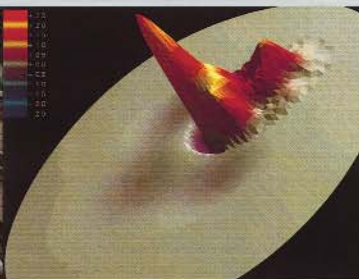


Graduate study and research in Civil and Environmental Engineering Carnegie Mellon



Visit our website at www.ce.cmu.edu

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E-mail: ce-admissions@cmu.edu
Online application:
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Join an engineering profession with a proud history and an exciting future.

Master's and Ph.D. degrees are offered in several areas of specialization:

- **Advanced infrastructure systems** (planning, design, operation and project management, with emphasis on field operations, management or information technology, including sensing and control on site)
- **Environmental engineering, science and management** (air quality, environmental management, water quality and environmental informatics)
- **Green design** (environmental life cycle assessment, infrastructure requirements of alternative fuels, environmental impacts of electricity production, biofuels, green construction)
- **Mechanics, materials, and computing** (modeling and large-scale computer simulation; with emphasis on mechanics of crystalline, granular, and amorphous materials; dislocation mechanics; phase transformations; atomistic simulation; electromechanics of 'smart' materials; engineering seismology, and earthquake engineering)

Research assistantships and M.S. scholarships are available on a competitive basis.

Top 10 Reasons to Join Carnegie Mellon

- Strong interdisciplinary program enabling students to develop imaginative solutions to engineering problems
- Cutting-edge research and technology
- High achieving, energetic—yet approachable—faculty
- Innovative and flexible curriculum
- Top 10 program rating (USN&WR)
- Collegial, supportive and respectful climate
- Great student/faculty ratio for personal attention
- Successful alumni with sustaining departmental involvement
- Beautiful campus, great resources, located in the dynamic city of Pittsburgh
- Established in 1900 with visions for 2100

Carnegie Mellon

Civil and Environmental Engineering at Carnegie Mellon University

Faculty, Research, Undergraduate Program and Student Enrollment Information

Undergraduate Program Objectives for BS in Civil Engineering:

- graduates effectively tackle both routine and cutting-edge professional challenges at the intersections of the built, natural and information environments;
- graduates are successful and recognized as innovative and adaptive leaders in academic research, government service and private sector activity, over a wide range of engineering and non-engineering professions, and both in the US and internationally; and
- graduates use the skills learned during their undergraduate education as leaders of their professional and social communities –problem finding/modeling/solving; critical and systems-level thinking; ethical reasoning; written, oral and graphical communication; collaborative team-building and problem solving; and self- and life-long learning.

The Civil Engineering curriculum is intended to allow ample opportunity for students to pursue areas of personal interest. The opportunity for self-exploration requires careful advising to gain meaningful educational experiences. We believe that design and team working experiences should occur at regular intervals in the curriculum, and that graduates should have appropriate "hands on" experience in laboratories and projects. Students are encouraged to participate in research projects and to pursue study or work abroad.

Faculty by Research Group:

Advanced Infrastructure Systems:

Burcu Akinci, PhD, Stanford
 Susan Finger, PhD, MIT
 James Garrett, PhD, Carnegie Mellon
 Chris Hendrickson, PhD, MIT
 H. Scott Matthews, PhD, Carnegie Mellon
 Irving Oppenheim, PhD, Cambridge
 Lucio Soibelman, PhD, MIT

Environmental Engineering, Science and Management:

