

Summary of Activities

Civil and Environmental Engineering Department
College of Engineering
The University of Iowa
Iowa City, IA 52242 USA

For the period

January 2000 – December 2000

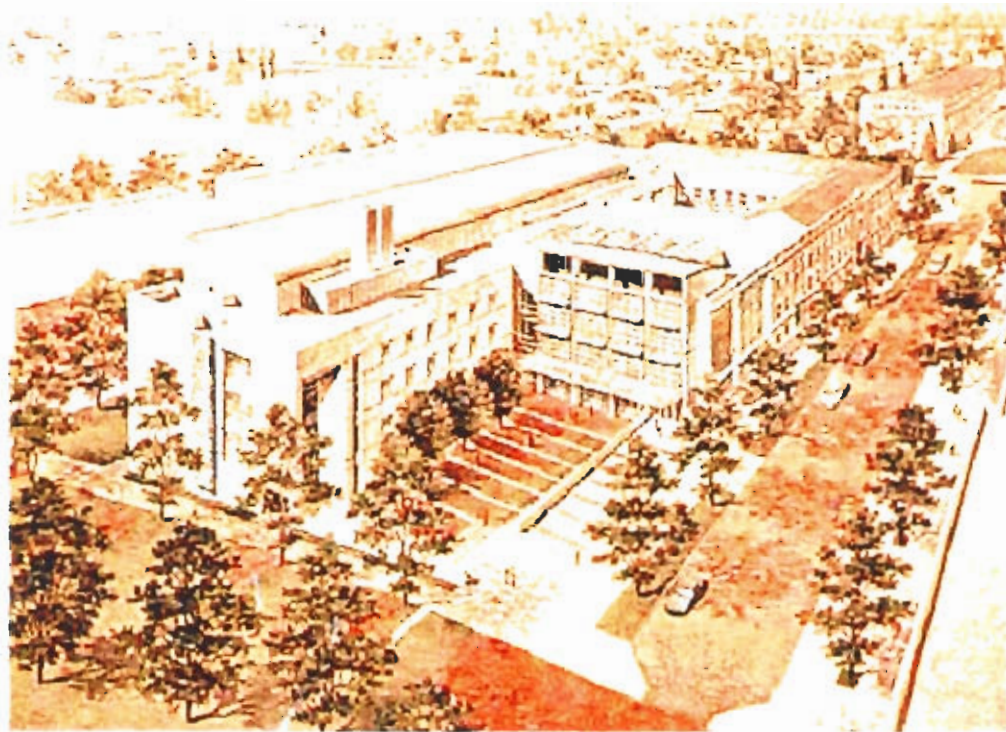


Table of Contents

Introduction	1
BS Degrees Awarded	3
Graduate Students (PHD)	4
Graduate Students (MS)	6
ASCE	8
CEE Faculty	10
Advisory Board	12
Awards and Recognition	13
Publications	
Books	14
Book Chapters	14
Journal Articles	15
Conference Papers	20
Reports	26

INTRODUCTION

This *Summary of Activities* of the Department of Civil and Environmental Engineering (CEE) was prepared for several purposes. It collectively reports the activities of CEE's faculty, staff, and students for calendar year 2000. Though most of those activities typically are reported in a scattered assortment of documents, such as the summary of activities that each faculty member prepares, and the lists assembled for the graduation ceremonies held by The University of Iowa, no other report describes the collective outcomes of work done by the people directly affiliated with CEE. The *Summary* consequently comprises a form or profile of CEE, and thereby serves as a convenient means for introducing CEE to its constituents as well as introducing CEE to visitors.

The *Summary* lists CEE's graduating classes of senior-undergraduate and graduate students. Additionally, it lists the publications, conference presentations, theses, and awards of CEE's faculty, staff, and students. The present *Summary* does not list all aspects of faculty, staff, and student activities. For example, it does not list all active grants or projects pursued by faculty, staff, and students. Also, the activities of Adjunct Faculty are incompletely documented. Future *Summaries* may include those information items.

CEE's undergraduate class numbered an average of 140 students during the Spring and Fall Semesters of this year. This number does not include the approximately 15 undeclared Freshman students who typically enter CEE in their Sophomore year. Thirty Senior students attained the Bachelor Degree (majoring in Civil Engineering) in 2000. These numbers are down on student numbers in the preceding five years, and are indicative of a nation-wide dip in the overall number of students entering civil-engineering programs. The dip in undergraduate-student enrolment was a primary concern for CEE during 2000. It is anticipated that CEE's undergraduate enrolment will rise during 2001. The optimal number of under-graduate students is estimated to be about 180, taking into account faculty numbers and the capacity of teaching facilities.

