Welcome

The Ph.D. in Earth and Ecosystem Science (EES) at Central Michigan University is an interdisciplinary doctoral program providing advanced scientific training in environmental science. This is an investigative field of study that employs a systems-level approach to evaluate the physical, chemical, and biological structure and function of various natural environments.

In this research-intensive degree program, students will investigate and evaluate the multiple patterns and processes that regulate environmental variation across a range of temporal and spatial scales.

About the Program

Through core courses and individual research projects, EES students study the behavior of whole ecosystems in specific and unique geographic regions, with a particular focus on the interrelations between multiple factors that regulate variation in the environment.

This subject is broad and inherently multidisciplinary, encompassing aspects of biology, chemistry, geology, geography, physics and mathematics.

Research in EES may explore patterns (biodiversity, reaction, physical architecture), processes (fate, transport, efficiency), regulation (complexity, stability, feedback) and management (sustainability, global change) of ecosystems and key ecosystem components.

Program of Study

The EES PhD program is research-intensive, with a suite of core courses. Electives and courses on specialized topics are available through several departments within the College of Science and Technology. Successful completion of the Ph.D. requires a minimum of 60 hours of graduate work beyond the bachelor’s degree.

Students will meet with their advisor initially to map out a plan of study, complete a transfer of relevant graduate coursework, and evaluate academic strengths to determine if additional coursework and/or professional activities are needed. Up to 30 hours of relevant graduate work may be transferred for students entering with a master’s degree in a related field.

Admissions Process

Materials should be received by CMU by February 1, but review of materials will begin in January and will continue on a rolling basis for Fall admission each year.

Applications and all materials must be submitted to the College of Graduate Studies and must include:

- CMU graduate application
- official transcripts for any BS and MS degrees
- official GRE scores, general test only
- a personal statement outlining interest in the EES program and identifying potential faculty mentors
- evidence of potential for success in research as indicated by prior experience
- three letters of recommendation
- for international students, evidence of English proficiency is required
Participating Faculty

Dr. Hunter Carrick: Limnology, food web dynamics, nutrient cycling in large lakes and streams.
  hunter.carrick@cmich.edu

Dr. Anthony Chappaz: Aquatic geochemistry, water chemistry, trace metal speciation, molecular geochemistry.
  anthony.chappaz@cmich.edu

Dr. Tracy Galarowicz: Fish ecology and management.
  galar1tl@cmich.edu

Dr. Philip L. Hertzler: Developmental biology of aquatic and marine invertebrates.
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Dr. Benjamin Heumann: Remote sensing, Geographic Information Science and biogeography.
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Dr. Deric Learman: Environmental microbiology and microbial geochemistry.
  deric.learman@cmich.edu

Dr. Bin Li: Geographic Information Science, spatial statistics, visualization.
  bin.li@cmich.edu

Dr. Andrew R. Mahon: Molecular ecology, molecular detection of invasive species, molecular systematics.
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Dr. Anna Monfils: Wetland plant biodiversity, ecology, and evolution.
  anna.monfils@cmich.edu

Dr. Kevin Pangle: Predator-prey interactions, phenotypic plasticity, Great Lakes food webs.
  pangl1k@cmich.edu

Dr. Yong Q. Tian: Geo-computation and environmental modeling.
  yong.tian@cmich.edu

Dr. Donald G. Uzarski: Limnology, wetland and stream ecology, experimental design, ecosystem chemical/physical disturbance, ecosystem stressor-response relationships.
  uzars1dg@cmich.edu

Dr. Daelyn Woolnough: Spatial ecology of aquatic and terrestrial systems.
  wooln1d@cmich.edu

Dr. David T. Zanatta: Fisheries biology, conservation of freshwater mussels.
  zanat1d@cmich.edu

Dr. Tao Zheng: Remote sensing.
  zheng1t@cmich.edu

Financial Support

Graduate Assistantships

EES graduate students are supported primarily through research assistantships (RA) and teaching assistantships (TA). No separate application is necessary for this support.

Both assistantships include a base stipend and tuition remission for the academic year. Research assistantships may also provide summer stipends and tuition remission.

Apply Online

http://apply.cmich.edu

For More Information

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www.cst.cmich.edu/EES

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