Langel
Philip Laures
Michelle Mobily
Kristi Root
Adam Searcy
Michael Stone
Nicholas Vanderzwan
Brian Vogel
Joseph Welter

August 2003
Matthew McConville

December 2003
Denise Armbruster
Clifford Bruckner
Jeffrey Cooper
Heather Cross
Megan Davison
Amy Frank
Andrew Herman
Isaac Hodgins
Lindsay Kaufmann
Robert Knight
Matthew Kovalsky
Timothy Nolan
Ishmael Obleton
Daniel Rodriguez
Jonathan Salsman
Gregory Shuger
Christopher Stoakes
Matthew Streicher
Joseph Whitney
Mike Wittkop
2003 Graduate Students

Ozan Abaci
Maria Elena Anaya De Yeats
Jason Michael Assouline
Bryan O’Neil Boulanger
Elliott Campbell
Li-Chuan Chen
Xiaobei Chen
Zhao Chen
Andrew J. Craig
Marcio Luis Busi Da Silva
Abubaker Bashir Elkhalifa
Africa Andrea Espina
Claudia Olivia Espinosa Villegas
Carrie Ryan Fitzgerald
Brittany Renee Flokstra
James Forrest Fox
Mekonnen Gebremichael
MD Manjurul Haque
Justine Olivia Harrison
Brandon William Hobbs
Jennifer Karna Holman-Dodds
Shae Stephen Hoschek
Zhiqiong Hou
Mei-Chih Huang
Korey Marie Hutchinson
Pelin Idil
Marjorie J. Johnson
Andrea Sue Kalafut
Roopa Kamath
Dongsu Kim
Jung Yong Kim
YongJoo Kim
Youngsung Kim
Jessica Elise Wilkening Kime
Gokhan Kirkil
Recep Korkut
Casey Michael Kramer
Michal Maurycy Kraszewski
Yi-Wen Kuo
Philip Larese-Casanova
Haegyun Lee
Emily Kay Linebaugh
Haitao Liu
Nanh Lovanh
Xiaolin Man
Matthew Thomas McConville
Andrew William McCoy
Heather Brown McDonald
Forrest Michael Meggers
Marcelo Andres Mena
Melissa Paola Mezzari
Sondra M. Miller
Yenory Morales-Chaves
Ashley Elisabeth Mordasky
Richard Todd Nickel
Efthymios Ioannis Nikolopoulos
Taizo Nishiyma
Jaime A. Nivala
Alexandros Anastasios Ntelekos Seng
Keat Ooi
Rayad Ahmed Osman
Celalettin Emre Ozdemir
Timothy Stephen Pasakaris
Aaron Michael Peck
Ceyda Polateli
Matthew Dominic Prociv
Ju Qiu
Lin Qiu
Craig Thomas Raczynski
Salam Faisal Rahmatalla
Jeremy Adam Rentz
Michal Rysz
John Thomas James Sanford
Russell Adam Sawvel
Stephen Kenneth Scissons
Maija Lynn Seppanen
Mehmet Serdar Serdaroglu
Sharon Lee Smith-Temble
Kyle Brent Strom
Garrett Cletus Struckhoff
Sultan Abdul-Rassak Sultan
Brett Douglas Sutton
Enhui Tan
Sachiyo Tanaka
Talia Ekin Tokyay
Gabriele Villarini
Qian Wang
Joseph Benedict Welter
Timothy Dougla Wilkey
Aaron Galen Barclay Williams
Robert W. Williams
Jing Xiong
HuiMing Yin
Jong Moon Yoon
Atsuhiro Yorozuya
Nathan Cline Young
Kwonkyu Yu
Soon Jae Yu
Jie Zeng
2003 Graduate Student Degrees

M.S. Graduates

Ozan Abaci  
Adviser: A. Jacob Odgaard  

Alkan Bektur  
Adviser: Asghar Bhatti  
Thesis: Optimization of Base Isolated Steel Frame

Theodore Cauwels  
Adviser: Jerry Schnoor

Abubaker Bashir Elkhalifa  
Adviser: Robert Ettema

Suhasini Gururaja  
Adviser: Colby Swan  
Thesis: Deformation Induced Fluid Flow in the Lacunar-Canalicular System of Human Cortical Bone