The Senior Class of 2000 has been an exceptionally energetic and gregarious body of students, especially through the activities of the Student Chapter of the American Society of Civil Engineers. A highlight of this year was the Chapter's organizing and hosting of the Midwest Regional Concrete Canoe contest. This event, illustrated subsequently in the *Summary*, was held at Lake McBride on a superb mid-April day. The Chapter did well also in the Midwest Regional of the Steel-Bridge Contest, and went to the national finals of that contest. In recognition of the Chapter's great activities during this year, ASCE's President, Robert W. Bein, awarded the Chapter an ASCE Letter of Honorable Mention. Additionally, ASCE awarded the Chapter a Letter of Significant Improvement, reflecting the Chapter's continued advancement. These two letters from ASCE carry substantial prestige and reflect nicely on the Chapter's faculty advisers.

A further student organization, the local chapter of Chi Epsilon, also was very active. Besides its usual efforts at inducting Senior students (and the odd faculty member), the Chapter very supportively conducted a mentoring program for Freshman, Sophomore, and Junior students.

A total of 100 graduate students were advised by, and worked with, CEE faculty and staff this year. CEE's graduate-student body comprised 54 Masters students and 46 Ph.D. students. During 2000, 12 students attained the Masters Degree and 8 attained the Ph.D. Degree. The total number of CEE graduate students is down slightly from prior years. As with the dip in undergraduate enrolment, the dip in graduate enrolment reflects a national trend. CEE faculty and staff are busy with several recruiting activities aimed at boosting graduate-student enrolment to approximately 120.

On November 8, CEE held the first meeting of its Professional Advisory Board. This *Summary* lists the Board members. The meeting was very successful, providing guidance and suggestions of use for various aspects of the CEE activities. For example, Board members made useful suggestions regarding curriculum adjustments contemplated by CEE faculty.

With regard to curricular matters, CEE faculty members have this year focused on three significant activities that are not reflected in this *Summary*. A major effort has been the early preparation of procedures and assembly of information in readiness for the impending accreditation¹ review that CEE faces in the Fall of 2002. Two CEE faculty members have played leading roles in developing the Engineering College's overall preparation for the review. A further major effort has concerned the revamping of the College's Core Curriculum. CEE faculty have been closely involved in an extensive College-wide effort aimed at implementing the new curriculum during the Fall of 2002. The third major effort has been the adjustment of CEE's program curriculum. The adjustment entails a substantial overhaul of the present program curriculum. This effort will continue through next year, and likely will be discussed further in the *Summary* for 2001.

The lists of publications contained in this *Summary* indicate the areas of scholarship to which CEE's faculty members contribute. A browse through the lists shows that CEE's faculty members are very productive and engage extensively in significant scholarly endeavor. Research expenditures for projects developed by CEE faculty totaled \$3.6M during this year. The scholarly efforts of faculty are recognized nationally and internationally. In this respect, the *Summary* also lists recognitions that faculty gained during this year. CEE's faculty are outgoing bunch, participating in a range of research centers and institutes. About half of CEE's faculty are affiliated with the Iowa Institute of Hydraulic Research. Almost a third of faculty are affiliated with the Center for Computer Aided Design. One faculty member is a co-Director of the Center for Global and Regional Environmental Research. Two faculty are Associate Directors of centers: the Center for Health Effects of Environmental Contamination, and the Center for Biocatalysis. Two faculty members have affiliations with the Public Policy Center.

Next year promises to be yet a further busy year for CEE; curricular developments have to be completed, student-recruitment plans implemented, and research opportunities pursued.

Robert Ettema
Department Executive Officer

¹ ABET, Accreditation Board for Engineering and Technology

**BS Degrees Awarded
(Civil Engineering)**

Bilskemper, Josiah David
Brooke, Will C
Carhoff, Benjamin A
Cooney, Leia Jane
Gajewski, Gregory Edward
Gallagher, Jess Thomas
Granquist, Aaron Dennis
Gripp, Angela Renee
Guffey, Aaron Paul
Johll, Brian James
Johnson, Matt Gordon
Kampman, Nathan Gene
Lyons, Troy C
Malcolm, Manuel Jesus
Martin, Terry Gene
Meade, Justin Patrick
Michalisko, Marty James
Nelson, Gabriel A
Nolan, William Patrick
Otto, Eric Linden
Pieniazek, David Lawrence
Raczynski, Craig Thomas
Saele, Thomas H
Santucci, Elizabeth Marie
Spradling, Joseph James
Stevens, Nathan D
Trees, Julie Marie
Williams, Anissa Deanne
Wisniewski, Julie Ann
Wojcik, Jennifer Lea

