TWENTY-EIGHT NEW CIVIL ENGINEERING GRADUATES FROM THE FALL 2013 CLASS.
February 13, 2014

Dear Members and Friends of the Civil Engineering Institute,

In my second year as the Civil Engineering Institute (CEI) Chair, with great support from our Board members, we realized another generous donation from Sid and Reva Dewberry to the Civil, Environmental, and Infrastructure Engineering program. Portions of the proceeds were dedicated to furnishing the lab with the necessary equipment and the remainder for developing graduate research. CEI is extremely grateful for the Dewberry family’s continued support of the program and the university.

CEI was honored to be a partner with the department in 2013 and achieved the following:

• Held a very successful 6th annual Engineering Excellence Awards Luncheon and CEI Board meeting in February 2013.

• Played a pivotal role in making the new lab a reality as well as assisting with the recently completed ABET reaccreditation.

• Worked with CEI faculty to review and update the program designed to provide scholarships and internships to hardworking students.

• Cultivated adjunct faculty and guest speakers.

• Provided funding for many significant out-of-the-classroom student-learning experiences including those created within the student chapters of Chi Epsilon, American Society of Civil Engineers, Design-Build Institute of America, and Engineers for International Development.

• Assisted and supported alumni activities.

• Held counseling and advisory sessions for students to assist in their career opportunities.

• Provided general support for the program and students.

In 2014 and beyond, CEI will continue to support and advocate for the Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering. Come join us and be part of making a difference at a nationally recognized university right here in Fairfax. We need your help in supporting the growth at Mason and we hope to accomplish the following in 2014:

• Recognizing outstanding Engineering Excellence at our 7th Annual Awards Luncheon.

• Serving as adjunct faculty, blending classroom teaching with valuable knowledge and experience.

• Growing CEI membership in currently under-represented populations.

• Providing targeted fund raising to help the increasing student population.

• Lending support to the department for graduate level programs.

• Enhancing our efforts for out-of-the-classroom activities and projects.

The CEI Board of Directors takes great pride in presenting this 2013 Annual Report to you. The Institute continues to operate on a sound fiscal basis and looks forward to another great year. We invite you to join us and become part of our accomplishments, rewards, satisfaction, and fun.

Best wishes for a happy and successful 2014.

Sincerely,

Hardeep S. Rana, P.E.
CEI Chairman
The Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering continues its impressive trajectory through the hard work of our faculty and our students, with the ongoing support of the Volgenau School of Engineering and the university. Our enviable partnership with the Civil Engineering Institute industry advisory group, and with Northern Virginia’s community of engineers, contractors, and researchers is central to our successes and we are grateful for that unwavering support. This annual report touches upon the department’s highlights for 2013, but we invite you to visit our website, engage with us on our Facebook page, and join us on Twitter to learn more about the department in the upcoming year.

The number of Bachelor of Science -CIE graduates in the 2012-2013 academic year exceeded 60 this year, our largest graduating class ever. George Mason University’s location in the heart of Virginia’s economic engine in a time when engineering is viewed as a high-value profession bodes well for our continued growth and impact. The ability of the department to attract and retain high-performing students is greatly enhanced by initiatives and accomplishments described in this report.

Foremost among these is the new civil engineering teaching laboratory made possible with the generous support of the Civil Engineering Institute and its members. This laboratory bridges the gap for students between equations that predict behavior of water, soil, and structural materials, to seeing and measuring that behavior. At the same time, the laboratory provides opportunities for undergraduates to undertake independent study projects to develop their critical thinking skills while advancing their understanding of engineering science.

Undergraduates now choose from an expanding array of senior electives. Study abroad opportunities, and academic minors available in environmental engineering systems, mechanical engineering, business, and renewable energy allow students to complement their core civil engineering studies. Through an impressive choice of extracurricular activities, students immerse themselves in student-driven projects, learning practical problem solving and collaboration, and working with classmates who will become lifelong friends and colleagues. Practice-based internships in summer – many offered through Civil Engineering Institute member companies – are invaluable complements to our students’ education.

