CONTENTS

1 From the Director
2 Abbreviations
3 Active Sponsored Research Projects
9 Journal Articles
17 Conference Papers—
Published in Proceeding
19 Conference Papers—
No Proceedings
25 Other Presentations
26 Other Publications
27 Technical Reports
27 Limited Distribution Reports
28 MS Degrees Conferred & Theses Accepted
29 PhD Degrees Conferred & Theses Accepted
30 Awards, Activities, and Appointments
30 International/National Awards
32 State/Local Awards
34 Seminars
36 Organizational Chart
37 Research Engineers, Scientists,
and Faculty Affiliates
38 Staff
39 Graduate Students
40 Postdoctoral Research Associates
41 Advisory Board
42 Nondiscrimination Statement
FROM THE DIRECTOR

Dear Friends of IIHR,

One of my greatest privileges as director of IIHR—Hydroscience & Engineering is the annual opportunity to share the achievements of our faculty, staff, and students. In this report, you’ll find an inclusive list of our active sponsored research projects, completed student research (MS theses and PhD dissertations), and journal publications, conference presentations, service, and awards for calendar year 2012.

For IIHR, 2012 marked a transformational moment, as the institute expanded into new areas of multidisciplinary research and collaboration. IIHR continues to evolve into a 21st-century research center, addressing some of the most challenging problems of our times. This year, IIHR added four new faculty affiliates from the Water Sustainability Initiative (WSI). Although sustainability is not a new area of research for IIHR, this formal recognition of its increasing importance represents a major change for us. For IIHR to remain relevant and influential, we must respond to new realities. Our mission of education, research, and public service in hydraulic engineering and fluids research has not changed, but it has subtly shifted into new and rewarding areas of study.

As always, I am extremely proud of our faculty, students, and staff and the important work we do. To paraphrase the words of Sir Isaac Newton, we stand on the shoulders of giants. It is thanks to the dedication and hard work of those who came before us that we are able to see the future. As we carry on with our work, it is comforting to know that others before us have passed through challenging times and solved difficult problems. I believe we can do the same, and that those who came before us would be proud, as I am, of the students and researchers of today who carry on this essential work.

Sincerely,

Larry J. Weber
Director, IIHR—Hydroscience & Engineering
Professor, University of Iowa Department of Civil and Environmental Engineering
Edwin B. Green Chair in Hydraulics
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AMES</td>
<td>City of Ames, Iowa</td>
</tr>
<tr>
<td>CCT</td>
<td>Roy J. Carver Charitable Trust</td>
</tr>
<tr>
<td>CGCDPH</td>
<td>Cerro Gordo County Department of Public Health</td>
</tr>
<tr>
<td>CH2MH</td>
<td>CH2M Hill</td>
</tr>
<tr>
<td>COBO</td>
<td>City of Boardman, Ore.</td>
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<tr>
<td>CUAHSI</td>
<td>Consortium of Universities for the Advancement of Hydrologic Science Inc.</td>
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<td>DBQ</td>
<td>City of Dubuque, Iowa</td>
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<td>DLZ</td>
<td>DLZ Ohio Inc.</td>
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<tr>
<td>DOE</td>
<td>U.S. Department of Energy</td>
</tr>
<tr>
<td>DOE-ANL</td>
<td>U.S. Department of Energy, Argonne National Laboratories</td>
</tr>
<tr>
<td>DOE-PNNL</td>
<td>U.S. Department of Energy, Pacific Northwest National Laboratory</td>
</tr>
<tr>
<td>DOI-BOR</td>
<td>U.S. Department of the Interior, Bureau of Reclamation</td>
</tr>
<tr>
<td>EPA</td>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>ESG</td>
<td>Eastern Shipbuilding Group</td>
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<td>EXG</td>
<td>Exelon Generation</td>
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<td>FIU</td>
<td>Florida International University</td>
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<td>GCPUD</td>
<td>Grant County Public Utility District</td>
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<td>GHI</td>
<td>Greeley and Hansen LLC</td>
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<td>GSX</td>
<td>Genex Systems</td>
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<td>HCA/GHRCD</td>
<td>Hungry Canyon Alliance/Golden Hills Resource, Conservation, and Development</td>
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<td>HDR Engineering Inc.</td>
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<td>Health Effects Institute</td>
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<td>HVI</td>
<td>Hy-Vee Inc.</td>
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<td>ICSWCD</td>
<td>Iowa County Soil and Water Conservation District</td>
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<td>IDNR</td>
<td>Iowa Department of Natural Resources</td>
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<tr>
<td>IDOT</td>
<td>Iowa Department of Transportation</td>
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<td>IEDA</td>
<td>Iowa Economic Development Authority</td>
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<td>IEC</td>
<td>Iowa Environmental Council</td>
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<td>IHRB</td>
<td>Iowa Highway Research Board</td>
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<td>ISGC</td>
<td>Iowa Space Grant Consortium</td>
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<td>LCSA</td>
<td>Leopold Center for Sustainable Agriculture</td>
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<td>MATC</td>
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<td>MCM</td>
<td>McMillen LLC</td>
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<td>MWG</td>
<td>Midwest Generation EME LLC</td>
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<td>NASA</td>
<td>National Aeronautics and Space Administration</td>
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<td>NIH</td>
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<td>NMIMT</td>
<td>New Mexico Institute of Mining and Technology</td>
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<td>NOAA</td>
<td>National Oceanic and Atmospheric Administration</td>
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<td>NSF</td>
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<td>ORSU</td>
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<td>Ohio State University</td>
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<td>PU</td>
<td>Purdue University</td>
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<td>SDSU</td>
<td>San Diego State University</td>
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<td>TAC</td>
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<td>TNC</td>
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<td>TTI</td>
<td>Tetra Tech Inc.</td>
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<td>UCR</td>
<td>University of California-Riverside</td>
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<td>UG</td>
<td>University of Georgia</td>
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<td>UM</td>
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<td>UN</td>
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<td>University of Nebraska-Lincoln</td>
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<td>University of Northern Iowa</td>
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<td>UNV</td>
<td>University of Nevada</td>
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<td>USACE</td>
<td>U.S. Army Corps of Engineers</td>
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<td>USDA</td>
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<td>USDD</td>
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<td>USDD-AF</td>
<td>U.S. Department of Defense, Air Force</td>
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<tr>
<td>USDD-ONR</td>
<td>U.S. Department of Defense—Office of Naval Research</td>
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<tr>
<td>USDD-NSWC</td>
<td>U.S. Department of Defense—Naval Surface Warfare Center</td>
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### ABBREVIATIONS cont.