Graduate Students

PHD

*Graduated in 2000

Environmental Engineering and Science

*Adamson, David Temple
Chen, Zhuo
Choi, Junghoon
*Dietz, Annette Churee
Duirk, Stephen
Gregory, Kelvin Bolton
*He, Shan
Just, Craig Lavern
Kamath, Roopa
Lachhab, Ahmed
Mezzari, Melissa Paola
Miller, Sondra
Ney, Richard A.
Peck, Aaron M.
Rentz, Jeremy
Shrout, Joshua Duncan
Silva, Marcio Luis Busi
Smith, Sharon
Wethington, David Michael
Williams, Aaron
Yoon, Jong Moon

Hydraulics and Water Resources

Abraham, David Daniel
Chen, Li-Chuan
Chen, Zhiming
Choi, Taehoon
*Daly, Steve
Habib, Emad Hosny
Holman-Dodds, Jennifer Karna
Huang, Heqing
*Huang, Jianchun
Kim, Sung-Chul
Kucera, Paul Anthony
Li, Zhongwei (David)
Morales-Chaves, Yenory
Ouyang, Huei-Tau
Woldemariam, Mekonnen G
*Young, Christopher Bryan
Yu, Kwonkyu
Zhang, Lichun

Structures, Mechanics, and Transportation

Chen, Xiaobei

Man, Xiaolin

*Mijar, Anand Ramchandra

Nageswararao, Bhairavavajjula

Obadat, Mohammad

Yin, Haining

Yin, Huiming

Yu, Soon Jae

MS

* Graduated in 2000

Environmental Engineering and Science

Alowitz, Michael
Barnes, Kenneth Gerald
*Brown, Shannon Nichole
Budhathoki, Okendra
Christopherson, Jason Ronald
Cross, Carla
Gander, Jerry
Gandhi, Sumeet Dharampal
Keller, Richard Matthew
Lovanh, Nanh
Means, Nathan Alan
Park, Dong-Kyoo
*Ponangi, Sridhar
Schroeder, Laurie
Smith, Gretchen L
Wojcik, Jennifer Lea

Hydraulics and Water Resources

*Blank, Jeffrey Charles
*DeAndrade, Fernando
Dierking, Paul Brian
Elkhalifa, Abubaker Bashir
Hashino, Tempei
*Haug, Pete Edmund
*Kubit, Owen Edward
Liu, Leiji
Lyons, Troy
Nelson, Brian Richard
*Nielsen, Kevin D.
*Ooi, Seng-Keat
Vant Land, Renee
*Young, Nathan Cline
Zimmerman, R. Scott

Structures, Mechanics, and Transportation

Akbar, Noushad Metharath
Akella, Venkata Ravishankar
Auderer, Clint R.
Bottorff, Douglas James
Bulusu, Sunil Kumar
Driscoll, Jane Louise
Gade, Vijay
Kang, Ki-Hyoung
*Kobal, Christopher Andrew
Kuo, Yi-Wen
*Kyle, Kenley Garland
Nadimpalli, Lalith
Rahmatalla, Salam
*Rasmussen, David Lynn
Romack, Kerry Lyn
*Shawn, Al
Stevens, Nathan
*Stewart, Kristofer John
Sultan, Sultan Abdul-Rassaq
Traicoff, Joanne Elissa
Williams, Anissa Deanne

UI ASCE Student Chapter

The University of Iowa has a very active student section of the American Society of Civil Engineers (ASCE). UI's student chapter of ASCE provides many unique opportunities to the students each year including the Concrete Canoe, Steel Bridge, Leadership Conferences, and opportunities to attend the National Conference. UI's student chapter also provides community service and social activities including bowling tournaments, golf tournaments, picnics, and faculty-students socials.

The year 2000 was a very active year for the students. The chapter successfully hosted the Midwest Regional Concrete Canoe competition. The steel bridge built a bridge that placed highly in regional competitions, and allowed the steel bridge team to attend the national competition for a 4th consecutive year. The student mentor program within the College of Engineering was also started with the support of ASCE. Four student members were able to attend the National Conference in Seattle, WA, a first for the University of Iowa. The concrete canoe also designed a innovated hull using software utilized at the Iowa Institute of Hydraulic Research.



