Paper-based devices for nutrient detection in real-world environments

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Project Location:

University of Rhode Island-Kingston

Project Description:

There are a number of nutrients in marine environments, including nitrate and phosphate, that have to be within certain levels in order to ensure a healthy ecosystem. Too little of these nutrients means that organisms can't access what they need, and too much means that certain organisms will grow rapidly and disrupt the delicate ecosystem balance. Commercially available methods to detect nitrate and phosphate exist, but can be tedious to use and/or suffer from other serious drawbacks. Our group has developed new paper-based devices that turn color in the presence of nitrate and phosphate, and can be used for the rapid detection of these nutrients in real-world environments. We are now ready to use these devices to test broad varieties of water samples at locations throughout Rhode Island, to validate the device performance and obtain important information about the ecosystem health.

*This project involves **both field & lab/computer work***

Required/preferred skills for student applicant:

A willingness to work with others and openness to learn new things.

Student transportation needed for project?

No