At the graduate level, change is similarly afoot. Local leaders in engineering practice and world class researchers at Northern Virginia’s federal and state laboratories meet with faculty in specially convened advisory panels to rethink and update graduate programs. The Master of Engineering program that integrates geotechnical, construction, and structural engineering is unique in the United States. The revamped Master of Science in water resources and environmental engineering, and the forthcoming realigned Master of Science in transportation engineering address the most current practice needs at the local, state, national, and international levels. In addition, these changes inform and enhance our Ph.D. program and its research.

Our recruitment of foreign students raises the department’s visibility internationally, and enhances the experience of our American students. New faculty hires from America’s top universities and the ongoing integration of high level practitioner adjunct faculty into the curriculum, expand and enrich graduate course offerings with benefits for high achieving undergraduates.
Even with this impressive record of growth, our efforts are focused on the future. Our strategic plan calls for us to establish clear and recognized strengths in three engineering areas: integrity and resilience of existing urban civil infrastructure; sustainable design of new infrastructure that includes attention to energy conservation and generation; and sustainable practices related to our water resources and the environment.

To become the department we aim to be, we propose in the next five years:

- To increase our undergraduate enrollment by one-third to more than 400 students.
- To double our graduate enrollment to serve the growing needs of engineering practice, and to build a vibrant community of researchers.
- To add five full-time faculty positions, including one endowed professorship.
- To expand resources for student support to fund ten fully covered undergraduate scholars per year, and to offer competitive fellowships to ten new graduate students per year.
- To increase our endowment to provide funds for fresh and exciting undergraduate initiatives; for creation of essential new research facilities; and for support of high-risk high-return faculty endeavors.

The Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering embraces 2014 as yet another year of opportunity, and is grateful to the Civil Engineering Institute for its enduring support and partnership since 1989.

Sincerely,

Deborah J. Goodings, P.Eng.
Dewberry Professor and Chairman of the Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering
More than 250 people attended the Civil Engineering Institute Awards Luncheon and Annual Meeting on February 28, 2013, with 23 firms and individuals sponsoring full tables. Guests were welcomed by Mr. Hardeep Rana, the Civil Engineering Institute chairman. Dr. Angel Cabrera, George Mason University’s new president, expressed his enthusiasm for his leadership role at the university. Dr. Kenneth Ball, the new dean of the Volgenau School of Engineering, described his strong support for the department as the Volgenau School enters its next stage of development.

New Civil Engineering Institute Board members were elected. Dr. Deborah Goodings was confirmed as the Institute’s executive director. Outgoing and continuing Civil Engineering Institute Board members were recognized for their service. Dr. Goodings, as department chairman, provided an overview of the department’s current status and described the department’s ambitions for the next year.

Mr. Rana introduced the distinguished 2013 Engineering Excellence and Leadership awardee, the Honorable Sean T. Connaughton, Secretary of Transportation for the Commonwealth of Virginia in the cabinet of Governor Bob McDonnell. Secretary Connaughton, an alumnus of George Mason University’s law school, spoke on the state’s transportation issues as he views them from his position overseeing seven agencies with over 10,000 employees and combined budgets exceeding $5 billion. His remarks, entitled Virginia’s Road to the Future, emphasized the complexity of transportation planning and its central role in the Commonwealth’s continuing prosperity.
The Civil Engineering Institute is a nonprofit corporation registered in the State of Virginia since 1989, with the purpose of assisting the Sid and Reva Dewberry Department of Civil, Environmental and Infrastructure Engineering program of George Mason University. The objectives of the Civil Engineering Institute include:

- Advising on curricula changes to keep the program on the leading edge of the professional practice.
- Providing a liaison with the business community for teaching and advising.
- Assisting in internship placement for students.
- Assisting in securing nationally-recognized faculty by raising private eminent scholars endowments.
- Fundraising for scholarships, student activity support, and academic program assistance to supplement that provided by the university.