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<td>UTHSC</td>
<td>University of Tennessee Health Science Center</td>
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<tr>
<td>UTHSCH</td>
<td>University of Texas Health Science Center—Houston</td>
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<tr>
<td>VBC</td>
<td>Van Buren County, Iowa</td>
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<tr>
<td>WDOT</td>
<td>Washington State Department of Transportation</td>
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<td>WMO</td>
<td>World Meteorological Organization</td>
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### ACTIVE SPONSORED RESEARCH PROJECTS

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<td>AMES</td>
<td>Young</td>
<td>13th Street Dam Modification, City of Ames</td>
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<td>ASU</td>
<td>Papanicolaou</td>
<td>Commercial Remote-sensing and Spatial Information Technology Applications Program</td>
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<td>CCT</td>
<td>Kruger</td>
<td>Mussel Communities: A Biosensory Network for Understanding the Nitrogen Cycle</td>
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<td>CGCDPH</td>
<td>Schnoebelen</td>
<td>Arsenic in Cerro Gordo County Wells: Determining the Distribution of Groundwater</td>
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<td>CH2MH</td>
<td>Lyons</td>
<td>Additional Testing of the Abbey Mills Drop Shaft F Physical Model (Hydraulic Model Studies for London Tideway Tunnels Abbey Mills Drop Shaft F)</td>
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<td>Testing a New Vortex Generator (Hydraulic Model Studies for London Tideway Tunnels Deptford Storm Relief Vortex Drop Shaft)</td>
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<td>Thames Tunnel — Physical Model Studies—CSO (Ranelagh, Heathwall, King George, Putney)</td>
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<td>Politano</td>
<td>CFD Modeling to Support the Reduction of Fish Passage Exposure to Predator Habitat at McNary Dam</td>
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<tr>
<td>COBO</td>
<td>Just</td>
<td>Nitrogen Dynamics in Poplar Rhizosphere During Dormancy</td>
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<td>CUAHSI</td>
<td>Krajewski</td>
<td>Chair-elect, Chair, and Past-chair, CUAHSI Board of Directors</td>
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<td>DBQ</td>
<td>Schnoor</td>
<td>Sustainable Dubuque Watershed Network: A Partnership of the University of Iowa and the City of Dubuque</td>
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<td>DLZ</td>
<td>Lyons</td>
<td>Physical Modeling of Baffle Drop Structures for the City of Akron, Ohio</td>
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## Active Sponsored Research Projects (cont.)

<table>
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<tr>
<th>Sponsor</th>
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<tr>
<td>DOE</td>
<td>Scherer</td>
<td>Electron and Atom Exchange Between Aqueous Fe(II) and Structural Fe(III) in Clays: Role in U and Hg(II) Transformations</td>
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<td>DOE-ANL</td>
<td>Scherer</td>
<td>Argonne-SFA</td>
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<tr>
<td>DOE-PNNL</td>
<td>Scherer</td>
<td>Stable Isotope Investigation of FE Atom Exchange in Hematite</td>
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<td>DOI-BOR</td>
<td>Martin</td>
<td>Integrated Bubble, Sound, and Light Modeling for Modeling Fish Deterrence</td>
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<td>DOI-BOR</td>
<td>Papanicolaou</td>
<td>Smart Sediment Clasts: RFID Particle Locating Software</td>
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<td>EPA</td>
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<td>Fellowship for Rebekah Oulton</td>
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<td>EPA</td>
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<td>Research and Demonstration of Electrospin Nanofiber Filters: Multifunctional, Chemically Active Filtration Technologies for Small-scale Water Treatment Systems</td>
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<td>EPA</td>
<td>Hornbuckle</td>
<td>Chicago as a Source of Air Toxics to Lake Michigan</td>
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<tr>
<td>EPA</td>
<td>Stanier</td>
<td>Applying Data Assimilation and Adjoint Sensitivity to Epidemiological and Policy Studies of Airborne Particulate Matter</td>
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<td>ESG</td>
<td>Carrica</td>
<td>OPC Program</td>
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<td>EXG</td>
<td>Bradley</td>
<td>CS2 Thermal Model Update and Investigation of the LaSalle Cooling Lake</td>
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<td>EXG</td>
<td>Wilson</td>
<td>Maintenance of Data Acquisition System — University of Iowa Thermal Models at Braidwood, Dresden, LaSalle, and the Quad Cities Stations</td>
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<td>FIU</td>
<td>Craig</td>
<td>FIU Flume Model for Florida DOT</td>
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<td>GCPUD2</td>
<td>Weber</td>
<td>Professional Engineering Services for Hydraulic Analysis, Modeling, and Testing for Public Utility District No. 2 of Grant County</td>
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<td>Weber</td>
<td>Grant County Public Utilities Department #2</td>
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<td>GHI</td>
<td>Lyons</td>
<td>Hydraulic Physical Model Studies for Drop Structures (District of Columbia Water and Sewer Authority: Anacostia River Project CSO Facility Plan)</td>
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<td>GXS</td>
<td>Constantinescu</td>
<td>Modeling Scour in Cohesive Soils and Smart Scour Countermeasures</td>
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<td>HCA/GHRC</td>
<td>Papanicolaou</td>
<td>Stream Classification Project</td>
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<td>HDR</td>
<td>Young</td>
<td>Ames Flood Mitigation Study</td>
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<td>HEI</td>
<td>Stanier</td>
<td>Development and Application of a Personal Exposure Screening Model for Size-resolved Urban Aerosol</td>
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<tr>
<td>HVI</td>
<td>Piotrowski</td>
<td>Bathymetric Mapping of the Des Moines River and Gray’s Lake</td>
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<td>IPC</td>
<td>Politano</td>
<td>Hells Canyon Dam Numerical Modeling in the Tailrace of Hells Canyon Phase V</td>
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<tr>
<td>IPC</td>
<td>Politano</td>
<td>3D Modeling of Deep Water Pump in Brownlee Reservoir — Turbine Five Shutoff Simulations</td>
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<tr>
<td>ICSWCD</td>
<td>Papanicolaou</td>
<td>Integration of Vegetative Practices, Sediment Basins, and Alternative Tile Intakes with Risk Assessment Tools to Manage and Optimize Nutrient Loads in the Clear Creek, Iowa, Watershed</td>
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<tr>
<td>IDNR</td>
<td>Kruger</td>
<td>Bridge-mounted Stream-level Sensors in Iowa (2)</td>
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<td>IDNR</td>
<td>Young</td>
<td>Floodplain Mapping Related Services</td>
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**ACTIVE SPONSORED RESEARCH PROJECTS** cont.