Mark Bradley Hoos  
Adviser: Gene Parkin  

Ki-Hyoung Kang  
Adviser: Hosin “David” Lee  
Thesis: Development of an Automated Pavilion Analysis with Rigorous Texture Based Optimum Thresholding Algorithm

Richard Keller  
Adviser: Pedro Alvarez  
Thesis: Characteristics of Benzene Plumes in Iowa – A Survey of Plume Dimensions and Stability

Yi-Wen Kuo  
Adviser: Hosin “David” Lee

Emilio Martinez  
Adviser: Robert Ettema  
Thesis: An Assessment of Two Countermeasures to Reduce Abutment Scour

Andrew McCoy  
Adviser: Larry Weber  
Thesis: Three-Dimensional Hydrodunamic and Total Dissolved Gas Simulations of Rock Island Dam Spillway

Marcelo Mena  
Adviser: Richard Valentine  
Thesis: Exploratory Studies on the Occurrence and Formation of Nitrosamines in Treated Surface and Wastewater

Benjamin Miriovsky  
Adviser: Witold Krajewski  
Thesis: Towards the Statistical Characterization of Small-Scale Rainfall Variability Using Field Experiments

Kara Mitvalsky  
Adviser: Michelle Scherer

Jennifer Nichols  
Adviser: William Eichinger  
Thesis: Suggested Corrections for Monin-Obukhov Estimates of Evapotranspiration in the Presence of Multiple Step Changes for Stable, Neutral, and Unstable Atmospheres

Kimberly Precht  
Adviser: Jerry Schnoor  
Thesis: Nutrient Requirents for Phytoremediation of a Petroleum Contaminated Site

Leslie Sherburne  
Adviser: Pedro Alvarez  
Thesis: Biological Removal of RDX Using Selected Purecultures of Homoacetogens

Stephen Kenneth Scissons  
Adviser: Larry Weber

James Steffen  
Adviser: Gene Parkin  
Thesis: Treatment of Mixtures of Chlorinated Solvents Using Fe(0) Bioaugmented with Halorespirers

Isaac Willig  
Adviser: Larry Weber
Marcio Luis Busi Da Silva
Adviser: Pedro Alvarez
Thesis: Effect of Ethanol on the Bioattenuation of BTEX Compounds and their Enhanced Anaerobic Biodegradation Through Biostimulation or Bioaugmentation

Stephen Duirk
Adviser: Rich Valentine
Thesis: Mechanisms and Modeling of Monochloramine Loss, Natural Organic Matter Oxidation, and Disinfec tant Byproduct Formation in Water

Sondra Miller
Adviser: Keri Hornbuckle
Thesis: The Effects of Large-Scale Episodic Sediment Resuspension on Persistent Organic Pollutants in Southern Lake Michigan

Brian Richard Nelson
Adviser: Witold Krajewski
Thesis: Development of High-Resolution Archival Precipitation Data Sets

Mohammad Obadat
Adviser: David Lee
Thesis: Full-Scale Field Evaluation of MEMS-Based Bi-Axial Strain Transducer and its Application in Fatigue Analysis
Student Awards, Papers & Achievements

Graduate Students

Matthew McConville
2003 John F. Kennedy Memorial Fellowship

Africa Espina
IBM Scholarship for involvement and leadership in SHPE

Jung Yong Kim
Asphalt Association Scholarship

Mohammad Obadat
2003 University of Iowa Outstanding TA Award

Mekonnen Gebremichael


Alexandros A. Ntelekos

Mehmet Serdaroglu
Received the Association of University Architects’s award for Significant Contribution to the Campus Environment, June 2003.

Marcio Da Silva

Jennifer Holman-Dodds

Mark Bradley Hoos

Philip Larese-Casanova


Jennifer Nichols


Taizo Nishiyama


Aaron Peck


Salam Rahmatalla


Student Awards & Achievements

Graduate Students, continued

Maija Seppanen

Aaron Williams

Kwonkyu Yu

Undergraduate Students

Andrew Burke
Archie N. Carter Civil Engineering Scholarship

Peter Hansen
Archie N. Carter Civil Engineering Scholarship

Isaac Hodgins
Asphalt Association Scholarship
Lambert Scholarship

Anne Limmer
Lambert Scholarship

Nirupama Narayan
Harold W. Hunt Civil & Environmental Engineering Departmental Scholarship

Jay Reisinger
Summers Scholarship

Russ Sawvel
Niel Fisher Scholarship

Greg Shuger
Lambert Scholarship
Iowa Section ASCE Outstanding Senior

Ori Sivan
Lambert Scholarship

Meghan Walter
Lambert Scholarship
In February 2003, ASCE members attended the Steel Bridge Competition. Members Nate Carhoff, Dave Carpenter, Ashley Haskins, and Andrea Rogers attended the national student chapter leader’s conference in Dallas, Texas, from February 7-9, 2003.

