SPECIALTY AREA:
CONSTRUCTION, ENERGY AND SUSTAINABLE INFRASTRUCTURE

OVERVIEW //

RESEARCH TOPICS

Construction
Energy
Engineering and the
    Developing World
Sustainable Infrastructure

DEGREE PROGRAMS

Master's Programs:
 • Research-intensive
   academic track
 • Coursework-only
   professional track
Online Master's Programs:
 • Construction Engineering
 • Energy Infrastructure
   (launches autumn 2018)
Ph.D. Program

The UW CEE Construction, Energy and Sustainable Infrastructure (CESI) research area addresses pressing needs of society related to some of the biggest infrastructure challenges. Students engage in cutting-edge research with faculty on transportation, building and energy-related infrastructure challenges.

Specific areas of focus include construction engineering, energy infrastructure, sustainable roads and buildings, engineering in developing communities and social sustainability.

FACULTY	Jessica Kaminsky	Steve Muench
	Amy Kim	Dorothy Reed
	Joe Mahoney	

Best Graduate Schools

UW CEE received the following rankings from *U.S. News & World Report* for 2018:

#12 best graduate school in environmental engineering

#16 best graduate school in civil engineering

CAREERS

CESI program graduates enjoy careers in the construction industry (both vertical and heavy) as well as planning, designing and constructing either energy-related or sustainable infrastructure or both.

COMPANIES

Research from the CESI area has led to the formation of two companies, which continue to provide hands-on experience for students involved in related research projects.

• **Greenroads Foundation**:
A private nonprofit company, the Greenroads Foundation is changing the way roads are built through their innovative sustainability rating system, education and outreach. In acknowledgment of Greenroads' positive impact, the organization was recognized by the Obama White House as a Champion of Change in May 2013.

• **Pavia Systems, Inc.**:
Pavia Systems provides technologies to enhance the transportation industry. Their flagship product, HeadLight, is a cloud-based platform for managing the implementation of large-scale infrastructure projects.

STUDENT RESEARCH

Mobile Technology for Project Inspections

Rapid advancements in mobile devices continue to offer new capabilities. Ph.D. student Julian Yamaura is working to integrate a mobile technology solution, called HeadLight, for project inspections at transportation departments across the nation. Field measurements and interviews with pilot users at departments of transportation in three states indicate that HeadLight results in up to 25% increased productivity. HeadLight is developed by Pavia Systems, a software technology company originally started by UW faculty, staff and graduates through what is now known as UW CoMotion.

Investigating Energy Efficiency Retrofits

Prioritizing energy efficiency retrofits is increasingly important, as conserving energy benefits the environment and results in lower building operational costs. However, such investments are often not prioritized, which varies by country. To gain a better understanding of how stakeholders from different countries make such decisions, Ph.D. student Lysandra Medal together with assistant professor Amy Kim visited Indonesia in March 2017. The researchers conducted site visits and focus group discussions with various building stakeholders and will compare their findings to data gathered in the U.S.

W CIVIL & ENVIRONMENTAL ENGINEERING
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