The School of Civil & Environmental Engineering: Meet the Chair and Overview of Our Programs

Reginald DesRoches
Karen and John Huff School Chair and Professor
School of Civil & Environmental Engineering
September 10, 2012 152 Clough Auditorium
Outline

• Key Administrative Faculty and Staff
• School Facts
• Alumni
• Opportunities for Students
  – UG Research, Mundy, DC interns
• Looking Ahead
  – Curriculum/Education Changes
  – Mason Building Renovation
  – Strategic Planning
• Key Dates
KEY ADMINISTRATIVE FACULTY AND STAFF
Dr. Reginald DesRoches  
*Karen and John Huff School Chair*

Dr. Glenn Rix  
*Associate Chair, Finance and Administration*

Dr. Donald Webster  
*Associate Chair Graduate Programs*

Dr. Jaehong Kim  
*Associate Chair Undergraduate Programs*

Dr. Paul Work  
*Associate Chair GT Savannah*
Key Staff Leadership

Erin Adams
Human Resources

Mike Anderson
Director of IT

Ellen Cormack
Assistant to Chair

Tracy Boothe
UG Advising Mgr

Gary Hoilman
Director of Business Services

Robert Simon
Grad Advising Mgr
• **54** Tenure-track Faculty
• **~790** Undergraduate Students
• **~376** Graduate Students
• **2013** *U.S. News & World Report* rankings:
  
  UNDERGRADUATE: 3rd in civil / 3rd in environmental
  
  GRADUATE: 3rd in civil / 6th in environmental
CEE UG Student Body Profile

Undergraduate CEE co-op students = 131 (27%)

2011-2012: 70% students from GA

Men and women from the CEE participating in NCAA Division-1 sports (ACC Conference) = 16

CEE Presidential Scholars = 9
376 Total Students:
202 DR, 167 MS, 7 Special Graduate

29% Female

27 Average Age

31 countries and 28 states represented

GRAD DEMOGRAPHICS – FALL 2012

Water
Transportation
Structures
Geosystems
Environmental
Construction

Ph.D. - 202
M.S. - 167
Spec-Grad-7

Special
Ph.D
M.S.
RESEARCH AND TEACHING BREADTH

• Construction Engineering
• Environmental Fluid Mechanics and Water Resources
• Environmental Engineering
• Geosystems Engineering
• Structural Engineering, Mechanics and Materials
• Transportation Systems Engineering
Alumni Facts

• 10,000 Living Alumni

• 12% are CEOs, Founders, or Presidents of Companies

• Active, well respected Advisory Board
CEE ALUMNI

Dr. Jamie E. Padgett PhD, CEE’ 2007
Assistant Professor, Rice University

Greg Koch CE’90; MSCE’92
Managing Director, Global Water Stewardship
The Coca-Cola Company

General Philip Breedlove, CE’ 77
Commander of U.S. Air Forces in Europe

Suzanne Shank, CE’83
President, CEO & Partner
Siebert Brandford Shank & Co. LLC.

Lyn Wylder CE’75; MS CE’78
VP & PPM David Evans & Associates, Inc.
OPPORTUNITIES FOR STUDENTS
Undergraduate Research

Types:

CEE 2698/4698 Undergraduate research for pay
CEE 2699/4699 Undergraduate research for credit
CEE 4900 CEE Honors Research by invitation of the faculty

PURA: President’s Undergraduate Research Award
Student Organizations

- American Society of Civil Engineers
- Chi Epsilon: The National CE Honor Society
- Association of Environmental Engineers and Scientists
- Engineering Students Without Borders
- Earthquake Engineering Research Institute
- Institute of Transportation Engineers
Study Abroad

Study CEE at:

- GT Lorraine
- Oxford
- Shanghai
- Pacific Rim

More Information:
http://www.oie.gatech.edu/
Mundy Global Learning Fund

Funding designated for CEE students to participate in an international learning experience during their enrollment. This unique fund allows CEE students to gain insight into other cultures. Priority is given to undergraduate students.

EXAMPLES:

• Tomas Leon studied with Georgia Tech’s Pacific program in Australia and New Zealand to learn more about the countries’ natural environments;

• Lynne Schleiffarth traveled to Shanghai and Beijing, China to study how port systems respond to earthquakes.
MUNDY FUND

Mundy funding will only be awarded one time, per student. Applications are reviewed by the CEE Awards Committee on a rolling basis. Funding is available on a first come, first served basis.