The 2000 Steel Bridge Team in Grand Forks, ND. This year was the teams 4th consecutive trip to the Nationals.

Team Pictured (Left to Right): Ben Carhoff, Josh Shippy, Lydia Abarr, Todd Barrett, Brad Hill, Jim Mitchell, and Jack Burnham



The 2000 Concrete Canoe team at Regional Competitions.

Team Pictured (Left to Right): Adam Stegge, Mike Welch, Kristi Root, Sarah Hadria, Libby Locke, Colleen Kelly, Nick Bettis, Ben Moline, Michelle Von Arb, and Matt Palmer.



Hosting the 2000 Regional Concrete Canoe at Lake MacBride, Iowa, in April.



ASCE members assisting with "Invent Iowa," a Junior-High science competition.

CEE Faculty

Environmental Engineering and Science

Pedro Alvarez	Associate Professor
Keri Hornbuckle	Assistant Professor
*Patrick O'Shaughnessy	Assistant Professor
Gene F. Parkin	Professor
Michelle Scherer	Assistant Professor
Jerald L. Schnoor	Professor
Richard L. Valentine	Professor
* Joint with Occupational & Environmental Health	

Hydraulics and Water Resources

A. Allen Bradley	Associate Professor
William E. Eichinger	Associate Professor
Robert Ettema	Professor & Chair
Forrest M. Holly	Professor
Subhash C. Jain	Professor
Witold F. Krajewski	Professor
A. Jacob Odgaard	Professor
Larry J. Weber	Assistant Professor

Structures and Mechanics and Transportation

Jasbir S. Arora	Professor
M. Asghar Bhatti	Associate Professor
*Hosin "David" Lee	Associate Professor
Wilfrid A. Nixon	Professor
Lizhi Sun	Assistant Professor
James W. Stoner	Associate Professor
Colby C. Swan	Associate Professor
Han-Chin Wu	Professor
*Joint with Public Policy Center	

Adjunct

Georgakakos, Konst., Professor, Scripps, La Jolla, CA
Johnson, Kent, Asst. Prof., IIHR²
Khattat, Ibrahim Al, Assoc. Prof
Khelifa, Ali, Asst. Prof, IIHR
Kim, Donguk, Visiting Associate Prof., CEE, INJE University, Korea
Kruger, Anton, Asst. Prof., IIHR
Licht, Lou, Assoc. Prof, Ecolotree
Lloyd, Ken, Asst. Prof, Water Plant
Muste, Marian, Asst. Prof., IIHR
Nakato, Tatsuaki, Professor, IIHR
Nestler, John, Assoc. Prof., U.S. Army Engr.
Ranganathan, R., Assoc. Prof., Ford Motor Co.
Spasojevic, Miodrag, Assoc.Prof., IIHR

Secondary

Carmichael, Greg, Prof., Chemical & Biomedical Engineering
Forkenbrock, David, Prof., Pub Policy Ctr
Marquez, Shannon, Assistant Prof., Occupational and Environmental Health
Patel, V.C., Prof, IIHR / ME
Rajagopal, R., Prof., Geography
Thorne, Peter, Prof., Prev Med
Weirich, Frank, Assoc. Prof., Geology
Zhang, Y.K., Assoc. Prof., Geology

Visiting Faculty

Sizer, Mike, Iowa Western Community College
St. Clair, Martin, Coe College

Postdoc

Gombert, Bertrand
Oh, Byung-Taek

Emeritus

Branson, Dan E., Structures and Mechanics
Kane, Harrison, Structures and Mechanics
McDonald, Donald, Environmental
Paulson, Wayne L., Environmental

² Iowa Institute of Hydraulic Research

Advisory Board

Jennifer Bennett	Structural Engineer	Raymond-Beling, Inc.
Jane Carlson	Senior Engineer	Strand Consultants
Richard Fosse	City Engineer	City of Iowa City
Phil Larson	Senior Engineer	Shive-Hattery, Inc.
Fred Locher	Senior Engineer Hydraulics Group	Bechtel Corporation
Marv Martens	Senior Engineer	Corps of Engineers, Rock Island District
Ian McAlister	Principal Civil Engineer	Stanley Consultants
Mark Nahra	County Engineer	Linn County Engineer
Allan Poole	Director	Department of Public Utilities, City of Naperville
Henry Priester	Chief Airport Construction Engineer	Division of Aeronautics, Illinois DOT
Rebecca Svatos	V.P./Industrial Sector Leader	Howard R. Green, Co.
Michael A. Vander Wert	Vice President	Calhoun & Associates
Larry Frevert	Deputy Director	Public Works Department, City of Kansas City
Michael Kyte	Director	National Institute for Advanced Transportation Technology