**IDOT**  Constantinescu  
*Optimization of Snow-drifting Mitigation and Control Methods for Iowa Conditions (Phases 1 and 2)*

**IDOT**  Krajewski  
*Pilot Project for a Hybrid Road-flooding Forecasting System on Squaw Creek*

**IDOT**  Muste  
*Determination of Entrance Loss Coefficients for Twin Pre-cast and Triple RCB Culvert Designs*

**IDOT**  Muste  
*Development of Self-cleaning Box Culvert Design — Phase II*

**IDOT**  Papanicolaou  
*An Adaptive Field Detection Method For Bridge Scour Monitoring Using Motion-sensing Radio Transponders (RFIDs)*

**IEC**  Parkin  
*Consultation Related to Iowa DNR Basin Plan Support Document*

**IEDA**  Weber  
*Hydrologic Impacts of Drainage Systems*

**IEDA**  Weber  
*State of Iowa Watershed Demonstration Project*

**IHRB**  Constantinescu  
*Wind Loads on Dynamic Message Cabinets and Behavior of Supporting Trusses*

**ISGC**  Vigmostad  
*Development of Realistic Computational Models of the Spaceflight Effects on Human Physiology*

**ISU**  Krajewski  
*Iowa Daily Erosion Project (IDEP): Second Generation*

**ISU**  Kruger  
*A Prototype Remote-sensing Validation Site: Toward a Multi-variable Approach to Validating and Scaling Remotely-sensed Observations of the Water Cycle*

**ISU**  Papanicolaou  
*Identifying the Primary Sources of Sediment in an Anthropogenically-altered Watershed*

**ISU**  Papanicolaou  
*Watershed-scale Water Cycle Dynamics in Intensively Managed Landscapes: Bridging the Knowledge Gap to Support Climate Mitigation Policies*

**JEG**  Weber  
*Influence of River Training Structures on Flood Stages in the Unimpounded Reach of the Upper Mississippi River-supplemental Numerical Simulations*

**JEG**  Weber  
*Supplemental Investigation of the Influence of Chevron Dikes on Flood Stages from River Mile 179.5 to 190.0 of the Middle Mississippi River*

**LCSA**  Papanicolaou  
*Exploring the Role of Multifunctional Agriculture on the Future of Agriculture and Rural Development*

**MATC**  Papanicolaou  
*Monitoring the Effects of Knickpoint Erosion on Bridge Pier Structural Damage and Scour*

**MCM**  Weber  
*Box Canyon Dam — TDG Gate Operations Hydraulic Model Evaluation*

**MMS**  Young  
*Single-beam Bathymetric Measurements in Support of Iowa River Flood Mitigation Designs*

**MWG**  Wilson  
*Maintenance of Data Acquisition System — University of Iowa Thermal Model Data Acquisition System Service and Maintenance for Joliet Station*

**NASA**  Krajewski  
*Developing Precipitation Algorithms for a Mobile Network of Polarimetric X-band Radars for GPM Validation*

**NASA**  Krajewski  
*Studies of Error Structure in GPM Rainfall Estimates and Scale Aspects of Floods — Rain Gauge Platforms II and Soil Sensors*

**NASA**  Krajewski  
*Scaling-based Flood Prediction: Exploring the Benefits of Satellite Remote-sensing*

**NASA**  Kruger  
*Expansion of a Rain Gauge and Soil Moisture Network for the Iowa Flood Studies (IFloodS) Campaign*

**NIH**  Lin  
*Multiscale Interaction of Pulmonary Gas Flow and Lung Tissue Mechanics*
**ACTIVE SPONSORED RESEARCH PROJECTS cont.**

<table>
<thead>
<tr>
<th>SPONSOR</th>
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<tbody>
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<td>NIH</td>
<td>Udaykumar</td>
<td>Multiscale Modeling of Thrombosis Initiation in Cardiovascular Prostheses</td>
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<td>NMIMT</td>
<td>Craig</td>
<td>Laboratory Flume Design for New Mexico Tech</td>
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<td>NOAA</td>
<td>Bradley</td>
<td>The Use of Retrospective Hydrologic Forecasts for Forecast System Improvement Using Hydrologic Forecast Verification Concepts</td>
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<td>NSF</td>
<td>Bennett</td>
<td>CNH: People, Water, and Climate: Adaptation and Resilience in Agricultural Watersheds</td>
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<td>NSF</td>
<td>Buchholz</td>
<td>The Role of Relative Submergence on Flow-obstacle Interaction: Implications to Sediment Transport</td>
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<td>Collaborative Research: Simulation-based Design for Deep Water Offshore Wind Turbines Including Wave Loads and Motions</td>
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<td>NSF</td>
<td>Constantinescu</td>
<td>Third International Symposium on Shallow Flows; Iowa City, Iowa; June 4–6, 2012</td>
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<td>NSF</td>
<td>Cwiertny</td>
<td>GRDS: CAREER: Hybrid Nanostructures as Catalysts for Advanced Oxidation Processes: An Integrated Research and Education Plan Promoting Water Reuse and Sustainability</td>
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<td>Collaborative Research: P2C2—Sea-level Variability Over the Past 200,000 Years Precisely Reconstructed From Carbonate Deposits in Mallorcan Caves</td>
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<td>Collaborative Research: Refinement of Techniques for Estimating Evapotranspiration from Narrow Riparian Zones — Water Balance and Atmospheric Measurements</td>
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<td>NSF</td>
<td>Krajewski</td>
<td>Development of Software for the Over-the-Internet Control, Data Acquisition, and Product Generation of the Hydrologic Mobile Network of X-band Polarimetric Radars</td>
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<td>NSF</td>
<td>Krajewski</td>
<td>CMG Research: On the Quest for Power Laws in Floods: Developing Numerical and Analytical Tools</td>
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<td>Mattes</td>
<td>Collaborative Research: Stable Isotope-based Differentiation of Vinyl Chloride Assimilators from Cometabolizers in Contaminated Groundwater</td>
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<td>Differentiating Flash Flood-borne Sediments in a Small Agricultural Headwater System Using Isotopic Tracers</td>
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<td>Collaborative Research: The Effects of Hydrodynamic and Granular Controls on Bed Load Flux Intermittency: Application to Steep Mountain Streams</td>
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<td>Linking Molecular Scale Surface Speciation to Interfacial Fe Redox Chemistry</td>
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<td>Collaborative Research: Stable Isotope Investigation of Fe Oxide Reactivity and Natural Isotope Fractionation</td>
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<td>NSF</td>
<td>Schnoor</td>
<td>CDI-Type II: Understanding Water-human Dynamics with Intelligent Digital Watersheds</td>
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<td>Collaborative Research: The Role of Plants in the Environmental Fate of Growth Promoters and Antibiotics Used in Concentrated Animal Feed Operations</td>
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<td>NSF</td>
<td>Stanier</td>
<td>CAREER: Strengthening the Predictive Ability for New Particle Formation: A Combined Field, Data Analysis, and Modeling Approach</td>
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<td>NSF</td>
<td>Tate</td>
<td>CNH-EX: Monsoon Harvests: Assessing the Impact of Distributed Storage Tanks on the Vulnerability of Subsistence-level Agriculture in Tamil Nadu, India</td>
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<td>NSF</td>
<td>Valentine</td>
<td>Reaction of Carbon Nanotubes with Free Chlorine and Monochloramine Disinfectants: Byproduct Formation and Implications for Nanotube Environmental Fate and Toxicity</td>
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</table>
ACTIVE SPONSORED RESEARCH PROJECTS cont.