During the spring, in April 2003, ASCE and The University of Iowa hosted the annual Concrete Canoe competition at Lake Macbride near Iowa City.

May 2003 brought ASCE’s Annual Spring Roadside Cleanup and Picnic, as well as a Student versus Faculty Golf Outing in Solon, Iowa. The group awarded prizes for Longest Drive, Longest Putt, Closest to Pin, and Worst Score on a Par 3.
Chi Epsilon

Chi Epsilon:
Amy Frank, Secretary
Pete Hansen
Lindsay Kaufmann, Marshall
Nirupama Narayan
Kristi Root, Treasurer
Ori Sivan, Vice President
Meghan Walter

Spring 2003 initiates:
Shawn Benson
Justin Campbell
Nate Carhoff
Katie Keck
Mark Moeller
Chris Stoakes
Chris Weber

Fall 2003 initiates:
Angie Barsic
Brian Bonebrake
Anne Limmer

Faculty Adviser:
Rich Valentine

Chi Epsilon Engineering Honor Society members dedicate themselves to maintaining and promoting the status of Civil Engineering and recognize fundamental characteristics of individual Civil Engineers pursuing engineering careers. Chi Epsilon aims to develop fundamental characteristics in Civil Engineering students. Chi Epsilon requires personal qualities of its members such as practicality and sociability. Members must achieve success in academic work, which can help prepare them for positions of responsibility and leadership.
The 2003 field trip members went to Chicago, Naperville, DuPage County, and Aurora, Illinois. Students and faculty stopped first at the North Avenue Renovation Project, a West Chicago major road improvement and expansion project. Next was a lunch break at Navy Pier on Lake Michigan. After lunch, the tour went to Soldier Field on South Lake Shore Drive for a briefing, and to tour of reconstruction of the field. Trip-goers stopped in downtown Chicago on North Wacker Drive at the excavation and foundation work for the new Hyatt Center. Dinner was in Naperville, followed by a seminar by UI alumnus Allan Poole, Director of Utilities in Naperville and two of his associates, Erskine Klyce and James Holzapfel.

Christine Zak from the Naperville Development Partnership Convention & Visitors Bureau coordinated Naperville accommodations for the field trip.

Her arrangements made the visit very smooth and enjoyable for everybody. April 15 activities included a visit to the West Water Works, the West-Southwest Waterworks, and the Springbrook Water Reclamation Center, all in Naperville, and directed by Allan Poole and his staff. After lunch, the tour went to DuPage County and the Elmhurst Quarry Flood Control Project, where Christopher C. Vonnahme from the DuPage County Storm Water Management Division provided information about the project.

The last activity was in Aurora at the Aurora Water Treatment Plant, where the briefing and tour was coordinated by UI alumnus Joel Koenig, and Berhard D. Held, both of Crawford, Murphy & Tilly, Inc. (Aurora), and by Arnold W. Eggleston, the City of Aurora's Superintendent.
Civil Engineering’s Project Design Management class allows students to design civil engineering systems through individual projects and group projects. Students solve problems by completing projects dealing with bidding, construction, and budgets. Professor Wilfrid Nixon taught the 2003 course, 053:084, which the Civil & Environmental Engineering Department offers every spring.

CLASS ROSTER

Lydia Abarr
Denise Armbruster
Clifford Bruckner
Benjamin Cole
Jeffrey Cooper
Andrew Craig
Heather Cross
Sean Danaher
Megan Davison
Amy Frank
Benjamin Gasik
Andrew Herman
Isaac Hodgins
Benjamin Hull
Andrea Kalafut
Lindsay Kaufmann
Colleen Kelley
Robert Knight
Matthew Kovalsky
Zachary Langel
Philip Laures
Huy Luong
Matthew McConville
Michelle Mobily
Timothy Nolan
Daniel Rodriguez
Kristi Root
Jonathan Salsman
Adam Searcy
Gregory Shuger
Christopher Stoakes
Michael Stone
Matthew Streicher
Brian Vogel
Joe Whitney
Robert Williams
Mike Wittkop
CEE’s Craig Just, Associate Research Scientist, and students Claudia Regojo and Ori Sivan represented the University of Iowa during a trip in 2003 to Mexico. The College of Engineering at The University of Iowa works with Rotary International and others through the International Engineering Service Program (IESP) to provide an educational and service internship experience for students emphasizing environmentally and economically sustainable engineering projects.