By participating in a variety of Civil Engineering Institute activities – academic, leadership, educational and social – companies and individuals become integrated into the most quickly advancing civil engineering program in the Washington D.C. metropolitan region.

The 35 members of the Civil Engineering Institute in 2013 represent contractors, public utilities, developers, and design firms across the spectrum of civil engineering, in addition to civic-minded individuals eager to support the department’s mission to educate the coming generation of new engineers. More information is available on the department website at http://civil.gmu.edu/about-cei.

ANNUAL DUES FY2013

INDIVIDUALS: $ 150
INDUSTRY:
  - Under $5 million in annual revenues $ 500
  - Over $5 million in annual revenues $1,250
PUBLIC SERVICES:
  - Those serving populations under 25,000 $ 500
  - Those serving populations over 25,000 $1,250

BOARD OF DIRECTORS

The Civil Engineering Institute Board of Directors meets regularly to conduct its business, to interact with the Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering, and to report on committee activity. Directors are elected by the Civil Engineering Institute membership, and serve staggered three-year terms. The Board elects its officers from among its ranks. Mr. Hardeep S. Rana, P.E., was elected as Chairman in 2012, and will step down in 2014. Mr. Richard Benton, P.E., Vice-Chairman and Dr. Deborah J. Goodings, P.Eng., Executive Director, were elected in 2012. Mr. Brian Chromey, P.E., serves as the appointed CEI Treasurer.

The Civil Engineering Institute is grateful for the service of the following important members who are leaving the CEI Board after years of generous service: Mr. Larry Dickenson of R.E. Daffen Construction; Mr. Eric Ulsh of Parsons Brinkerhoff; and Mr. Howell Simmons, formerly of Pacuilli, Simmons & Associates, Ltd.

MEMBERS 2013 (*2013 BOARD MEMBERS)

MEMBER ORGANIZATIONS AND REPRESENTATIVES
Ammann & Whitney, Mr. Bal Cherwoo
ATCS, P.L.C., Mr. Bill Caruthers
Atkins Global, Ms. Terry Suehr-Short*
Balfour Beatty Construction, Mr. David Laib*
Bowman Consulting, Mr. Michael Bruen
The Christman Company, Mr. Ryan Anderson
christopher consultants, ltd., Mr. Lou Canonico*
Dewberry, Mr. Kurt Thompson*
ECS Mid-Atlantic, LLC, Mr. Henry Lucas*
Fairfax Water, Ms. Jamie Bain Hedges*
GeoConcepts Engineering, Inc., Mr. Paul Burkhart*
Kiewit Building Group, Mr. Herb Reuss
Lane Construction, Mr. Jan Sherman*
Parsons Brinckerhoff, Mr. Eric Ulsh*
Pennoni, Mr. Edward G. Venditti*
R.E. Daffan, Inc., Mr. Larry Dickenson*
Shirley Contracting Co., LLC, Mr. Michael E. Post*
The Engineering Groupe, Inc., Mr. John S. Groupe, V*
Tri-Tek Engineering, Inc., Mr. Kevin Murray
Vanasse Hangen Brustlin, Inc., Mr. Chris Conklin
Washington Gas, Mr. Hardeep S. Rana*
Wetland Studies and Solutions, Inc., Mr. Brian Chromey*
William A. Hazel, Inc., Mr. David M. Speed

INDIVIDUALS
Mr. Richard Benton*
Mr. David Donahue
Mr. William Fry*
Mr. Peter Rigby*
Mr. Harold L. Rodriguez*
Mr. Howell Simmons*
Mr. Joseph Vilseck III*
Mr. Adam Volanth

EMERITUS MEMBERS
Dr. Michael S. Bronzini
Mr. Charlie C. Crowder, Jr.
Mr. Sidney O. Dewberry
Mr. H. S. Hulme, Jr.
Research in engineering science that benefits civil engineering practice has never been more important as George Mason University develops its new strategic plan and sets its sights on joining the elite club of Carnegie research-intensive universities. Three highlights in 2013 provide a sample of the energy and diversity in the department’s research portfolio.