NSF Zhai
MRI: Acquisition of Instrumentation (LC-MS/MS) for the Trace Analysis of Anthropogenic Organic Compounds and Their Metabolites in Various Complex Matrices

ORSU Kruger
The Genomic Basis of Budburst in Douglas Fir

OSU Eichinger
Near-source Dispersion of PM from AFOs — Incorporating the Explicit Effects of Windbreaks, Fences, and Building for Design of Dispersion Mitigation

PU Basu
Dynamics of Hormone Loads and Attenuation in Ditches and Streams Draining Agricultural Fields Receiving Animal Manure Applications

SDSU Udaykumar
Multi-scale Method for Computation of Shocked, Turbulent, Particle-laden Flow in Explosions and High Combustors

TAC Weber
Engineering Consulting Services for Cowlitz Falls Dam Hydraulic Modeling Study

TNC Linderman
Modeling Surface-subsurface Hydrology and Nutrient Dynamics at the Swamp White Oaks Preserve

TTI Weber
ARRA: Modeling of Fish Behavior and Water-quality Conditions in the Lake Washington Ship Canal

UCR Cwiertny
Photochemical Disinfection of Agriculturally Introduced Pathogens: The Influence of Extracellular Polymeric Substances on the Bactericidal Capacity of Naturally Occurring Reactive Oxygen Species

UG Scherer
Quantifying Soil Iron Oscillations in Redox Transition Environments: Impacts on Carbon Degradation Rates and Phosphorus Availability

UM Stern
Local-flow Measurements for Free-running/Captive Model Maneuvers in IIHR Wave Basin/Towing Tank with Integrated CFD

UMD Craig
Design of a Towing Tank Basin and Actuated Water Jet Array System for the University of Maryland’s Department of Aerospace Engineering

UN Papanicolaou
An Integrated Approach to Bridge Condition-based Maintenance for Structural Deficiency

UNI Papanicolaou
EPSCoR: Agricultural Soil Erosion and Carbon Cycle Observations in Iowa: Gaps Threaten Climate Mitigating Policies

UNL Ward
RAPID: Using a Drought-enhanced Nitrate Pulse to Understand Stream N Retention and Processing

UNV Cwiertny
Environmental Fate of Synthetic Growth Promoters Used in Animal Agriculture: Mechanistic Studies of Hormone Photolysis, Biodegradation, and Sorption in Natural Systems

USACE Villarini
IPA Agreements with USACE–Mallakpour

USACE Villarini
IPA Agreements with USACE–Rowe

USACE Villarini
IPA Agreements with USACE–Villarini

USDA Eichinger
Application of LiDAR Technology for Measurement of Emission and Dispersion from Agricultural Systems

USDA Eichinger
Analysis of LiDAR and Meteorological Data from Around Animal Confinement Buildings

USDA Habib
Verification of Streamflow Forecasting in Egypt

USDA Papanicolaou
Prediction of Ksat Dynamics from Remote-sensing Data and Modeling for the State of Iowa

USDD-ONR Stern
Local-flow Measurement System for Wave Basin Free-running Model Motions and Maneuvering in Waves and Capsize Experiments for CFD Validation
ACTIVE SPONSORED RESEARCH PROJECTS cont.

SPONSOR Lead IIHR Investigator
Title

USDD-ONR Stern
CFD-based System Identification for Maneuvering in Waves

USDD-ONR Stern
URANS/DES CFDShip-Iowa Investigation of WAM-V Multi-body Fluid-structure Interaction: Computational and Experimental Research

USDD-AF Buchholz
Fundamental Bounds on Vortex Shedding in Forward Flapping Flight

USDD-AF Udaykumar
Development of a Multiscale Computational Framework for High-speed Multimaterial Dynamics

USDD-ONR Carrica
Bubble-wall Interaction on Full-scale Boundary Layers

USDD-ONR Carrica
Air Entrainment Models and CFD Implementation for Marine Applications

USDD-ONR Carrica
Multiphase Flow Tools for Marine Applications

USDD-ONR Carrica
Bubble-wall Interaction on Full-scale Boundary Layers

USDD-ONR Stern
High-fidelity Viscous Ship Hydrodynamics: Computational and Experimental Research

USDD-ONR Stern
6DOF Unsteady Viscous Ship Hydrodynamics

USDD-ONR Stern

USDD-ONR Stern
High-performance Computing CFD-based Global Optimization of Hybrid Ship Hull

USDD-ONR Stern
Stochastic Variable Physics SBD for High-speed Waterjet Ships

USDD-ONR Stern
Naval Surface Combatant Maneuvering Wave Breaking and Patterns: CFDShip-Iowa and Wave Basin Tests

USDD-ONR Stern
High-performance Computing CFD-based Global Optimization of Hybrid Ship Hull: Expansion

USDD-ONR Stern
Extension and V&V CFDShip-Iowa for Deep-V Planing Hulls

USDD-ONR Stern
Instrumented Model/ Mount Measurement System for Wave Basin High-speed Catamaran Added Resistance/Speed Loss/Inability Experiments for CFD Validation

USDD-NSWC Carrica
Integration of PUF-14 into CFDShip-Iowa V4.5 and Validation for Transient Self-propulsion and Maneuvering Applications

USDOED Just
Campus Living-learning Communities for the Sustainable Citizen: Construct, Content, Assessment, and Dissemination

UTHSCH Chandran
Mitral Valve Dynamic Analysis and Potential Clinical Applications

VBC Papanicolaou
Hydraulic Design of Streambank Protection Structures along the Des Moines River

WDOT Papanicolaou
Prediction of Scour Depth in Gravel Bed Rivers using Radio Frequency IDs

WMO Muste
WMO Project: Assessment of the Performance of Flow Measurement Instruments and Techniques
JOURNAL ARTICLES