The program brings together university students, faculty mentors, the Iowa Section of Water for People, and members of Rotary International, both in the U.S. and in Xicotepec, Mexico. Together, the team helps improve the infrastructure of drinking water and waste management systems in Xicotepec. Phase I of the program focused on an assessment of engineering needs necessary to advance the standards of water quality and sanitation services for the city of Xicotepec, Mexico. During a one-week site visit to Xicotepec in March 2003, University of Iowa participants worked with a multi-disciplinary team on pre-visit research and planning, site assessment activities and preparation of a post-visit report. The team consisted of students from various engineering majors as well as urban and regional planning, and university faculty mentors directed activities.
Society of Hispanic Professional Engineers (SHPE)

The University of Iowa hosted the SHPE (Society for Hispanic and Professional Engineers) Midwest Conference in November 2003. Hundreds of students and 75 company representatives from 20 states in the region came together to attend what is touted as one of the best SHPE regional conferences ever. Civil & Environmental Engineering students helped plan and host the 2nd annual Society of Hispanic Professional Engineers Midwestern Expo (SHPE ME) in November of 2003.

The students are part of the college wide organization, the Multi-Ethnic Engineering and Science Association (MESA). ME is a networking conference, the largest of its kind, geared toward Hispanics and other minorities in engineering, math, and science fields. Nearly 600 pre-college students, college students, professionals, and corporate reps met for three full days on the UI campus to promote technical fields, attend workshops, compete in the technical poster competition and academic olympiad, and network for jobs at the career fair. Environmental Engineering students were an integral part of the design, helping plan the conference, which took nearly one year.

Environmental Engineering graduate student Africa Espina was the Conference Chair and graduate student Claudia Espinosa was a Committee Champion. Ori Sivan, a CEE undergraduate student, was also a Committee Chairperson and Career Fair/Funding head. Sharon Smith served as Banquet Head, Jason Assouline as Corporate Liaison, Russ Sawvel as Banquet Team Member, and Brett Sutton as Career Fair Team Member, all of whom are environmental engineering graduate students.

Professor Pedro Alvarez served as the SHPE advisor for 3 years and gave a keynote address at the gala banquet. Sharon Smith won first place in the graduate level technical poster competition. She received a scholarship from Kimberly Clark for her research in nitrite reduction by ferrous iron.

For her role as an active Society of Hispanic Professional Engineers member and namely the Midwestern Expo 2003 conference chair, Environmental Engineering Graduate Student and Research Assistant was a finalist for the SHPE National Student Role Model Award. The award is the highest possible for any SHPE student member and is given once annually at the National Technical Career Conference. Africa received an IBM scholarship for her involvement and leadership in SHPE.
Civil & Environmental Engineering Practice is the first course civil engineering students will take. It provides the opportunity to learn civil and environmental engineering concepts in the context of an engineering project they might encounter in a workplace. The course is intended to give a feel for what a civil engineer does in practice and to provide a context for more in-depth engineering courses to follow. The lectures center on a common engineering problem, and as the course progresses, various sub-disciplines of civil engineering are applied to the problem. Students learn how all of the sub-disciplines are combined in projects, and are introduced to other engineering skills, such as construction management, engineering estimation, and civil engineering terminology. Students also learn to draw and understand engineering drawings, as well as the use of AutoCad drafting software.
Civil and Environmental Engineering Faculty

**Environmental Engineering & Science**
Pedro Alvarez, Professor
Keri Hornbuckle, Associate Professor
Patrick O’Shaughnessy, Associate Professor
Gene Parkin, Professor
Michelle Scherer, Assistant Professor
Jerald Schnoor, Professor
Richard Valentine, Professor

**Hydraulics & Water Resources**
Allen Bradley, Associate Professor
William E. Eichinger, Professor
Robert Ettema, Professor and Chair
Walter Illman, Assistant Professor
Witold Krajewski, Professor
Thanos Papanicolaou, Associate Professor
A. Jacob Odgaard, Professor
Larry Weber, Associate Professor