In the area of environmental and water resources engineering, highly competitive external funding from the National Science Foundation, the Jeffress Foundation, and the Dominion (Energy) Foundation were combined to launch research focused on prediction of storm-induced flooding. Assistant professor Dr. Celso Ferreira applies high performance computing to evaluate hurricane storm surge flooding, to understand the mitigating effects of natural wetlands, and to predict consequences of flooding for critical infrastructure in the National Capital Region and along the Chesapeake Bay. He complements and calibrates the high performance computing with regional flooding data he collects from summer and winter storms sweeping through the area. This work provides a scientific foundation for the region’s planners, including development of protective and evacuation strategies. With continuing rise in sea levels around the world – over six inches in the last 100 years – this research has global significance.

Virginia’s historic commitment to higher education is also evident in its forward-looking investment in transportation-related research. In 2013, assistant professor Dr. Burak Tanyu initiated his research to advance sustainable road design practices. This work is funded by the Virginia Center for Transportation Innovation and Research, the research arm of the Virginia Department of Transportation. Sustainable practice in road construction reduces use of new natural resources including energy, as well as reusing materials from other dismantled engineering projects.

Dr. Tanyu’s research investigates the most effective way to combine recycled concrete and geotextile filter systems to replace natural aggregate for base layers of flexible pavement systems. Long-term hydraulic performance of geotextiles installed with recycled concrete is critical in this context. His research will lead to development of practical design methods, moving
a good idea into practice with the added bonus of reducing costs. Dr. Tanyu leverages the capabilities of the department’s teaching laboratory in his work, and he is eager to move his program into a research-dedicated lab when suitable space is identified.

In recognition of the importance of a coordinated, safe, and efficient transportation system to support America’s prosperity and security, the U.S. Department of Transportation invests in practice-oriented research. In 2013, assistant professor Dr. Shanjiang Zhu and associate professor Dr. Mohan Venigalla were partners in a successful consortium bid led by the University at Buffalo to establish the Transportation Informatics University Transportation Center, a two-year, $4.2-million tier 1 University Transportation Research Center.

This center applies Big Data techniques to improve traffic operations, safety, emergency operations, travel behavior modeling, and performance measurement using the huge store of previously incompatible data from transportation operations. The center supports the U.S. Department of Transportation’s strategic goal of economic competitiveness, and at the same time touches upon the goals of safety, environmental sustainability, livable communities, and the state of good repair.

While graduate students typically accomplish advanced research, faculty cultivate undergraduate students with complementary independent studies projects, partially funded by the university’s Undergraduate Research Program. Three undergraduates undertook projects associated with flooding hazards in Washington, Virginia, and Maryland this year. Students analyzed the impact of hurricane flooding in the National Capital Region, using data from Hurricane Sandy superimposed on Washington’s topography; modeled scour beneath a Virginia Department of Transportation highway bridge combining assessments of soil erodibility and hydraulic data; and evaluated traffic network vulnerability and evacuation strategy during flooding on the Eastern Shore. Two students worked on geotechnical engineering projects, testing surface treatments for use in stone preservation in museums; and measuring the mechanical properties of corn to begin to understand the particulate mechanics of corn bin entrapment on farms.
Student-driven extracurricular activities are invaluable for developing skills in engineering and in teamwork. They provide an avenue for practicing engineers and students to connect directly. Faculty advisors support, rather than lead student initiatives, but nonetheless play important roles in keeping the students on track and vouching for them as projects and fundraising rise in complexity. Many of these activities are underwritten by the Civil Engineering Institute.

The GMU chapter of Chi Epsilon, the national civil engineering honor society, inducted 11 new students into its ranks in 2013, bringing the total number of members to 80 since its founding in 2010. Undergraduate Sean Lindenmuth, 2012-13 chapter president, was awarded the prestigious Olin K. Dart Jr. National Chi Epsilon Scholarship in recognition of his outstanding academic record and his leadership in extracurricular activities. The Civil Engineering Institute continues to support the purchase of distinctive white stoles worn by Chi Epsilon members at their graduation.

