

Oceanography Seminar

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"OOI for the rest of us: Emergent low-cost electronics and open-source software for democratizing ocean sensor technology"

Environmental sciences suffer from undersampling. Enabling sustained and unattended data collection typically involves expensive instrumentation and infrastructure deployed as cabled observatories moorings with little flexibility in deployment location following initial installation. High cost of commercially available or custom electronic packages not only limited the number of sensor sites that can be targeted by reasonably well-funded academic researchers, but have also entirely prohibited widespread engagement with K-12, public nonprofit, 'citizen scientist' and even undergraduate and graduate STEM audiences.

Presented here is a novel, low-cost, open source instrumentation and software platform to enable wireless data transfer of biogeochemical sensors in the coastal zone. The platform is based upon widely available, low-cost, single board computers and microcontrollers. The development of the platform represents a balanced blend of on-hand research