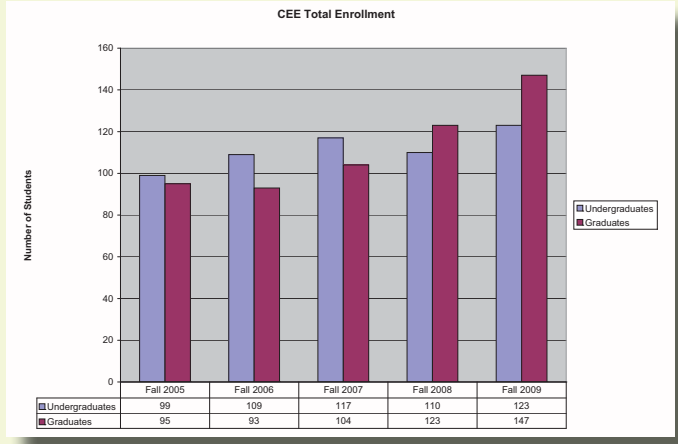
Peter Adams, PhD, CalTech
 Cliff Davidson, PhD, CalTech
 David Dzombak, PhD, MIT
 Kelvin Gregory, PhD, UIowa
 Chris Hendrickson, PhD, MIT
 Greg Lowry, PhD, Stanford
 H. Scott Matthews, PhD, Carnegie Mellon
 Mitch Small, PhD, UMichigan
 Jeanne VanBriesen, PhD, Northwestern
 Chris Weber, PhD, Carnegie Mellon

Mechanics, Materials and Computing:

Amit Acharya, PhD, UIUC
 Jacobo Bielak, PhD, CalTech
 Kaushik Dayal, PhD, CalTech
 Craig Maloney, PhD, UCSB

Faculty Awards in 2009:

Jacobo Bielak: University Professor, awarded on the basis of national or international recognition for research and other scholarly activities
Cliff Davidson: Carnegie Mellon University Walter H. and Francis S. Ryan Award for Meritorious Teaching
James Garrett: ASCE Fellow, recognizing professional accomplishments and academic excellence
Chris Hendrickson: Carnegie Mellon Faculty Service Award, for his remarkable commitment to the support, education and mentorship of CEE alumni
Greg Lowry: ASCE Walter L. Huber Civil Engineering Research Prize and Malcolm Pirnie/AEESP Frontier in Research Award
Jeanne VanBriesen: ASCE Pittsburgh Section's Professor of the Year and McGraw-Hill/AEESP Award for Outstanding Teaching
Chris Weber and H. Scott Matthews: Best Policy Paper honors from *Environmental & Science Technology*



Research Centers in CEE:

CenSCIR - Center for Sensed Critical Infrastructure Research - James Garrett & Jose Moura, Faculty Directors; Matt

Sanfilippo, Director; Mission: Perform research with industry and government partners to develop a thorough understanding of the data and decision support needs (human and autonomous control) in a variety of infrastructure contexts and the economic implications of delivering such support.

CAPS - Center for Atmospheric Particles Studies - Neil Donahue, Director; Mission: to substantially advance the state of knowledge across this spectrum, and to provide both policy-relevant research and to participate directly and actively in the evolution of environmental policy related to particulate matter.

CEINT - Center for the Environmental Implications of Nanotechnology Mark Weisner (Duke University), Director; Gregory Lowry, Deputy Director Based at Duke University, this center brings together researchers from Duke and Carnegie Mellon, as well as Howard, Stanford, Virginia Tech and the University of Kentucky, to study the environmental effects of nanotechnology and its applications.

CM2EM - Center for Multiscale Modeling of Engineering Materials - Amit Acharya, Faculty Director; CM2EM's mission is the quantitative understanding of materials from the smallest to the largest relevant scales, with a special emphasis on emergent behavior in complex materials systems.

GDI - Green Design Institute

Lester Lave, Director, Chris Hendrickson, Co-Director; Mission: to form partnerships with companies, government agencies and foundations to develop pioneering design, management, manufacturing, and regulatory processes that can improve environmental quality and product quality while enhancing economic development.

SEER - Steinbrenner Institute for

Environmental Education and Research David Dzombak, Faculty Director, Deborah Lange, Executive Director; Mission: To promote the university's core academic strengths and advance emerging interests to identify and create research and education opportunities for our faculty and students; across all schools and majors.

WaterQUEST - Water Quality in Urban Environmental Systems

Jeanne VanBriesen, Director; Mission: To advance the scientific basis for decision-making in urban watersheds.

WPBC - Western Pennsylvania Brownfields Center

Deborah Lange, Director; Mission: To to promote the value of underutilized sites in the region, by acting as a regional resource for communities and small businesses to realize sites' inherent benefits and eliminate development barriers.