Awards and Recognitions

Jasbir Arora

Awarded Distinguished Service Certificate, Structural Engineering Institute of the American Society of Civil Engineers

Allen Bradley

NSF Early Faculty Career Development (CAREER) Award (1997-2001)

William Eichinger

Collegiate Teaching Award, College of Engineering

Robert Ettema

Member International Editorial Board, Journal of Korean Civil Engineers, Korean Society of Civil Engineers

Forrest Holly

Rouse Award, American Society of Civil Engineers, Environmental Water Resources Institute

Keri Hornbuckle

University of Iowa Provost Office International Travel Grant
University of Iowa's Old Gold Summer Fellowship
NSF Career Award (1997-2001)
Appointed to Advisory Board of International Joint Commission

Hosin "David" Lee

Guest Professor Fellowship, COWI Foundation, Denmark
Old Gold Fellowship, University of Iowa

Michelle Scherer

National Science Foundation CAREER Award
Great Plains/Rocky Mountain Haz. Subst. Research Center Best Poster Award - 3rd Pl.

Jerald Schnoor

Hancher-Finkbine Medallion, Univ. of Iowa
Henske Distinguished Lecturer, Yale University
Feng Distinguished Lecturer, Univ. of Massachusetts

Lizhi Sun

Old Gold Fellowship, University of Iowa

Richard Valentine

American Water Works Association Academic Achievement Award (Major Advisor) to Peter Vikesland for Best Dissertation, "Monochloramine Loss in the Presence of Ferrous Iron: Kinetics, Mechanisms, and Products".

Books

Bhatti, M. A., (2000) Practical Optimization Methods With Mathematica Applications, 715 pages textbook with CD, TELOS/Springer-Verlag, New York, NY

Ettema, R. (ed. and lead author) (2000) Hydraulic Modeling: Concepts and Practice, ASCE Manual 97, ASCE Publications, Reston VA.

Jain, S.C., (2000) Open -Channel Flow, Published by Wiley & Sons, New York, NY

Book and Monograph Chapters

Mijar, A.R. and Arora, J.S., (2000) *Elastostatic Frictional Contact Problem Formulation Using Optimization Techniques*, ASME, New York, NY

O'Shaughnessy PT. (2000) Aerosol Technology. In Harris MK Ed. *Essential Resources for Industrial Hygiene: A Compendium of Current Practices, Standards and Guidelines*. American Industrial Hygiene Association Publications, Fairfax, Virginia; P. 119-130.

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Shrout, J.D. and Parkin, G.F., (2000) "Inhibition of Anaerobic Perchlorate Biotransformation by Fe(0)," Case Studies in the Remediation of Chlorinated and Recalcitrant Compounds, G.B. Wickramanayake, et al., Eds., pp. 107-113, Battelle Press, Columbus, OH

Journal Articles

Adamson, D.T. and Parkin, G.F., (2000) "Impact of Mixtures of Chlorinated Aliphatic Hydrocarbons on a High-Rate, Tetrachloroethene-Dechlorinating Enrichment Culture," Environmental Science & Technology, 34, pp. 1959-1965

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Cooper, D. I. and W.E. Eichinger, L. Hipps, J. Kao, J. Reisner, S. Smith, S.M. Schaeffer, and D.G. Williams, (2000) "Spatial and temporal properties of water vapor and flux over a riparian canopy." Agric. And Forest Meteorol. Special Issue, 105, pp 161-183

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Dabberdt, W.F. J. Hales, S. Zubrick, A. Crook, W. Krajewski, J.C. Doran, C. Mueller, C. King, R.N. Keener, R. Bornstein, D. Rodenhuis, P. Kocin, M. Rossetti, F. Sharrocks, and, E.M. Stanley Sr., (2000) "Forecast issues in the urban zone: Report of the 10th Prospectus Development Team of the U.S. Weather Research Program," Bulletin of the American Meteorological Society, 81(9), 2047-2064

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Edwards, L.K., W. A. Nixon, and R. S. Lakes, (2000) "Development of a Low-Cycle Fatigue Life Curve for 80In15Pb5Ag," Journal of Electronic Materials, Volume 29, No. 9, pp. 1084 - 1089.

