A scalable underwater sensor for dissolved inorganic carbon

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There is no commercially available sensor in existence for measuring dissolved inorganic carbon (DIC) in-situ in the ocean, one of the key parameters needed for OVSN. We propose to overcome this challenge by developing a low cost in situ dissolved inorganic carbon (DIC) sensor for submersible ocean applications. The sensor will be small, inexpensive, and low power, thus enabling broad scalability, as well as operation on many ocean platforms relevant to OVSN. The project will include design and testing of different sensor architectures, and the final result will be a benchtop “proof-of-concept” sensor. The results from this work will then be used to secure future funding for producing and in situ testing of a fully submersible version, with the intention of commercialization. Since no commercial DIC sensors currently exist, creating a simple, scalable, sensor with high commercial potential would be a major step to achieving volumetric DIC sensing in ocean, and it would constitute a transformative advancement for the carbon monitoring goals of OVSN.