

Macroalgae Fuel and Material Suitability Analysis Internship

The Ecology & Biogeochemistry of Marine & Coastal Systems Lab is seeking two high school interns interested in chemistry, biofuels, ecology, and/or material science to explore pelagic *Sargassum* for suitability for biofuel, carbon burial, and material (including fertilizer, textiles, food and drugs, etc.) synthesis purposes.

Project: Analysis of pelagic *Sargassum* tissue for energy, carbon burial, and material synthesis purposes.

Pelagic *Sargassum* is a protected habitat that is important to the productivity and food web of the North Atlantic Ocean basin. However, pelagic *Sargassum*'s recent introduction to the South Atlantic Ocean basin has led to levels of growth that are considered macroalgal blooms observed to have negative effects on coastal ecosystems, organisms, and human communities, economies, and health.

We have nearly 10-years of seasonal *Sargassum* tissue samples collected from the western edge of the Gulf Stream off the NC coast and carbon, nitrogen, and phosphorus concentration data for those samples. The interns will work together to conduct literature review to determine if the sample data we have can determine *Sargassum*'s suitability for human uses and identify other analyses on tissues that should be conducted to fill gaps in the existing dataset to determine its suitability for these purposes. Interns will be involved in laboratory analyses, including carbon, nitrogen, and phosphorus analyses of tissue samples collected this spring and summer and on a research cruise to the Gulf Stream to collect more *Sargassum* samples (offshore condition permitting).

The expected dates of the internship are May 16 – July 31. The interns will work approximately 10-20 hours per week. The deadline to apply for this internship is March 15th, 2024.