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Alowitz, M., J. Gander, R. Gettler, M. Scherer, (July 2000) Kinetics of Inorganic Contaminant Degradation by Iron Metal. U.S. EPA, All Hazardous Substance Research Center Meeting, Monterey, CA

Arora, J.S. and Harasaki, H., (August 2000) "A New Approach for Conceptual Design of Structural Systems," *The First US-Japan Joint Workshop on Life Cycle Cost Analysis and Design of Infrastructure Systems*, Honolulu

Arora, J.S., (May 2000) "Methods for Discrete Variable Structural Optimization," Proceedings of the 14th *Analysis and Computation Conference*, Structures Congress 2000, Philadelphia, PA, 8 pages (CD-ROM)

Bradley, A. A., and J. K. Holman-Dodds, (2000) "Restoring Hydrology --- Studying Different Scenarios", Wetlands Working in Watersheds: An American Wetlands Month Workshop, Iowa City, Iowa.

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Ettema, R., Zabilansky, J., and Bledsoe, B., (July 2000) "Ice-Induced Thalweg Oscillations along the Fort Peck Reach of the Missouri River," ASCE Water Resources Conference, Minneapolis, MN

Ettema, R., Zabilansky, J., and Wuebben, J., (August 2000) "Observations on the Winter Performance of Channel-Stabilization Structures," IAHR Symposium on Ice, Gdansk, Poland

Gander, J.W., Parkin, G.F., and Scherer, M.M., (2000) "Geomicrobiological Interactions Among Iron Sulfide Minerals and Methanogenic Consortia," Proc. 2000 Conference on Hazardous Waste Research, Great Plains/Rocky Mountain HSRC, Denver, CO. (poster presentation – won 3rd Place Best Poster)

Gander, J., G. Parkin, M. Scherer, (Sept 2000) Geomicrobiological Interactions Among Iron Sulfide Minerals and Methanogenic Consortia. Byproducts of Biotechnology Consortium Conference, Cedar Rapids, IA

Green, M.L., Depinto, J.V., and Hornbuckle, K.C. (May 2000) PCB congener distribution and flux estimates from the Lake Michigan Mass Balance Study. The annual meeting of the International Association of Great Lakes Research. Cornwall, Ontario, Canada

Green, M.L., Depinto, J.V., and Hornbuckle, K.C. (May 2000) Spatial and temporal scale effects on multi-media modeling of large lake systems. The annual meeting of the International Association of Great Lakes Research. Cornwall, Ontario, Canada

Gregory K., B-Y Oh, M. Scherer, G.F. Parkin, and P.J.J. Alvarez (August 2000) Biogeochemical degradation of redox-sensitive compounds using iron oxide and *Geobacter metallireducens* GS-15. 220th ACS National Meeting. Washington, D.C.

Hornbuckle, K.C. (June 2000) Episodic large-scale sediment dynamics in large lakes: Organic contaminant cycling and the role of the atmosphere. Invited talk at the Gordon Research Conference on Environmental Sciences 2000: Water. Holderness School, New Hampshire.

Hornbuckle, K.C.; Green, M.L.; DePinto, J.V.; and Eisenreich, S.J. (June 2000) The effects of air temperature, wind direction and the Chicago urban plume on spatial and temporal variability of gas-phase organic compounds. Invited talk at the International Symposium on Atmospheric Deposition and Impact on Ecosystems, with particular reference to the Mid-East. Sponsored by the International Union of Pure and Applied Chemistry (IUPAC). Tel Aviv, Israel.

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Kubit, O. and Ettema, R., (July 2000) "Debris-Skimming Booms for Riverside Diversions," ASCE Water Resources Conference, Minneapolis, MN

Kubit, O. and Ettema, R., (August 2000) "Ice-Skimming Booms for Riverside Diversions," IAHR Symposium on Ice, Gdansk, Poland

Lee, H. (January 2000) "*Lessons Learned from Developments and Applications of Polymer Concrete for 21st Century*," 79th Annual TRB Meeting, Washington, D.C.