The Society of American Military Engineers (SAME) student chapter hosted project-focused guest lectures, with speakers from CDM Smith, Bechtel, and the university’s Office of Facilities. They represented George Mason University once again at Engineer’s Week at Thomas Jefferson High School for Science and Technology. SAME chapter students assumed a leadership role in preparing their civil engineering classmates for their leap into engineering practice arranging three career advising sessions, including one from The Christman Company. The parent SAME NoVA Post awarded two scholarships, and recognized the SAME liaison (and CEIE alumnus) John Cardenas, and faculty advisor Dr. Laura Kosoglu for their good work with SAME students this year.

In spring 2013, a reinvigorated GMU chapter of the Design-Build Institute of America (DBIA) partnered with the GMU chapter of the American Society of Civil Engineers in a summer internship program. DBIA students met bi-monthly in fall to hear from guest speakers and plan chapter goals. They prepared their first-ever submission to the DBIA National Student Competition. Although they did not win the region’s competition, the local parent chapter sponsored four students to travel to the annual national DBIA conference in Las Vegas where they observed the presentations of National Student Competition finalists, taking copious notes to prepare them for the 2014 competition.

Engineers for International Development (EfID) students completed two projects in 2013. In June, five Mason students and two advisors travelled to the village of San Isidro in the high Andes of Peru to address problems with its existing water distribution system. In 2010, EfID students installed two water tanks to collect spring water to supply the community all day through an existing water distribution system but supply remained inadequate in some parts of the village. Students determined that the problem lay in the existing distribution system due to inadequate pipe capacity and development of airlocks in the system. They worked with villagers to install larger diameter pipes at steady grades less prone to airlocks, solving the distribution problem and gaining a practical field lesson in hydraulics.

A second EfID team of five students and a faculty advisor initiated a new project in the village of Sabana Grande in Nicaragua in August. Students determined from an earlier assessment trip that villagers’ need for more water would be effectively addressed by installation of a new well, and distribution system. The local topography required a pump, so EfID students designed and installed a system with the community that included a solar powered pump, a pressure tank, and 1500 feet of water distribution piping to water kiosks where residents collect water for their homes. A neighboring village has invited EfID to replicate the water distribution project with them, so EfID students plan to return to continue their work in Nicaragua.

ENGINEERS FOR INTERNATIONAL DEVELOPMENT STUDENTS ROBERT BURKART AND OSVALDO RAMOS INSTALL PIPE IN SAN ISIDRO, PERU.
practical experience
Success in these projects requires hands-on mentoring from practicing engineers. In 2013 the following engineers accompanied EfID students on project travel: Matthew Doyle and Chris Triolo, both from Fairfax County Department of Public Works and Environmental Services; Joshua Durant, a former Peace Corps Volunteer in Panama; Kathryn Winters from christopher consultants; and Joanna Vivanco. EfID students are grateful for the time and effort of these engineers and for the important contribution of funds from the Civil Engineering Institute.

ASCE students meet bi-monthly to hear from industry leaders, network with potential employers, work on their design of the GMU concrete canoe and steel bridge and to plan tours of important civil engineering projects. This year’s guest speakers included representatives from Jacobs, Oracle, Dewberry, Kiewit, and Turner Construction. The career fair held in October attracted 15 companies, and scores of CEIE students arrived with résumés in hand having benefitted from practice interview sessions with industry recruiters.

ASCE students travelled to West Virginia’s Fairmont University – past winners of the ASCE concrete canoe competition for several years – to learn best practices in concrete canoe design and construction. The GMU team then designed and built its first concrete canoe and successfully raced against the other Region 2 competitors at Seneca Creek State Park in Maryland.