Reprint 2684

doi:10.1016/j.nima.2011.11.067  
Reprint 2685

doi:10.1021/es204102f  
Reprint 2686

doi:10.1007/s10404-012-0039-1  
Reprint 2687

doi:10.1029/2012JF002452  
Reprint 2688

doi:10.1029/2012WR012138  
Reprint 2689

Reprint 2661

doi:10.1016/j.advwatres.2012.06.001  
Reprint 2690

doi:10.1016/j.envsoft.2012.05.011  
Reprint 2691

doi:10.1029/2012EO240002  
Reprint 2692

doi:10.1029/2011JD016988  
Reprint 2693

doi:10.1021/es302137d  
Reprint 2694


Reprint 2706

doi:10.1021/la3022497
Reprint 2660

doi:10.1021/es302094a
Reprint 2707

doi:10.1016/j.apgeochem.2012.03.003
Reprint 2708

doi:10.1042/BST20120161
Reprint 2709

doi:10.1029/2012JD018027
Reprint 2710

doi:10.1016/S1001-6279(12)60031-6
Reprint 2711

doi:10.1016/j.renene.2011.06.029
Reprint 2712

Reprint 2713

doi:10.1016/j.jhydrol.2012.05.036
Reprint 2714

doi:10.1016/j.piutam.2012.03.003
Reprint 2715

Reprint 2716

Martinez, A.; Erdman, N.R.; Rodenbuck, Z.L.; Eastling, P.M.; and Hornbuckle, K.C. “Spatial Distribution of Chlorodanes and PCB Congeners in Soil in Cedar Rapids, Iowa, USA,” Environmental Pollution, 161, pp. 222–228, February 2012.
Reprint 2717
Reprint 2718

Reprint 2719

Reprint 2720

Reprint 2721

Reprint 2722

Reprint 2723

Reprint 2724

Reprint 2725

Reprint 2726

Reprint 2728

Reprint 2658


Reprint 2659


Reprint 2753


Reprint 2755


Reprint 2756


Reprint 2757


Reprint 2758


Reprint 2759
CONFERENCE PAPERS—PUBLISHED IN PROCEEDINGS

Reprint 2760

Reprint 2761

Reprint 2762

Reprint 2773

Reprint 2763

Reprint 2764

Reprint 2765

Reprint 2766

Reprint 2767

Reprint 2768

Reprint 2769

Reprint 2770
CONFERENCE PAPERS—
PUBLISHED IN PROCEEDINGS cont.

Reprint 2771

Reprint 2775

Reprint 2772

Reprint 2777
CONFERENCE PAPERS — NO PROCEEDINGS


CONFERENCE PAPERS — NO PROCEEDINGS cont.


Just, C.L. ”The Sustainable Citizen Program,” Association for the Advancement of Sustainability in Higher Education, Los Angeles, Calif., October 2012.


**OTHER PRESENTATIONS**

**Just, C.L.** “Mussels and Nitrogen,” UI Chemical Engineering Seminar, University of Iowa (UI)-Iowa City, December 2012.

**Just, C.L.** “Flood Science,” UI College of Education Teachers Institute, University of Iowa-Iowa City, December 2012.

**Just, C.L.** “Water Sustainability,” German American Chamber of Commerce Meeting, Cedar Rapids, Iowa, October 2012.

**Just, C.L.** “Sustainability at the Intersection of Mussels and Nitrogen,” Pre-game Address for UI President Sally Mason’s Brunch, University of Iowa-Iowa City, September 2012.

**Just, C.L.** “Freshwater Mussels and Nitrogen,” UI Department of Geography, University of Iowa-Iowa City, September 2012.

**Just, C.L.** “Keynote Address,” UI College of Education Graduation, University of Iowa-Iowa City, May 2012.

**Just, C.L.** “Water Sustainability,” Focus on the Classroom, Iowa City West High School, Iowa City, April 2012.

**Just, C.L.** “Freshwater Mussels and Nitrogen,” UI Geoscience Department, University of Iowa-Iowa City, April 2012.

**Just, C.L.** “Nitrogen and Gulf Hypoxia,” UI Policy Matters Course, University of Iowa-Iowa City, March 2012.

**Just, C.L.** “Freshwater Mussels and Nitrogen,” UI Chemical Engineering Seminar, University of Iowa-Iowa City, February 2012.

**Just, C.L.** “History of Sustainability,” (Panel Discussion), UI World Canvass Program, University of Iowa-Iowa City, February 2012.
OTHER PUBLICATIONS


doi:10.1021/es303987j

doi:10.1021/es302070w

doi:10.1021/es2046298

doi:10.1021/es201670s

doi:10.1021/es3011767

doi:10.1021/es303987j

doi:10.1021/es304366k

doi:10.1021/es3034162


Reprint 2776

Papanicolaou, A.N.; Admiraal, D.M.; and Wilson, C.G. "Monitoring the Effects of Knickpoint Erosion on Bridge Pier and Abutment Structural Damage Due to Scour," Mid-America Transportation Center, 84, 2012.


Udaykumar, H.S. "Multi-scale Modeling and Simulation of Compressible Multimaterial Flows," University of Iowa Department of Mechanical and Industrial Engineering, September 2012.
**MS DEGREES CONFERRED & THESSES ACCEPTED**


**Niraula, Suresh**, “Applications of Aquatic Chemistry Sensing in the Mississippi River and in a Laboratory Mussel Habitat,” Advisor: Craig Just, May 2012.


**PHD DEGREES CONFERRED & THESES ACCEPTED**


RESEARCH STAFF

George Constantinescu
- Chair, ASCE Eco-hydraulics Technical Committee, 2008–present
- Chair, ASCE Mass Exchange Processes around In-stream Structures for Habitat Restoration Task Committee, 2005–present
- Chair, IAHR Fluid Mechanics Committee, 2009–present
- Invited lecturer, Sixth Environmental Fluid Mechanics Summer School, Horw, Switzerland, June 2012
- Organizer and chair, Third International Symposium on Shallow Flows, June 2012

David Cwiertny
- Coordinator, Award Symposium for Creative Advances in Environmental Science and Technology Honoring Vicki H. Grassian, 243rd American Chemical Society National Meeting, Division of Environmental Chemistry, San Diego, Calif.
- Coordinator, Workshop: Starting Out on the Right Foot: Tips for Success for Aspiring and New Faculty, Association of Environmental Engineering and Science Professors Biannual Conference, Tampa, Fla.
- Guest Editor, *Journal of Environmental Monitoring* Emerging Investigators, themed issue, June 2011–12

Ibrahim Demir
- Winner, Developer Round 1, National Science Foundation and Mozilla's Foundation Ignite Challenge: Apps for Next-generation Networks, 2012

Keri Hornbuckle
- Fellow, Executive Leadership in Academic Technology and Engineering, 2012–13
- Session Leader, Seventh PCB Workshop, Arcachon, France, May 2012

Witold Krajewski
- Chair, Board of Directors, CUAHSI, 2012

Ching-Long Lin
- Chair, Mechanical Engineering Accreditation Board for Engineering and Technology Committee, 2012
- Elected Fellow, American Institute for Medical and Biological Engineering, 2012

Marian Muste

Wilf Nixon
- Received George K. Wadlin Award, American Society for Engineering Education, 2012
- Chair, TRB AH010 Committee on Surface Weather Transportation, 2012
- Co-chair, Organizing Committee of Transportation Research Board (TRB)/NRC Eighth Winter Maintenance Conference, July 2012

A. Jacob Odgaard
- Received Lifetime Achievement Award, Environmental and Water Resources Institute of the American Society of Civil Engineers (EWRI/ASCE), 2012

Thanos Papanicolaou
- Chair, EWRI/ASCE Hydraulics and Waterways Council, 2012
AWARDS, ACTIVITIES, AND APPOINTMENTS  cont.