Lee, H., H. Yun, and B. Maclean, (July 2000) "Development of Hybrid Uni-Axial Strain Transducer for Railroad Infrastructure," 3rd International Conference and Exhibition, London

Lee, B. J. and H. Lee, (May 2000) "Development of Automated Pavement Crack Detection System Using Spatial Neural network Algorithm, IASTED International Conference on Neural Networks, Pittsburgh

Lovanh N., M. Rysz, and P.J.J. Alvarez (July 2000) The Effects of ethanol on toluene degradation by four archetypes under carbon and oxygen limited conditions. Proc. 5th HSRC Research Symposium, Asilomar Conference Grounds, Pacific Grove, CA

Miller, S.M. and Hornbuckle, K.C. (May 2000) "Large scale monitoring efforts in Lake Michigan: EEGLE in the LMMBalance." The annual meeting of the International Association of Great Lakes Research. Cornwall, Ontario, Canada.

Muste, M., Ettema, R., and Fujita, I., (March 2000) "Image-Based Technique for Monitoring Ice Motion in Laboratory and Field Conditions," International Workshop on River Environments Considering Hydraulic and Hydrologic Phenomena in Snowy and Cold Regions, Quebec City, Quebec, Canada

Nielsen, K., and Weber, L.J., (August 2000) "Submergence Effects on Discharge Coefficients for Rectangular Orifices", Proceedings of the 2000 International Water Resources Engineering Conference, Minneapolis, MN

Nixon, W. A., (January 2000) "Development of a Graduate Course in Winter Highway Maintenance," paper no. 00-0565, Proceedings of the 79th Transportation Research Board Annual Meeting

Nixon, W.A., (June 2000) "The Use of Abrasives in Winter Maintenance at the County Level," Proceedings 1st Pacific Northwest Snowfighters (PNS) Snow Conference, Kelowna, British Columbia, Canada, (Invited Paper).

Nixon, W. A. and Ostrem, C., (July 2000) "Offering a Graduate Level Class via the Internet," Proceedings (CD-ROM) of the 4th International Conference, Hydroinformatics 2000, Cedar Rapids, IA, 23-27

- Nixon, W.A., (August 2000) "Using Underbody Plows for Efficient Removal of Compacted Snow and Ice," Proceedings (CD-ROM) of the 1st Provia Invernal en el Fin Del Mundo, Tierra del Fuego, Argentina, 7-11
- Nixon, W. A., (August 2000) "The Role of Information Technology in Winter Service Activities," Proceedings (CD-ROM) of the 1st Provia Invernal en el Fin Del Mundo, Tierra del Fuego, Argentina, 7-11
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- Odgaard, A.J., (March 2000) "Hydroinformatics: A New Paradigm in Water Resource Management". 38th Annual ASCE Environmental and Water Resources Design Conference, Ames, IA
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- O'Shaughnessy P.T, Jones M.P, Raabe O.G. (September 2000) A comparison of cascade impactor data reduction methods. Journal of Aerosol Science, 31(Suppl. 1):S19. European Aerosol Conference, Dublin, Ireland
- O'Shaughnessy P.T, Hemenway D.R. (November 2000) Aerosol photometer response while automatically controlling chamber dilution-air flow rate. 19th Annual Conference of the American Association for Aerosol Research, St. Louis, Missouri, (Abstract No. 11P13)
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- Ouyang, H., Weber, L.J., and Odgaard, A. J., (July 2000) "Shape Optimization of Two Dimensional Airfoil by Using Genetic Algorithm." Proceedings of the Fourth International Conference on Hydroinformatics, Hydroinformatics 2000, Cedar Rapids/Iowa City, Iowa
- Pearce TE, Thorne TA, O'Shaughnessy PT. (November, 2000) "Laboratory comparison of three commercially-available bioaerosol impinger samplers." 19th Annual Conference of the American Association for Aerosol Research, St. Louis, Missouri, (Abstract No. 9A5)

Peck, A.M., O'Shaughnessey, P, and Hornbuckle, K.C. (June 2000) Use of A Flow-Through Chamber To Examine Partitioning of Persistent Organic Pollutants between Air and Plant Surfaces. Poster presented at the Gordon Research Conference on Environmental Sciences 2000: Water. Holderness School, New Hampshire.