The highlight of the year for the ASCE students was the 2013 Virginias Conference hosted by Howard University in Washington, D.C. Seventeen students, sponsored by the Civil Engineering Institute, traveled to the conference with their faculty advisor to compete in technical and design tasks ranging from physical and chemical treatment of water to technical oral and paper competitions. But the main focus of the event was the assembly of their 1:10 scale model of a steel bridge designed and fabricated in the months leading up to the competition to meet specifications defined by National Steel Bridge competition rules. This year’s assigned bridge was 17 feet long, and included a cantilever and above-deck truss. The steel and fabrication of the GMU bridge components were donated once again by the Mid-Atlantic Division of Givens Steel. The bridge was ultimately judged on durability, stiffness, constructability, usability, efficiency, aesthetics, economy, and safety during construction. GMU’s design won first place in the regional competition in construction speed, economy, and stiffness; third place in aesthetic presentation; and placed third overall securing an invitation to the ASCE National Steel Bridge competition at the University of Washington in Seattle.

In June, the steel bridge team of six students and their faculty advisor traveled to Seattle along with the 400 pound bridge to compete against the 49 best civil engineering student teams from the U.S. and Canada. GMU’s design placed seventh in stiffness, outcompeting MIT, Georgia Tech, UC Berkeley and Texas A&M in this category. GMU was the only team at the national competition to design a bridge with an above-deck truss and this unique feature attracted a great deal of attention and admiration from faculty and competitors.

The GMU student chapter of the American Society of Civil Engineers (ASCE) remains the university’s largest civil engineering organization with over 200 active members who attend meetings, tours, networking events, and the annual Virginias Conference. The Civil Engineering Institute is a major supporter of their projects.
The department welcomed Dr. David Lattanzi to the faculty as an assistant professor in fall, 2013. Dr. Lattanzi is a structural engineer with practice experience in bridge design and inspection. His fascination with bridges led to his Ph.D. research at the University of Washington on structural health monitoring of bridges. Dr. Lattanzi’s research drew on his mechanical engineering experience to adapt unmanned aerial vehicles to collect close-up digital images of bridges. He then used computer imaging techniques to process the images to detect structural damage. George Mason University offers him the opportunity to expand this structural health monitoring research, collaborating with Volgenau School faculty in other departments who work in related areas, and connecting with some of the nation’s leading government research laboratories in the National Capital Region who are eager to apply these new techniques. Dr. Lattanzi is equally excited to bring his professional experience as a high level bridge engineer into the classroom.

Dr. Viviana Maggioni is the most recent addition to the department, arriving in January, 2014, to join the environmental and water resources engineering faculty. Dr. Maggioni completed a post-doctoral fellowship at the University of Maryland at the Earth System Science Interdisciplinary Center after earning her Ph.D. at the University of Connecticut. Her research interests lie at the intersection of hydrometeorology and remote sensing to estimate and monitor hydrology at the proverbial 30,000 foot level. She studies how to improve data retrieval techniques and to evaluate uncertainties in predictions. This work has direct applications to water resources management, and weather and climate prediction, as well as to agriculture and irrigation practices. She looks forward to continuing her current collaboration with the National Aeronautics and Space Administration, and the National Oceanic and Atmospheric Administration, as well as teaching students to think globally about environmental and water resources engineering issues.

In June 2014, Dr. Tomasz Arciszewski retires from the department to begin his next career. Dr. Arciszewski joined the department in 1993, serving a term as department chair. His career is a lesson in how politics have personal repercussions. After completing his Ph.D. in 1975 at the Warsaw University of Technology in Poland followed by a brief appointment as an assistant professor, Dr. Arciszewski found conditions in Poland unendurable. His academic career took him to the University of Nigeria for four years, and then to the United States to Wayne State University for eight years before joining George Mason University.

While Dr. Arciszewski’s early academic interest was in structural mechanics, he became increasingly interested in pushing the boundaries of design research and later of engineering education. His signature courses on inventive engineering attracted graduate and undergraduate students from across the Volgenau School. Dr. Arciszewski’s expertise in these areas took him round the globe, lecturing and inspiring new initiatives in a host of foreign universities. Retirement from the university will allow him to devote 100 percent of his unflagging energy to these interests, and the department is grateful for 20 years of his vibrant contributions.