INTERNATIONAL AND NATIONAL

Jerald Schnoor
- Chair, ACS committee to form a new journal and choose editor-in-chief, Sustainable Chemistry & Engineering, 2012
- Chair, National Research Council Committee Science for Environmental Protection, 2011–12
- Editor-in-chief, Environmental Science & Technology, 2003–present

Fred Stern
- Part of the group that received the NATO RTO Scientific Achievement Award, 2012

Gabriele Villarini
- Received “Premio Evangelista Torricelli” (best young Italian researcher in hydrology and hydraulics), Italian Group of Hydraulics, September 2012

Adam Ward
- Organizer, three complementary sessions on Groundwater-surface Water Interactions, AGU Fall Meeting, 2012

Jianming Yang
- Ranked among Science Direct’s Top 25 Hottest Articles, Nos. 2 and 21, Journal of Computational Physics, 2012
- Symposium Co-organizer and Session Chair, ASME Fluids Engineering Division Summer Meeting, Rio Grande, Puerto Rico, 2012
AWARDS, ACTIVITIES, AND APPOINTMENTS  cont.

STATE AND LOCAL

STUDENTS
Robert Bullard
- Poster Award Recipient, UI College of Engineering
  Research Open House, 2012

Dimitrios Dermisis
- Authored one of the most downloaded papers in the
  ASCE database, “Investigating the Role of Clasts on the
  Movement of Sand in Gravel Bed Rivers,” 2012

Chad Drake
- Received James L. Shive Award, 2012

Seyed Mohammad Hajimirzaie
- Poster Award Recipient, UI College of Engineering
  Research Open House, 2012

Paul Haugen
- Received E.B. Kurtz Senior Merit Award, 2012

David Koser
- Received John F. Kennedy Memorial Fellowship, 2012

Timothy Schulz
- Poster Award Recipient, UI College of Engineering
  Research Open House, 2012

Achilleas Tsakiris
- Received the UI Department of Civil and Environmental
  Engineering’s Doctoral Dissertation Year Fellowship, 2012

Ken Wacha
- Received the Archie A. Alexander Outstanding Scholar
  ship Award, 2012

RESEARCH STAFF
David Cwiertny
- Chair, Campus-wide Water Sustainability Initiative
  Steering Committee, 2012
- Director of Graduate Studies, University of Iowa
  Department of Civil and Environmental Engineering, July
  2012–present

William Eichinger
- Faculty Advisor, Student Chapter, Society of American
  Military Engineers, 2009–13

Keri Hornbuckle
- Associate Dean for Academic Programs, College of
  Engineering, University of Iowa, 2010–present

Craig Just
- Faculty Advisor, UI Engineers for a Sustainable World,
  2004–present
- Faculty Advisor, UI Engineers Without Borders USA,
  2007–present

Witold Krajewski
- Received UI Graduate College Outstanding Faculty
  Mentor Award in mathematical and physical sciences and
  engineering, 2012

Anton Kruger
- Received the UI College of Engineering ECE Graduating
  Class Excellence in Teaching Award, spring 2012

Tim Mattes
- Received Career Development Award, UI Office of the
  Executive Vice President and Provost, May 2012
- Coordinator, UI Environmental Engineering and Science
  Program, 2012

Wilf Nixon
- Advisor, Continental Crossings Student Group, 2012
- Coordinator, UI Department of Civil and Environmental
  Engineering Transportations programs, 2012
- UI Graduating Class Recognition for Excellence in
  Teaching and Dedication to Student Success, December 2012

Michelle Scherer
- Chair, Department of Civil and Environmental
  Engineering, 2010–present
AWARDS, ACTIVITIES, AND APPOINTMENTS cont.

STATE AND LOCAL

Jerald Schnoor
- Chair, UI Water Sustainability Initiative, 2009–present
- Co-director, UI Center for Global and Regional Environmental Research, 1990–present
- Faculty Co-chair, UI Foundation Capital Campaign, 2012

Charles Stanier
- Received the UI Faculty Career Development Award, 2012
- Recognized for Excellence in Teaching and Dedication to Student Success, 2012

Fred Stern
- Received the UI Faculty Excellence Research Award, 2012

H.S. Udaykumar
- Chair, Department of Mechanical and Industrial Engineering Graduate Committee, 2010–present

Sarah Vigmostad
- Advisor, Iowa Medical Innovations Group, 2009–present
- Faculty Advisor, Society of Women Engineers, UI Chapter, 2012–present
- Recognized for Excellence in Teaching and Dedication to Student Success, December 2012
- Student Mentor, Iowa Space Grant Consortium, 2011–present

Larry Weber
- Co-chair, UI Flood Mitigation Task Force, 2008–present
- Co-chair, Vice President for Research and Economic Development Search Committee, 2011–12
- Faculty Advisor, University of Iowa Shooting Sports Club, 2012
### SEMINARS