**Structures, Mechanics, & Materials**
Jasbir Arora, Professor
M. Asghar Bhatti, Associate Professor
Lizhi Sun, Assistant Professor
Colby Swan, Associate Professor
Han-Chin Wu, Professor

**Transportation**
Hosin “David” Lee, Associate Professor
Wilfrid Nixon, Professor
James Stoner, Associate Professor
Civil and Environmental Faculty

**Emeritus**
Dan Branson
Forrest Holly
Subhash Jain
Harrison Kane
Donald McDonald
Wayne L. Paulson

**Adjunct**
Konst. Geogakakos, Professor (Scripps Institute)
Don Guckman, Lecturer (Faculty Services Group - University of Iowa)
Kent Johnson, Assistant Professor (University of Iowa IIHR - Hydroscience and Engineering)
Craig Just, Associate Research Scientist (University of Iowa)
Anton Kruger, Assistant Professor (University of Iowa IIHR - Hydroscience and Engineering)
Lou Licht, Associate Professor (Ecolotree)
Ken Lloyd, Associate Professor (Water Plant, University of Iowa)
Marian Muste, Associate Professor (University of Iowa IIHR - Hydroscience and Engineering)
Tatsuaki Nakato, Professor (University of Iowa IIHR - Hydroscience and Engineering)
John Nestler, Associate Professor (U.S. Army Engineer)
Doug Schnoebelen, Assistant Professor (USGS)

**Secondary**
Greg Charmichael, Professor (Chemical & Biochemical Engineering)
David Forkenbrock, Professor (Public Policy Center)
Paul Hanley, Associate Professor (Urban and Regional Planning)
V.C. Patel, Professor (IIHR and Mechanical Engineering)
R. Rajagopal, Professor (Geography)
Peter Thorne, Professor (Preventative Medicine)
Frank Weirich, Associate Professor (Geology)
You-Kuan Zhang, Associate Professor (Geology)

**Visiting**
Ashok Govil, Professor

**Post-Docs**
Joshua Shrout
Meredith Gooding
CEE Staff Members

Barbara Booth
*Environmental Science & Technology* Editor

Judy Holland
Department Secretary

Collin Just
Research Assistant

Craig Just
Associate Research Scientist

Ginny Miller
Administrative Assistant

Pat Noeth
*Environmental Science & Technology* Editorial Assistant

Tara Stevens
Office Assistant

Benoit Van Aken
Associate Research Scientist
New Faculty Member

Thanos Papanicolaou joined The University of Iowa in 2003, as an Associate Professor in Civil and Environmental Engineering, and Assistant Research Engineer at IIHR-Hydroscience and Engineering. He earned his M.S. and Ph.D from Virginia Tech University.

Visiting Faculty Member

Ashok Govil received an M.S. degree as well as a Ph.D. from The University of Iowa. He has spent most of his professional career at Motilal Nehru National Institute of Technology, Allahabad, India. During the Summer 2003 session, he taught Dynamics. Ashok has worked with Professor Colby C. Swan on Topology Optimization.
Faculty Awards and Recognition


WALTER ILLMAN: In May 2003, received Outstanding Paper of the Conference Award, International Symposium on Groundwater Problems Related to Geo-Environment, Okayama, Japan.


LIZHI SUN: University of Iowa Old Gold Fellowship Award.

LARY WEBER: Named Donald E. Benly Faculty Fellow of Engineering, effective July 1 for a three-year term.
The Holly CAD Lab was renovated in 2003, and a ribbon-cutting ceremony took place in May. Updates were new furniture, 13 PC-based Engineering workstations with flat-panel monitors, all networked to Engineering’s network. AutoCAD land development package was installed in all computers, a new central printer was purchased and students have access to a plotter printer as well.

