



Post-Doctoral Fellowship and Graduate Student Opportunities at the University of Florida - Engineering With Nature Project

A post-doctoral associate fellowship and six graduate student research assistantships are available starting in August 2022 at the University of Florida for an interdisciplinary project, funded by the U.S. Army Corps of Engineers [Engineering With Nature](#) initiative, based out in the [UF Center for Coastal Solutions](#). A team of six PIs from the departments of Civil and Coastal Engineering (CCS), Environmental Engineering Sciences (EES), and Geological Sciences with expertise in coastal ecology, coastal engineering, and geomorphology are involved in this project. The post-doctoral fellow and graduate students recruited by this effort will work together on interrelated ecological, oceanographic, and geomorphological projects along the Florida Atlantic coast. Descriptions of specific lab group openings are provided below. Candidates are encouraged to contact relevant PIs no later than November 15, 2021.

Information on our Environmental Engineering Sciences and Coastal Engineering graduate programs within the Engineering School of Sustainable Infrastructure and Environment can be found at <https://www.essie.ufl.edu/programs/coastal-ecosystem-dynamics/>.

Information on our Geological Sciences graduate program can be found at <https://geology.ufl.edu/>.

Angelini Group (Project Lead PI Christine Angelini)

Funding is available for one post-doctoral fellow and one PhD student to work in the Community Ecology and Restoration Engineering group led by Christine Angelini (<https://www.angeliniecolologylab.com/>). This post-doc and graduate student will lead experimental field research focused on the vegetation-geomorphic feedbacks that mediate the resistance and recovery of coastal dune ecosystems and work with the EWN project team to design strategies to amplify coastal dune restoration success. The project will involve significant field research in beach and coastal dune habitats, interactions with our interdisciplinary team as well as other researchers and

stakeholders within the Network for Engineering with Nature (<https://n-ewn.org/>) and beyond.

Desired qualifications for the post-doctoral position include (1) a PhD in coastal or community ecology, coastal engineering, geology, or a related field, (2) Experience implementing field research and deploying instruments in field settings, and (3) Strong skills in data analysis, statistics, and scientific writing.

Desired qualifications for the PhD student include (1) a BSc or MSc in coastal ecology, coastal engineering, geology or a related field, (2) experience implementing field research and/or deploy and retrieving instruments in field settings, (3) a willingness to work independently as well as in teams, (4) foundational skills in data analysis, statistics and the scientific method, and (5) strong verbal and written communication skills.

Interested applicants should email their CV and a statement of interest to Christine Angelini (c.angelini@ufl.edu).

Geomorphology Lab (Co-PI Peter N. Adams, UF Geological Sciences)

Funding is available for 2 graduate student (PhD or MS) assistantships (combination of RA and TA) to work in the Adams Geomorphology lab group ([UF Geological Sciences](#)), under the supervision of Peter Adams. The students will collaborate with the UF-EWN team on a project to document patterns of decadal to event-scale geomorphic change along the North Florida Atlantic coast and link the landform observations to measurements of geomorphic processes operating within the coastal zone. The project will involve significant field work within the subtidal to supratidal coastal zone, remote sensing, and computer programming/numerical modeling.

Desired qualifications include (1) MS or BS in Geoscience, Oceanography, or related discipline, (2) excellent oral and written communication skills, (3) experience with field research and willingness to operate ATV/UTV/JetSki and other field equipment, (4) experience with programming (i.e. Matlab, Python, R), (5) experience with (or willingness to learn) QGIS, (6) willingness to work independently as well as in a team environment.

Interested applicants should contact adamsp@ufl.edu with a cover letter and a CV.

Altieri Group (Co-PI Andrew Altieri)

The [Altieri Lab](#) is recruiting a PhD student to lead research on the topic of coastal resilience at the intersection of climate change and living shorelines in the context of our collaborative Engineering With Nature project. The student will work as part of a

dynamic team to examine how engineering interventions can be tailored to maximize the natural functions of ecosystem engineers including marsh grasses, mangroves, and oyster reefs. This will be a field-forward project, and a strong candidate for this position will be prepared to work independently in challenging coastal conditions. They will have a background in managing field operations (including surveys and experiments), collecting and analyzing data, strong communication skills (verbal and written), and be prepared to contribute positively to a diverse and inclusive research group. Students with a passion for nature and creative approach to science are desired, and a master's degree or equivalent experience is a plus.

Competitive applicants should contact andrew.altieri@essie.ufl.edu with a cover letter and their CV.

Yu Group (Co-PI Xiao Yu)

Funding is available for 2 graduate student (PhD) assistantships (RA) to work in the Yu Environmental Fluid Mechanics lab group, under the supervision of [Xiao Yu](#). The graduate students will conduct high fidelity numerical simulations to study flow dynamics in salt marshes and mangrove forests, including flow attenuation and turbulent mixing & transport by emergent aquatic vegetation. Simulation results will be used to derive improved parameterization of wave attenuation and turbulent production due to vegetation. The position responsibilities include conducting high-fidelity numerical simulations, data analysis and developing a theoretical framework for combined wave-current flows over emergent vegetation canopy. Candidates should be holding a degree in Engineering (or equivalent). Prior experience in computational fluid dynamics modelling and scientific programming of numerical methods are highly desired. Experience in turbulent modeling is an additional asset.

Interested applicants should contact Xiao Yu (yuxiao03@ufl.edu) with a cover letter and a CV.