<table>
<thead>
<tr>
<th>DATE</th>
<th>PRESENTER/AFFILIATION</th>
<th>SEMINAR TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 27, 2012</td>
<td>Gene Takle, Professor, Department of Geological and Atmospheric Sciences, Iowa State University</td>
<td>“Precipitation Corridors: An Exploratory Analysis of Iowa Extreme Precipitation Events”</td>
</tr>
<tr>
<td>Feb. 1, 2012</td>
<td>William Gallus, Professor, Department of Geological and Atmospheric Sciences, Iowa State University</td>
<td>“Predictability of Heavy Warm Season Rainfall in 06–30 Hour Period for Use by the Iowa Flood Center”</td>
</tr>
<tr>
<td>Feb. 3, 2012</td>
<td>Ramanathan Sugumaran, Professor and GeoTREE Director, University of Northern Iowa</td>
<td>“Iowa Statewide LiDAR Data Processing Using Different Computing Environments”</td>
</tr>
<tr>
<td>Feb. 7, 2012</td>
<td>René Therrien, Professor and Associate Dean, Department of Geology and Geological Engineering, Université Laval</td>
<td>“The Best of HydroGeoSphere — Examples of What It Can Do”</td>
</tr>
<tr>
<td>April 6, 2012</td>
<td>Diogo Bolster, Assistant Professor, Department of Civil Engineering and Geological Sciences, University of Notre Dame</td>
<td>“Probabilistic Risk Assessment in Subsurface Flow and Transport”</td>
</tr>
<tr>
<td>April 13, 2012</td>
<td>IIHR—Hydroscience &amp; Engineering (IIHR), student participants in the India Winterim Program</td>
<td>“Exploring Challenges of Groundwater Salinization: An International Student Project in India”</td>
</tr>
<tr>
<td>May 4, 2012</td>
<td>Ashraf Mohamed, Assistant Professor, Faculty of Engineering, Ain Shams University</td>
<td>“Water Resources Issues in Egypt and Possible Collaboration Ideas”</td>
</tr>
<tr>
<td>May 11, 2012</td>
<td>Aris Psilovikos, Assistant Professor, School of Agricultural Sciences, University of Thessaly</td>
<td>“Monitoring and Modeling as Tools for Water Resources Protection, Restoration, and Management: Case Studies from Greece”</td>
</tr>
<tr>
<td>May 18, 2012</td>
<td>Jesus D. Gomez, Hydrology Program, New Mexico Institute of Mining and Technology</td>
<td>“Understanding Dynamic Mountainous Watersheds: Age Distributions, Environmental Tracers, and Mathematical Models”</td>
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<tr>
<td>DATE</td>
<td>PRESENTER/AFFILIATION</td>
<td>SEMINAR TITLE</td>
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<tr>
<td>Sept. 21, 2012</td>
<td>Matthew Wunsch, Graduate Research Assistant, IIHR</td>
<td>“Distributed Storage Modeling in Soap Creek Using HEC-HMS”</td>
</tr>
<tr>
<td>Sept. 21, 2012</td>
<td>Ben Reith, Graduate Research Assistant, IIHR</td>
<td>“Economic Flood Risk Analysis for the Statewide Floodplain Mapping Project”</td>
</tr>
<tr>
<td>Oct. 11, 2012</td>
<td>Lawrence C. Murdoch, Professor, College of Engineering and Science, Clemson University</td>
<td>“Three Faces of Fracking”</td>
</tr>
<tr>
<td>Nov. 2, 2012</td>
<td>Brice Stafne, Graduate Research Assistant, IIHR; Tommy Sutarto, Graduate Research Assistant, IIHR</td>
<td>“Measuring Critical Erosion Strength of Cohesive Stream Bank Using Conduit Flume”</td>
</tr>
<tr>
<td>Nov. 16, 2012</td>
<td>Elizabeth Christiansen, Director, University of Iowa Office of Sustainability</td>
<td>“Sustainability at Iowa”</td>
</tr>
<tr>
<td>Nov. 30, 2012</td>
<td>Santiago Lopez Castano, Graduate Research Assistant, IIHR</td>
<td>“A Comprehensive CFD Simulation for Proposed Fish Traps on the Cowlitz Falls River Dam”</td>
</tr>
<tr>
<td>Nov. 30, 2012</td>
<td>Benjamin Abban, Graduate Research Assistant, IIHR</td>
<td>“Coupling WEPP and 3ST1D Numerical Models for Improved Prediction of Flow and Sediment Transport at Watershed Scales”</td>
</tr>
<tr>
<td>Dec. 14, 2012</td>
<td>Esther Eke, PhD Candidate, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign</td>
<td>“Modeling Channel Width Selection in Meandering Rivers”</td>
</tr>
</tbody>
</table>
## RESEARCH ENGINEERS, SCIENTISTS, AND FACULTY AFFILIATES

<table>
<thead>
<tr>
<th>FACULTY MEMBER</th>
<th>DEPT. APPOINTMENT</th>
<th>IIHR APPOINTMENT</th>
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<tbody>
<tr>
<td>Basu, Nandita</td>
<td>Assistant Professor, CEE</td>
<td>Assistant Research Engineer</td>
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<tr>
<td>Bradley, A. Allen</td>
<td>Professor, CEE</td>
<td>Research Engineer</td>
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<tr>
<td>Buchholz, James</td>
<td>Assistant Professor, ME</td>
<td>Assistant Research Engineer</td>
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<tr>
<td>Carrica, Pablo</td>
<td>Associate Professor, ME</td>
<td>Research Engineer</td>
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<tr>
<td>Chandran, K.B.</td>
<td>Professor, BME</td>
<td>Research Engineer</td>
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<tr>
<td>Constantinescu, George</td>
<td>Associate Professor, CEE</td>
<td>Associate Research Engineer</td>
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<td>Cwiertny, David</td>
<td>Assistant Professor, CEE</td>
<td>Assistant Research Engineer</td>
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<tr>
<td>Demir, Ibrahim</td>
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<td>Dorale, Jeffrey</td>
<td>Associate Professor, GS</td>
<td>Associate Research Engineer</td>
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<td>Eichinger, William</td>
<td>Professor, CEE</td>
<td>Research Engineer</td>
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<tr>
<td>Garvin, Justin</td>
<td>Adj. Assistant Professor, MIE</td>
<td>Assistant Research Engineer</td>
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<tr>
<td>Gui, Lichuan</td>
<td>Adj. Associate Professor, MIE</td>
<td>Associate Research Scientist</td>
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<tr>
<td>Hornbuckle, Keri</td>
<td>Professor, Chair, CEE</td>
<td>Research Engineer</td>
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<tr>
<td>Hu, Dingfei</td>
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<tr>
<td>Just, Craig</td>
<td>Assistant Professor, CEE</td>
<td>Associate Research Engineer</td>
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<td>Kandasamy, Manivannan</td>
<td></td>
<td>Assistant Research Scientist</td>
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<tr>
<td>Krajewski, Witold</td>
<td>Professor, CEE</td>
<td>Research Engineer</td>
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<tr>
<td>Kruger, Anton</td>
<td>Associate Professor, ECE</td>
<td>Associate Research Engineer</td>
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<td>Lin, Ching-Long</td>
<td>Professor, ME</td>
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<td>Longo, Joe</td>
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<td>Lyons, Troy</td>
<td>Adj. Assistant Professor, CEE</td>
<td>Assistant Research Engineer</td>
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<td>Mantilla, Ricardo</td>
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<tr>
<td>Martin, Juan Ezekiel</td>
<td>Assistant Research Scientist</td>
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<td>Martinez, Andres Araneda</td>
<td>Assistant Research Scientist</td>
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<td>Mattes, Tim</td>
<td>Associate Professor, CEE</td>
<td>Assistant Research Engineer</td>
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<td>Mousaviraad, Maysam</td>
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<td>Muste, Marian</td>
<td>Adj. Professor, CEE</td>
<td>Research Engineer</td>
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<td>Nakato, Tatsuaki</td>
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<td>Nixon, Wilfrid A.</td>
<td>Professor, CEE</td>
<td>Research Engineer Emeritus</td>
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<td>Oggaard, A. Jacob</td>
<td>Professor, CEE</td>
<td>Research Engineer</td>
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<td>Papanicolaou, Thanos</td>
<td>Professor, CEE</td>
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<td>Patel, Virendra C.</td>
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<td>Politano, Marcela</td>
<td>Adj. Associate Professor, CEE</td>
<td>Associate Research Engineer</td>
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<td>Sadat Hosseini, Seyed</td>
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<td>Scherer, Michelle</td>
<td>Professor, DBO, CEE</td>
<td>Research Engineer</td>
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<td>Schneebelen, Douglas</td>
<td>Adj. Associate Professor, GS</td>
<td>Research Scientist</td>
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<td>Schnoor, Jerald</td>
<td>Professor, CEE</td>
<td>Research Engineer</td>
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<td>Stanier, Charles</td>
<td>Assistant Professor, CBE</td>
<td>Assistant Research Engineer</td>
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<td>Stern, Fred</td>
<td>Professor, ME</td>
<td>Research Engineer</td>
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<tr>
<td>Tate, Eric</td>
<td>Assistant Professor, GSS</td>
<td>Assistant Research Engineer</td>
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<tr>
<td>Udaykumar, H.S.</td>
<td>Professor, ME</td>
<td>Research Engineer</td>
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<tr>
<td>Vigmostad, Sarah C.</td>
<td>Assistant Professor, BME</td>
<td>Assistant Research Engineer</td>
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<td>Villarini, Gabriele</td>
<td>Assistant Professor, CEE</td>
<td>Assistant Research Engineer</td>
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<td>Wang, Zhaoyuan</td>
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<tr>
<td>Weber, Larry J.</td>
<td>Professor, CEE</td>
<td>Research Engineer/Director of IIHR</td>
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<td>Weirich, Frank</td>
<td>Associate Professor, GS</td>
<td>Associate Research Engineer</td>
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<td>Wilson, Chris</td>
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<tr>
<td>Yang, Jianming</td>
<td>Adj. Associate Professor, MIE</td>
<td>Associate Research Engineer</td>
</tr>
</tbody>
</table>