The Holly CAD Lab is dedicated for use by the Civil Engineering Practice Class, the Civil Engineering Infrastructure class, as well as the Capstone Senior Design Projects Class.
In 1997 at the start of the Engineering College’s Building Modernization effort, the Civil and Environmental Engineering Department’s (CEE) Structures Laboratory was demolished. The lab had been used for preparing and testing various common construction materials, notably concrete, steel, and timber. During the Modernization effort, the College provided a temporary space, in G449 SC which was used until the Spring Semester of 2002. In the summer of 2002, CEE gave up the temporary lab space in G449 SC and moved into G430 SC, a much larger (1330 s.f.) and appropriate space for a construction materials laboratory. In 2003, fairly extensive renovations were performed in G430 SC; the old wind tunnel was removed, freeing up considerable new space, and a subfloor settling tank was designed and installed to facilitate disposal of wastewater from portland cement concrete mixing and testing. This lab space complements the Asphalt Testing laboratory in G440 SC (900 s.f.).

Also during 2003, CEE spent funds from the Chauncey Moon Gift Account and the Dean’s office to renovate the MTS material testing system in the Plasticity Research Laboratory (G1431 SC). While the testing frame and the hydraulics for this 22-kip axial-torsional system are still in nearly mint condition, the controller system was upgraded to MTS’s latest offering. This upgraded facility is being incorporated into the composite materials research programs of Professors Lizhi Sun and Colby Swan.
The 26th Annual MidWest Environmental Chemistry Workshop was held at The University of Iowa on October 11-12, 2003. Civil & Environmental Engineering Professors Michelle Scherer and Keri Hornbuckle organized and hosted the event with help from the Civil & Environmental Engineering Department and the College of Engineering. With over one-hundred attendees representing more than ten different universities, the workshop was an exciting, diverse event.

Three Keynote lectures were given on emerging environmental issues including the seven greatest environmental grand challenges, the chemistry of particulate matter in the atmosphere, and an update on the presence of pharmaceuticals in our water resources. Graduate students gave twenty platform talks on diverse topics such as the global cycling of mercury and nanoparticle reactivity.

During the conference, an evening poster reception was held, providing a great opportunity for students and faculty to get to know their MidWest environmental colleagues. Sponsors included consulting firms, academic centers, the Ulowa Power Plant, and the leading journal in environmental chemistry research, *Environmental Science & Technology*. 
New Staff Members

Collin Just joined The University of Iowa in 2003, as a Research Assistant in Civil and Environmental Engineering.

Benoit VanAken was promoted within Civil & Environmental Engineering at The University of Iowa in 2003, to Associate Research Scientist. He began in Civil and Environmental Engineering as a PostDoc.

Staff Awards and Recognition

Ginny Miller completed The University of Iowa’s Management Series, 2003, through The University of Iowa’s Learning and Development Center.
2003 Faculty Service Work

JASBIR ARORA
• Member, Executive Committee of the Technical Activities Division of the Structural Engineering Institute, ASCE; 2001-2006, Vice Chair 2003
• Senior Advisor, Structural and Multidisciplinary Optimization, 1987-present
• Member, Editorial Board, Computer Methods in Applied Mechanics and Engineering, 1997-present
• Subject Editor (Civil Engineering), Optimization and Engineering, 1999-present
• Member, Editorial Board, International Journal for Numerical Methods in Engineering, 2002-present

ALLEN BRADLEY
• Member, National Research Council Committee on USGS Water Resources Research
• Iowa Comprehensive Stormwater Management Committee
• Member, GEWEX Americas Prediction Project Science Advisory Group

ASGHAR BHATTI
• Member, Structural Engineering Institute (SEI) of the American Society of Civil Engineers, Analysis and Computation Technical Committee: Optimal Structural Design
• Member, Structural Engineering Institute (SEI) of the American Society of Civil Engineers, Analysis and Computation Technical Committee: Methods of Analysis

ROBERT ETTEMA
• Chair, Iowa Highway Research Board
• Member, International Board of Korean Journal of Civil Engineering

KERI HORNBUCKLE
• Vice President, International Association for Great Lakes Research (6/2003-6/2004)
• Associate Editor, Journal of Great Lakes Research (2001 to present)
• Member, U.S.EPA’s Science Advisory Board for Air Toxics. 2003
• Co-Organizer, 26th Annual Midwest Environmental Chemistry Workshop, Iowa City, IA, October 10-11, 2003

WITEK KRAJEWSKI
• Co-Editor, Advances in Water Resources
• Associate Editor, Journal of Hydrology
• University of Iowa Representative to the Board of Directors of the Consortium of Universities for the Advancement of the Hydrologic Sciences, Inc. (CUAHSI)

