OCEAN-IDs

Project ID: 713619
Funded under: H2020-EU.1.1. - EXCELLENT SCIENCE - European Research Council (ERC)

OCEAN in-situ Isotope and Dissolved gas sensing

From 2016-04-01 to 2017-09-30

Project details

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<th>Total cost:</th>
<th>Topic(s):</th>
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<tr>
<td>EUR 149 535</td>
<td>ERC-PoC-2015 - ERC Proof of Concept Grant</td>
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<td>EU contribution:</td>
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<td>EUR 149 535</td>
<td>ERC-2015-PoC</td>
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<td>Coordinated in:</td>
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<td>France</td>
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Objective

Through the 2012-2017 ERC Advanced Grant project ICE&LASERS, we have developed an innovative glacier probe, which includes an embedded laser spectrometer. It will drill down the Antarctic ice sheet in a single run, to measure in situ and real-time the depth profile of water isotopes and methane in trapped gases, with the aim to solve a major challenge in paleoclimate science.

To test the performance of the laser spectrometer in a realistic and non-controlled environment, in 2014 it was deployed for measuring dissolved methane in seawater (an easier environment to access compared with Antarctica). As a result of a fast response time of only 30 seconds (compared to 15-20 min for commercially available instruments), a unique continuous profile of dissolved methane was measured to a depth of 600 m within 10 min. Finances from an Innovation Fast Track incubator were obtained in July 2015 to explore the commercial potential of this dissolved methane sensor and to build a demonstrator allowing for real-time 3D mapping.

However, the true potential and uniqueness of our technology is that it can be developed to measure – in situ and real-time – multiple dissolved gases (like CH4, N2O, C2H6) and isotopic ratios (e.g., D/H, 13C/12C), which would mean a major step forward for oceanographic research and exploration.

OCEAN-IDs aims to proof the concept (not scheduled to be funded by the ERC AdG project) of measuring multiple dissolved gases and isotopic ratios from seawater using our state-of-the-art laser spectrometer technology combined with novel sample extraction methods and real-time data visualisation. The objective is to develop a new generation of in-situ oceanographic instruments at TRL7 that can be taken to market.

Related information
**Host Institution**

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS  
RUE MICHEL ANGE 3  
75794 PARIS  
France

Activity type: Research Organisations

Contact the organisation

**EU contribution:** EUR 149 535

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**Beneficiaries**

CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS  
RUE MICHEL ANGE 3  
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**EU contribution:** EUR 149 535

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**To know more**

http://erc.europa.eu/

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