The success of the department depends also on excellent administrative and technical support. Ms. Nicole Jerome, who single-handedly managed the office at a high level of performance for three years, completed her Master of Public Administration and has moved on to the next stage of her career. Ms. Kristin Amaya has joined the department as office manager, ably assisted by Ms. Kyleen Bushroe as financial coordinator. The department was also lucky to recruit Mr. Herb Wong as its lab manager. Mr. Wong brings high-level experience from a distinguished career as an electrical/electronics engineer, and as a software and forensics engineer.
Full-time faculty form the backbone of the Sid and Reva Dewberry Department of Civil, Environmental, and Infrastructure Engineering. They teach classes; advise students; oversee student chapter activity; conduct research; envision and implement new curricula; serve in leadership roles in civil engineering professional societies; and administer a program for 400 students. These outstanding faculty members include:

Tomasz Arciszewski, Professor. Ph.D., Warsaw University of Technology. 
Expertise: structural and inventive engineering; education; international engineering.

Liza Wilson Durant, Assistant Professor and Associate Department Chairman. Ph.D., The Johns Hopkins University. 
Expertise: environmental engineering; contaminant fate, transport, and remediation; water treatment.

Celso Ferreira, Assistant Professor. Ph.D., Texas A&M University. 
Expertise: water resources and coastal engineering; storm surge inundation prediction; geographic information systems.

Deborah Goodings, P.Eng., FASCE, D.GE., Dewberry Professor of Civil Engineering and Department Chairman. Ph.D., Cambridge University. 
Expertise: geotechnical engineering; extreme geotechnics; particulate mechanics.

Expertise: water resources; infrastructure security; water management.

Laura Kosoglu, Assistant Professor. Ph.D., Virginia Polytechnic Institute and State University. 
Expertise: geotechnical engineering; water resources; geo-environmental engineering.

David Lattanzi, P.E., Assistant Professor. Ph.D., University of Washington. 
Expertise: structural engineering; structural health monitoring; computer vision.

Viviana Maggioni, Assistant Professor. Ph.D., University of Connecticut. 
Expertise: environmental engineering; remote sensing; hydrometeorology.

Burak Tanyu, Assistant Professor. Ph.D., University of Wisconsin. 
Expertise: geotechnical engineering; engineering geology; geo-environmental engineering.

Girum Urgessa, P.E., Associate Professor. Ph.D., University of New Mexico. 
Expertise: structural engineering; computational mechanics; composite materials.

Mohan Venigalla, P.E., Associate Professor. Ph.D., University of Tennessee. 
Expertise: transportation engineering; transportation planning; transportation air quality.

Shanjiang Zhu, Assistant Professor. Ph.D. University of Minnesota. 
Expertise: transportation engineering; transportation economics; route choice and optimization.

**Master Teacher Dr. Liza Durant Brings Freshmen Into the Civil Engineering Fold.**
The introduction of practicing engineers into the civil engineering curriculum enriches students' educational experience, and George Mason University is ideally located to take advantage of the surrounding vibrant community of practitioners, researchers, and other professionals. Some come to deliver guest lectures. Others mentor students in senior design projects. Still others interact with students outside of the classroom. The most committed of these join the ranks of our practitioner adjunct faculty taking full responsibility for a course, preparing and delivering lectures, grading assignments, and engaging with students to bring them insights distilled from the world of practice, a contribution which is especially important in senior and graduate level design courses.