MARIAN MUSTE
• Member, IAHR-EWRI Oversight Committee (08/00-present)
• Member, Scientific Committee of the International Conference on Hydroscience and Engineering, Cairns, Australia, (05/2004)
• Member, Organizing Committee of the XXX-IAHR Congress, Thessaloniki, Greece
• Chair and organizer, A-2 Workshop: Bridging the Gap between Users and Manufacturers (08/2003)
2003 Faculty Service Work

WILFRID NIXON
- President, Iowa Section of ASCE
- Chair, TRB committee on winter maintenance
- Member, Executive Committee of SIRWEC, the Standing International Road Weather Conference
- Co-Chair, 6th TRB/NRC Symposium on Snow Removal and Ice Control Technology
- Member, TRB Committee on the Conduct of Research Committee
- Member, AASHTO Winter Maintenance Policy Coordinating Committee (WMPCC)
- Program Chair, Civil Engineering Division of ASEE

MICHELLE SCHERER
- Co-Chair (with Keri Hornbuckle), 2003 MidWest Environmental Chemistry Workshop, providing regional graduate students an opportunity to present their work and network
- Co-Chair (with Carmen Lebron), "Role of Metals as Electron Shuttles for Bioremediation", 7th International Battelle Conference on In Situ and On-Site Bioremediation, June 2-5, 2003

JERRY SCHNOOR
- Member, University of Iowa Presidential Search Committee
- Editor-in-Chief, Environmental Science & Technology, ACS
- Chair, Board of Scientific Counselors, EPA-ORD
- National Academy of Engineering, Section 4 Search Committee
- National Academy of Engineering, Section 4 Environmental Committee
- NSF, Environmental Cyberinfrastructure Committee
- Governor's Water Summit, Point Source Working Group
- Session Chair, EPA Phytotechnologies Conference, Chicago

THANOS PAPANICO-LAOU
- Associate Editor, Journal of Hydraulic Engineering, ASCE, January 2003 to present
- Vice Chair, ASCE Sedimentation Committee for 2003-04
- Chair, ASCE Hydraulics Probabilistic Modeling Committee, 2003-04

GENE PARKIN
- Chair, University of Iowa Council on Teaching
- Awards Committee, Water Environment Federation (Harrison Prescott Eddy Medal)
- Awards Committee, Association of Environmental Engineering and Science Professors

JERRY SCHNOOR
- Member, University of Iowa Presidential Search Committee
- Editor-in-Chief, Environmental Science & Technology, ACS
- Chair, Board of Scientific Counselors, EPA-ORD
- National Academy of Engineering, Section 4 Search Committee
- National Academy of Engineering, Section 4 Environmental Committee
- NSF, Environmental Cyberinfrastructure Committee
- Governor's Water Summit, Point Source Working Group
- Session Chair, EPA Phytotechnologies Conference, Chicago

LIZHI SUN
- NSF Computational Mathematics Program Mail Review

COLBY SWAN
- Secretary, ASCE Optimal Structural Design Committee
- Chair, ASCE Emerging Computing Technologies Committee, 2002-05
Faculty Retirements in 2003

Forrest M. Holly joined the University of Iowa in 1982 and served as a Civil & Environmental Engineering Professor and Research Engineer at IIHR – Hydroscience and Engineering. His research focused on Computational Hydraulics, River Mechanics, and Dispersion Processes.

Subhash C. Jain joined the University of Iowa in 1971. He worked as a Civil and Environmental Engineering Professor and Research Engineer at IIHR – Hydroscience and Engineering. He worked with thermal and hydraulics modeling, and his academic interests include hydraulic engineering and sediment transport.
Faculty Published Work
2003

BOOKS AND MONOGRAPHS


JOURNAL ARTICLES


Lo W-Y, O'Shaughnessy PT. Comparisons of Aerosol Sampler Collection Characteristics and Photometer Responses to Organic and Inorganic Dirts.
American Industrial Hygiene Conference & Exposition, Dallas, TX, May 12-16, 2003.


J. L. Schnoor “Phytoremediation: From lab to field and back again.” Presented at the U. S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MS, 2003.


Steffen, J. and Parkin, G.F., “Treatment of Mixtures of Chlorinated Solvents using


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V.C. Patel with Retiring Forrest Holly

Field Trip in Naperville, Illinois

Ashley Mordasky, Andrea Kalafut, and Jaime Nivala at the MWECW Conference

Seamans Center

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