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Scherer, M., J. Gander, A. Williams, M. Alowitz, S. Smith, (Sept 2000) Kinetics of Contaminant Degradation by Reduced Iron Species. *Invited Talk*. THEIS Conference, Nat. Ground Water Assoc., Jackson Hole, WY

Scherer, M. and J. Ginner, (May 2000) Contaminant Remediation by Iron Metal: Shifting Kinetic Regimes. Great Plains/Rocky Mtn Hazardous Substance Research Center, Denver, CO

Scherer, M.M., J. Ginner, P.J.J. Alvarez, and K. Johnson (May 2000) Contaminant remediation by iron metal: shifting kinetic regimes. Hazardous Waste Research 2000 Conference. Denver, CO

Slagley JM, O'Shaughnessey PT. (May 2000) "A Comparison Of Photometer Response To Organic Versus Inorganic Dusts." American Industrial Hygiene Conference & Exposition, Orlando, Florida

Spasojevic, M. and Holly, F.M. Jr., (July 2000) "Field Data and 3D Mobile-Bed Modelling: Help or Hindrance?", Proceedings. 4th International Conference on Hydroinformatics, Cedar Rapids, Iowa

Sun, L.Z. and Ju, J.W., (July 2000) "Micromechanics and overall elastoplastic responses of discontinuously reinforced metal matrix composites", *Proceedings of the 7th Annual International Conference on Composites Engineering*, Ed: Hui, D., pp. 827-828, Denver, CO

Sun, L.Z. and Ghoniem, N.M., (June 2000) "Effect of Glissile slip-dislocations on the collapse of stacking fault tetrahedra in copper", *Dislocations 2000, Proceedings of the International Conference on the Fundamentals of Plastic Deformation*, Ed: Levine, L.E., p. 74, Gaithersburg, MD

Sun, L.Z. and Ju, J.W., (May 2000) "Micromechanical damage model for spheroidal particle reinforced metal matrix composites considering evolutionary interfacial particle debonding", *Proceedings of the ASCE 14th Engineering Mechanics Conference* (CD-ROM), Ed: Tassoulas, J.L., Austin, TX

Swan, C.C., H. Kim and R.S. Lakes, (April 2000) "Voxel-based unit cell homogenization of textile composites," Paper No. AIAA-2000-1763, in Proc. of 41st SDM Conference, Atlanta

Weber, L.J., Lai, Y.G., Blank, J.C. and Andrade, F. (July 2000) "Rocky Reach Dam: A Comprehensive Look at Calibration of a CFD Model Applied to Fish Passage", Proceedings of the 4th International Conference on Hydroinformatics, Cedar Rapids, IA

Williams, A.G.B. and M.M. Scherer. (2000) "Kinetics of Chromate Reduction by Hydroxycarbonate Green Rust", In Preprints of Extended Abstracts, 220th National Meeting, Washington, D.C., American Chemical Society

Williams, A. and M. Scherer, (Oct. 2000) An introduction to Mossbauer spectroscopy: From minerals to molecules. Iowa Microscopy Society, Iowa City, IA

Williams, A. and M. Scherer, (Aug. 2000) Kinetics of Chromate Reduction by Carbonate Green Rust. American Chemical Society Nat'l Meeting, Washington, D.C.

Williams, A. and M. Scherer, (May 2000) Kinetics of Chromate Reduction by carbonate Green Rust. Great Plains/Rocky Mtn Hazardous Substance Research Center, Denver, CO

Wu, H.C., (January 3-6, 2000) "Plasticity for Anisotropic Sheet Metals", NSF Design and Manufacturing Conference, Vancouver

Young, C. B., A. A. Bradley, and J. L. Schnoor, (2000) "Evaluating NEXRAD Estimates for Use with Nonpoint Source Models", EOS Transactions, 81

Reports

Ettema, R. and Muste, M., (2001) Sediment and debris control for Muskingum Power Station, Muskingum River, Ohio. IIHR Limited Distribution Report 289, The Iowa Institute of Hydraulic Research, The University of Iowa, Iowa City, IA

Holly, Forrest M. Jr., Bradley, Allen, Wilson, Mark, Rocco, Benedetta, and Parrish, John B. III, (2000) "Thermal Environment Forecast Models for Commonwealth Edison Nuclear Stations," IIHR Limited Distribution Report #287.

Muste, M., and Ettema, R., (2000) "River-Sediment Control at Conesville Power Station, Muskingum River, Ohio," Report No. 410, Iowa Institute of Hydraulic Research, The University of Iowa, Iowa City, IA.

Muste, M. and Ettema, R., (2000) "Hydraulic-Model Study of Water Intake, Keewaunee Nuclear Power Plant, Wisconsin." IIHR Limited Distribution Report 288, The Iowa Institute of Hydraulic Research, The University of Iowa, Iowa City, IA

Parrish, John B. and Holly, Forrest M. Jr., (2000) "Final Report Technical Assistance for Grand Valley Water Management Study," IIHR Limited Distribution Report #283.