We recognize and thank the following professionals for their assistance to the department as practitioner adjunct faculty in 2013:

- Mr. Rich Benton, SR Benton & Associates, LLC
- Mr. David Binning, Applied Engineering Management Corporation
- Ms. Barbara deBoinville, independent consultant
- Mr. Matthew Doyle, Fairfax County Dept. of Public Works & Environmental Services
- Mr. Morgan Eddy, Steele Foundation, LLC
- Mr. Alex Faghri, Virginia Department of Transportation
- Mr. William Fry, First Financial Group
- Dr. Gary Greene, Professional Service Industries (for Federal Highway Administration)
- Dr. Joseph Hartmann, Federal Highway Administration
- Mr. Sean Kennedy, BEI Structural Engineers
- Dr. Tarek Kewaisy, Amman & Whitney Consulting Engineers
- Dr. William Kilpatrick, HP Environmental
- Dr. Michael Krimmer, Northern Virginia Community College
- Mr. David Laib, Balfour Beatty Construction
- Dr. Barry Liner, Water Environment Federation
- Mr. Michael Loulakis, Esq., Capital Project Strategies
- Ms. Genelle McDonald, Balfour Beatty Construction
- Mr. John Matusik, Concurrent Technologies Corporation
- Mr. John Moore, Natural Resources Conservation Service
- Mr. Duane Reger, Trademasters Service Corporation
- Mr. Harold Rodriguez, Jacobs Engineering
- Mr. Paul Swanson, Facility Engineering Associates, PC.
- Mr. Eric Teitelman, Fairfax County Department of Transportation
- Mr. Richard Thoesen, City of Fairfax
- Dr. David Yang, Federal Highway Administration
- Dr. J.Q. Yuan, Professional Service Industries (for Federal Highway Administration)
JUNIOR LEVEL CIVIL ENGINEERING STUDENTS ABSORBED IN THEIR STUDIES.
The consolidated treasurer’s report for the Civil Engineering Institute appears opposite for the university’s fiscal year from July 1, 2012 to June 30, 2013.

The upper portion of the report summarizes Institute income in FY13, derived principally from two sources: Civil Engineering Institute membership dues; and earnings from the Civil Engineering Institute annual meeting, which after expenses, netted $6,313.

The middle portion of the report summarizes expenses, including George Mason University Foundation management fees (6 percent of income); two senior design graduation dinners and class photo graduation gifts; student project travel for ASCE and EfID; scholarships and instructional support; and Civil Engineering Institute Board meeting expenses. The Institute allocated a major portion of the prior year’s rollover for acquisition of capital equipment to outfit the new civil engineering teaching laboratory.

The lower section of the report shows the status of the three Civil Engineering Institute scholarship endowment funds. Endowed scholarship funds are invested by the George Mason University Foundation and scholarship spending is dictated by Foundation rules that balance preservation of principal with support of the university’s educational mission. In 2012-13, scholarship endowment distributions totaled $5,100.

The department is grateful for the important ongoing support of the Civil Engineering Institute.

Dr. Celso Ferreira and PhD student Mithun Deb installing near-shore monitoring stations in the Chesapeake Bay.
GEORGE MASON UNIVERSITY
CIVIL ENGINEERING INSTITUTE
CONSOLIDATED TREASURER'S REPORT FY 2013

CEI ACCOUNT

Opening Balance July 1, 2012 $43,418

Income
- Member Dues $25,700
- Contributions $360
- CEI Annual Meeting $19,280
Total $45,340

Total Funds Available $88,758

Expenditures
- GMUF Administrative Fees $2,719
- CEI Annual Meeting $12,967
- Senior Design/Graduation Dinners $8,890
- Student Project Travel $20,249
- Capital Equipment $26,278
- Scholarships $2,000
- Instruction Support $1,400
- CEI Board Meeting Expenses $493
Total $74,996

Closing Balance June 30, 2013 $13,762

SCHOLARSHIP ENDOWMENT FUNDS

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<td>Market Value June 30, 2012</td>
<td>$86,583</td>
<td>$45,449</td>
<td>$25,906</td>
</tr>
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</table>
WATER RESOURCES STUDENTS MEET ON THE NATIONAL MALL TO TOUR EXISTING AND NEWLY CONSTRUCTED FLOOD PROTECTION MEASURES FOR THE WHITE HOUSE AND THE FEDERAL TRIANGLE.

ON THE COVER:
SEEING IS BELIEVING: STUDENTS AT THE HYDRAULIC FLUME IN THE CEIE TEACHING LABORATORY.