IIHR SUMMARY OF ACTIVITIES 2012 | 37
### FACULTY MEMBER

<table>
<thead>
<tr>
<th>Faculty Member</th>
<th>Dept. Appointment</th>
<th>IIHR Appointment</th>
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<tbody>
<tr>
<td>Yoon, Hyunse</td>
<td></td>
<td>Assistant Research Scientist</td>
</tr>
<tr>
<td>Young, Nate C.</td>
<td></td>
<td>Associate Research Engineer</td>
</tr>
<tr>
<td>Zhai, Guangshu</td>
<td></td>
<td>Assistant Research Scientist</td>
</tr>
<tr>
<td>Zhang, You-Kuan</td>
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<td>Research Engineer</td>
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### STAFF

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>IIHR Title</th>
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<th>IIHR Title</th>
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<tbody>
<tr>
<td>Barquist, Brandon</td>
<td>Engineering Coordinator/</td>
<td>Myers, Laura</td>
<td>Administrative Assistant</td>
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<tr>
<td></td>
<td>Assistant Shop Manager</td>
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<td>Application Developer</td>
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<tr>
<td>Bartels, Scott</td>
<td>Research Project Assistant</td>
<td>Nelson, Margaret</td>
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<td>Borgwardt, Christian</td>
<td>Engineering Coordinator</td>
<td>Nordling, Bradley</td>
<td>Draftsman</td>
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<tr>
<td>Castillo, Sofia</td>
<td>Project Assistant</td>
<td>Piotrowski, Jesse</td>
<td>Engineer</td>
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<tr>
<td>Ceynar, Dan</td>
<td>Engineer II</td>
<td>Reuter, Brad</td>
<td>Project Construction</td>
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<tr>
<td>Chang, Derek</td>
<td>Engineer II</td>
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<tr>
<td>Craig, Andrew</td>
<td>Engineer</td>
<td>Saeugling, Richard</td>
<td>Research Project Assistant</td>
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<td>Dils, Karin</td>
<td>Accountant</td>
<td>Schroeder, Harvest</td>
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<tr>
<td>Eckrich, Melissa</td>
<td>Director of Finances and</td>
<td>Smedley, LaVern</td>
<td>Research Project Assistant</td>
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<td></td>
<td>Human Resources</td>
<td>Stolze, Jackie Hartling</td>
<td>Lead Communication</td>
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<tr>
<td>Galer, Rochelle</td>
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<td>Thomas, Justin</td>
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<td>Gerard, Sandra</td>
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<td>Wagner, Greg</td>
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<tr>
<td>Gilles, Dan</td>
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<tr>
<td>Goska, Radek</td>
<td>Design Engineer</td>
<td>Wilson, Mark</td>
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<tr>
<td>Goss, Jim</td>
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<tr>
<td>Houser, Tim</td>
<td>Supervisor of Shop Services</td>
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<td>Hunter, Heather</td>
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<td>Johnson, Robert</td>
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<td>Johnson, Tyler</td>
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<td>Keyte, Melinda</td>
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<tr>
<td>Knox, Jason</td>
<td>Engineering Assistant</td>
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<tr>
<td>Kundert, Mike</td>
<td>Engineering Technician I/</td>
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<tr>
<td>Langel, Carmen</td>
<td>Director of Development</td>
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<td></td>
<td>and Communications</td>
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<tr>
<td>Loeser, Tony</td>
<td>Engineer</td>
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<tr>
<td>Lyons, Troy</td>
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<td>Miller, Brian</td>
<td>Information Technology</td>
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<td>Service and Support</td>
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<tr>
<td>Mutel, Connie</td>
<td>Senior Science Writer</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>&amp; Archivist</td>
<td></td>
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</tr>
</tbody>
</table>
GRADUATE STUDENTS

Abban, Benjamin  CEE
Adhikari, Tika Ram  GS
Akkala, James  MIE GS
Allman, Daniel  CEE
Ampleman, Matthew  EPS
Ausland, Hayden  CEE
Awad, Andrew  CEE
Ayalew, Tibebu  CEE
Bachman, Jonathan  CEE
Baidoo-Williams, Henry  ECE
Barr, Jared  CEE
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Bijukchhe, Vijaya  CEE
Bril, Jeremy  CEE
Browne, Stephen  CEE
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Mishra, Kumar Vijay  ECE
Mishra, Sudipta Kumar  CEE
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Qu, Shen  CEE
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Sousan, Sinan  OEH
Yoon, Sung-Hwan  MAE

BME  Biomedical Engineering
CEE  Civil and Environmental Engineering
CS  Computer Science
CBE  Chemical and Biochemical Engineering
ECE  Electrical and Computer Engineering
EPS  Earth and Planetary Science
EES  Environmental Engineering and Science
GSS  Geographical and Sustainability Sciences
GS  Geoscience
IFC  Iowa Flood Center
LIT  Learning and Instructional Technology
MAE  Mechanical and Aerospace Engineering
MATH  Mathematics
MIE  Mechanical and Industrial Engineering
OEH  Occupational and Environmental Health
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*University of Iowa*

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*University of Iowa*

**Ms. Carmen Langel**
Director of Development and Communications, 
IIHR—Hydroscience & Engineering 
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