# GEOSPATIAL DATA SCIENCES (GDS) MASTER OF SCIENCE

## BECAUSE TO SOLVE WICKED ENVIRONMENTAL PROBLEMS, THE WORLD NEEDS PROFESSIONALS AND RESEARCHERS WHO CAN MANIPULATE AND ANALYZE COMPLEX ENVIRONMENTAL DATA

In our connected world, with the explosion of available spatial environmental data, informatics and data science have become increasingly valuable. Data science technologies are fast-tracking sustainability efforts from forestry to landscape mapping, watershed ecology to archaeology, pollution detection to geology, and everything in between.

The interdisciplinary Geospatial Data Sciences specialization prepares environmental professionals and researchers to develop and use analytical and computer-based methods to assess and protect the Earth's natural resources.

# WHY GDS?

- Learn both the theory and the applications of advanced computational, analytical, and data science techniques so you can apply GIS and other tools in the environmental domain of your choice.

- Combine training in digital geospatial, statistical, and modeling tools with application of those tools to a wide range of issues across other specializations at SEAS.

- Understand physical principles, types of sensors, methods of image analysis and classification, and applications of remote sensing to identify and solve environmental problems.

- Plan, design, and execute GIS projects for natural resource management and become proficient in the use of mapping software.

# FACULTY

- Neil Carter
- Bill Currie
- Meha Jain
- Derek Van Berkel
- Kai Zhu

# GAME CHANGERS

### CHARLOTTE WEINSTEIN '18
**ASSISTANT RESEARCH SCIENTIST**
**MICHIGAN TECH RESEARCH INSTITUTE**

"What drew me to this particular program was that it was very interdisciplinary. Environmental issues are not siloed, so you need multiple perspectives to be able to tackle the challenges that we're facing. A big asset of the program has been project-based learning—really learning by doing—which is personally how I learn best."

### JIAWEI (JADE) HUANG '16
**PH.D. CANDIDATE, CHOROPHRONESIS**
**APPLIED SPATIAL INTELLIGENCE**

"Geospatial Data Sciences, and GIS in particular, helps us better visualize and understand our world. I chose SEAS because it embraces both the beauty of nature and the beauty of logic, where students from different backgrounds find a welcoming place and work together."

# MASTER'S PROJECTS

Part of the culminating experience of your program is a master's project or master's thesis, where you will work with an external client to solve real-world problems. Recent projects include:

***Evaluating the Impacts of Sea Level Rise and Storm Surges on Seychelles' Critical Infrastructure: Climate Toolkit***
(The Republic of Seychelles, East Africa)
***Client:*** Multicultural Environmental Leadership Development Initiative and United States Department of Agriculture
***Advisor:*** Avik Basu

***Improving Climate Resilience in the Seychelles: Evaluating the Impacts of Sea-Level Rise and Storm Surges on Seychelles' 'Critical Infrastructure'*** (Mahé, Seychelles)
***Client:*** United Nations Framework Convention on Climate Change
***Advisor:*** Dr. Avik Basu

***Supporting Conservation and Decision-Making in the Northwoods: Mapping Forest Values, Services, and Threats***
(Lansing, Michigan, USA)
***Client:*** The Nature Conservancy in Michigan
***Advisor:*** Dr. Bill Currie

# COURSE SAMPLING

- Remote Sensing of Environment
- Applied Ecosystem Modeling
- Environmental Spatial Data Analysis
- GIS and Natural Resource Applications

# APPLY NOW!
## SEAS.UMICH.EDU/APPLY

# CONTACT

## SEAS ADMISSIONS COACHES:

seas-admissions@umich.edu

(734) 764-6453

**Learn more: seas.umich.edu**

# CAREERS

In-house career coaches will provide personal guidance while you are a student and continued support after you graduate.

DUCKS UNLIMITED

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

quantum SPATIAL

# SEAS
## SUSTAINABILITY THEMES

Students specializing in Environmental Informatics have the option to focus their studies and deepen their knowledge in one or more sustainability theme.

- CITIES+MOBILITY +BUILT ENVIRONMENT
- CLIMATE + ENERGY
- CONSERVATION + RESTORATION
- FOOD SYSTEMS
- WATER
- CROSS-CUTTING EXPERTISE