Our Facilities

Cornell is home to several national research centers and laboratories. Environmental Processes graduate students have access to some of the most advanced equipment and technology in the world, including the Environmental Laboratories, the Cornell NanoScale Science and Technology Facility (CNF), and the Nanobiotechnology Center (NBTC).

Our Interdisciplinary Infrastructure

As a graduate student at Cornell University, you will enjoy a level of academic flexibility that you'd be hard-pressed to find anywhere else. That's because, at our core, we believe that working across and between disciplines is fundamental to the success of all research. In fact, we encourage you to fill your research committee with faculty from any department you see fit—chemistry, microbiology, earth and atmospheric science, natural resources ... even economics or law.

If you believe, as we do, that collaboration and innovation go hand in hand, Environmental Processes at Cornell is right for you.

"At the School of Civil and Environmental Engineering, we're training students for the future. We help them become grounded in the fundamentals of our field so that they will be able to adapt to whatever world problems arise—not just today or tomorrow, but 30 or 50 years from now."

James Gossett, *professor*

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Please call 607 255-7560, or visit www.cee.cornell.edu for more information.

CORNELL ENGINEERING

ENVIRONMENTAL PROCESSES

Master of Engineering, Master of Science, and PhD

A BETTER FUTURE STARTS HERE.

As an elite candidate for an advanced degree in Environmental Processes, your timing could not be more opportune.

Right now at Cornell's School of Civil and Environmental Engineering (CEE), Environmental Processes graduate students and faculty are discovering new ways to meet the growing challenges of our society—through advanced technology and sustainable solutions. What drives us is knowing that we can overcome any number of challenges if we understand how the world works at the most fundamental level.

Our Research

Environmental Processes at Cornell is focused on the advancement of several key research areas, such as water pollution remediation and mitigation, microbial systems biology, and renewable resource extraction. The research spearheaded by our Environmental Processes graduate students ranges from studying the activities of microbial communities through genomics, transcriptomics and proteomics to the application of chemical, biological, and physical principles to the solution of water quality problems.

Our Faculty

During their time at Cornell, graduate students collaborate with faculty who are at the forefront of environmental processes research.

Dr. James Bisogni studies problems associated with acid rain, water quality control for intensive aquaculture, and control of lead and copper in water supply distribution systems. Recently, he has researched the effects of pipe flow rate, pH, and calcium concentration on total and colloidal lead in drinking water distribution systems.

Dr. James Gossett works with students on the theoretical and engineering aspects of biological phenomena and processes applicable to the removal of impurities from water, wastewater, and industrial wastes and to their transformation in the environment. Recent research projects include studies of a novel bacterium that can be added to subsurface sites for remediation of chloroethenes, and studies of pretreatment and enzymatic hydrolysis of biomass feedstocks for bioethanol production.

Dr. Leonard Lion focuses on improving the understanding of processes that influence the fate and transport of pollutant compounds in both natural and engineered systems. His research includes studying metal biomagnification in a model microbial food chain, toxic metal interaction with populations of adherent bacteria (biofilms), and soil remediation with cross-linked amphiphilic nanoparticles.

Dr. Ruth Richardson is interested in understanding the behavior and activities of microorganisms in complex communities. Her research activity is centered in two areas. The first is developing methods for monitoring in situ contaminant bioremediation by measurement of RNA or protein biomarkers (aka bioindicators) of specific microbial processes. The second, and newer area, is in optimizing the growth of microalgae for the simultaneous production of biofuel feedstocks (oils, carbohydrates) and commercially valuable enzymes.

Dr. Monroe Weber-Shirk dedicates his research to developing sustainable small-scale drinking water treatment technologies. He is the director of AguaClara, an award-winning initiative that is improving drinking water quality in Honduras through innovative research, knowledge transfer, open source engineering, and design of sustainable, replicable water treatment systems.