Program Requirements:

1.) must be an American citizen in good academic standing, and majoring in Civil and Environmental Engineering or part of an ongoing research project within the School of CEE;

2.) submit a one-page essay detailing travel plans, educational and learning goals and expected outcomes of proposed travel;

3.) complete application form with an itemized budget of expected travel costs (i.e., air fare, visas, lodging, etc.) and submit budget in conjunction with travel plans, goals, and outcomes.
DC INTERNSHIPS

- $7,500 Stipend
- Open to Undergraduate and Graduate Students
The Future of CEE @ GT
TRENDS IN EDUCATION IN CEE

Interdisciplinary Curriculum and Research
Sustainability, Energy, Natural Hazards, etc.
(engineering, science, social science, public policy, economics)

Problem Based Learning - Students are placed into the role of an engineer and tasked with analyzing an open-ended problem

Vertically Integrated Projects – Undergraduate and graduate students are teamed with faculty to design, build and deploy systems for real world problems.

Undergraduate Research, Entrepreneurship, and International Experience
– Teaching students to teach themselves. Key factor for motivating students to pursue advanced degrees. Solving problems with a global perspective
FUNDAMENTALS OF WATER QUALITY TESTING

TEAM 2012: 1 PROFESSOR, 2 GRADUATES, AND 10 UNDERGRADUTES

CITY OF CHINANDEGA DUMP SITE

PHYSICAL, CHEMICAL AND MICROBIOLOGICAL WATER QUALITY TESTING

SOLAR-POWERED MEMBRANE FILTRATION SYSTEM DESIGNED AND INSTALLED BY CEE STUDENTS
Mason Building

- 93,576 gross square feet
- Total project cost of renovation: $10.5 million
  - $6.5 million provided by State and Institute
  - $4.0 million provided by CEE
- Total project cost of new construction: ~$50 million
  - Does not include cost of demolishing existing building
Base Project: State and Institute

- Asbestos abatement
- Upgrade the fire safety systems including new sprinkler protection system
- Replace and/or upgrade the heating, ventilating, and air conditioning (HVAC), electrical, and plumbing systems
- Upgrade data cabling to support 100-gigabit ethernet
- Replace interior lights and ceilings
- New floor finishes and wall paint
Priority 1 and 2: CEE

- Renovated lobby area with casual seating for 24 and a display wall to feature CEE events and activities
- New Student Commons area with three individual rooms for small group meetings, a student work area, 18 computer stations, and casual seating
- New classrooms that will increase the seating capacity within the Mason Building by 15% and be able to accommodate larger class sizes.
- New undergraduate teaching laboratories for Construction Materials and Geotechnical Engineering
- New offices and research laboratories to accommodate recent and future growth in CEE faculty, staff, and graduate students
- Renovated Marvin Mitchell Chair’s Suite (CEE Main Office)
- Renovated CEE Business and Student Services suites to consolidate and improve staff services
- New 18-seat conference room with video-conferencing capability
- New men’s and women’s restrooms
Existing Sowers Lab
Renovated Sowers Lab

Audio-Visual

Fixed Bench
Sample Work

White Boards

Adjustable 5
Student Work stations
CEE Strategic Plan

DESERNING THE FUTURE
A STRATEGIC VISION AND PLAN

Georgia Institute of Technology

DEFINING Tomorrow
A Strategic Plan

CEE Plan Expected, May 2013

Georgia Tech
CEE Strategic Plan Topics

- Course content / education
- Scholarship & Research
- Administrative Effectiveness
- Global Public Service and Outreach
- Creativity & Innovation
- Leadership
Upcoming Events

• Family Weekend: Alumni Panel Presentation and Refreshment Reception
  – September 21, 3:00 – 4:30 pm ES&T L1175

• Homecoming – CEE Tailgate Party
  – October 27, 2 hours prior to kick-off

• Faculty/Staff Hosted Cookout for CEE UG and GR
  – November 2012 – Date soon to be announced

• Faculty-Student Sport Competition
  – Spring 2013