# Challenger Wave

Monthly newsletter of the Challenger Society for Marine Science (CSMS)

# NEWS

## Announcement of Opportunity - MOSAiC - The International Arctic Drift Expedition

Proposals are invited under a new research programme which will provide the opportunity for participation in the Multidisciplinary Drifting Observatory for the Study of Arctic Climate (MOSAiC) initiative. This opportunity is in partnership with the Department for Business, Energy & Industrial Strategy (BEIS), and is expected to support up to six two-month berths on the MOSAiC expedition and associated research proposals that are compatible with the MOSAiC science and implementation plans. Up to £1-8 million is available from NERC for this call. The call deadline is 1600 on 31st January 2018.

MOSAiC is a year-round international expedition into the central Arctic Ocean to explore the Arctic climate system. It has been designed by a consortium under the umbrella of the International Arctic Science Committee, led by the AWI, the Arctic and Antarctic Research Institute (Russian Federation) and the University of Colorado. The focus of MOSAiC is on direct in-situ observations of the climate processes that couple the atmosphere, ocean, sea ice, bio-geochemistry and ecosystem.

Further information about MOSAiC is available on the MOSAiC website <a href="http://www.mosaicobservatory.org/">http://www.mosaicobservatory.org/</a>. Further information about this call is available on the NERC website <a href="http://www.nerc.ac.uk/research/funded/programmes/mosaic/news/ao/">http://www.nerc.ac.uk/research/funded/programmes/mosaic/news/ao/</a>. - NERC Arctic Office

# Update on the tide predicting machine article in the June issue of CW

Apologies if you know already, but I was asked

the other day to recirculate the information that two tide prediction machines (of the type that David Bowers mentioned a few months ago) are now on display in the NOC building in Liverpool. You can sign up to visit using the link <a href="http://www.tide-and-time.uk/">http://www.tide-and-time.uk/</a>.

Connected with that, a small film that NOC made about Liverpool and tides has been put on YouTube, https://youtu.be/w6Wrzs-5T5s. The film was made a year or so back when Bidston Observatory was in a rather dilapidated state. The observatory is now being refurbished by new owners I am pleased to say. - *Phil Woodworth* 

# Gathering of polar scientists will make Oban the 'Gateway to the Arctic'

The UK's leading Arctic scientists will meet in Oban this month to discuss the rapid environmental change being seen in the polar region. The Scottish Association for Marine Science (SAMS) is hosting the biennial UK Arctic Science Conference from September 19-21 and will welcome around 130 researchers to the town's Corran Halls. The event is supported by the Natural Environment Research Council (NERC) Arctic Office.

As part of the programme, environment and science broadcaster Tom Heap, best known as a presenter on the BBC's Countryfile, will give a public lecture on how the Arctic affects us all. The lecture, which is free to attend, will take place in the Corran Halls from 7.30pm on Monday, September 19. Mr Heap, whose father was head of the Polar Regions Department in the Foreign and Commonwealth Office and Director of the Scott Polar Research Institute, said: "From explorers and whalers to eco-campaigners and meteorologists, the frozen north has fascinated our minds and affected our lives for centuries. Today, the retreating ice is unlocking fresh narratives of the North as we contemplate a new Arctic geography. The conference will be a great

chance to catch up with top polar scientists and original thinkers on matters concerning the top of the world. It should be lively and a great resource for me as a journalist."



BBC broadcaster Tom Heap will give a public lecture at the UK Arctic Science Conference

The conference will give scientists an opportunity to share ideas and research in how to better predict, and prepare for, extreme changes in the climate of the northern hemisphere. Arctic scientist Dr Finlo Cottier of SAMS chairs the conference's local organising committee and said "SAMS' commitment to Arctic research and Scotland's proximity to the region made Oban the ideal host venue. Oban is known to many as the Gateway to the Isles but for UK science it is really the Gateway to the Arctic and we are delighted to welcome the Arctic science community to Oban. The environmental changes in that region are giving us a window into the pace and effects of climate change and SAMS is involved in many national and international Arctic projects to help nations across the northern hemisphere prepare for the future."

The Arctic region has seen the most dramatic changes in climate over the past few decades, with ice melting at a quicker rate each year because of rapid warming. While the daily average global temperature rose by 0.55 °C from 1979-2000, the temperature in the Arctic rose by 6.42 °C for the same period. The average Arctic sea ice cover for November 2016 set a record low, leading to suggestions that sea ice cover could be at a tipping point, from which that the region may not recover.

SAMS is leading two international Arctic projects, Arctic PRIZE and DIAPOD, which are funded by NERC and aim to discover how retreating Arctic ice cover will affect the ocean environment. Henry Burgess, Head of the NERC Arctic Office, said: "The UK is at the leading edge of high-quality and independent Arctic research, with real-world impact. This event is a fantastic opportunity for researchers to share their findings, redouble their commitments to understanding the consequences of rapid environment change, and connect to the public. It is a real pleasure to have been able to support SAMS in hosting this event here in the fantastic town of Oban. The work of SAMS and other organisations is essential to strengthen the country's resilience to the kinds of environmental change that we will see in the years ahead. We look forward to working even more closely in the future."



# **VIEWS**

# New Factsheets Showcase Geoscience in Every State

The American Geosciences Institute (AGI) has announced the completion of fifty new factsheets, which quantify the tangible contributions of geoscience (earth science) to the economy, environment, public health and safety of every U.S. state. "As geoscientists, we study the Earth system in every corner of the country," said Maeve Boland, Director of Geoscience Policy at AGI. "But it has been difficult to compare the

value and contribution of our science to individual states."

Recognizing this need, AGI has gathered information from U.S. nationwide sources to generate this comprehensive, standardized set of factsheets. Unlike a lengthy report, these factsheets allow federal and state decision-makers to glean important facts about the role of geoscience and the government agencies that fund geoscience in their states as quickly as possible. "The factsheets are each thoughtfully divided into ten sections with identical line items that can be compared apples-to-apples across all fifty U.S. states," said Boland.

Perhaps most importantly, the factsheets frame geoscience as a discipline that brings benefits to every state. Water, minerals, and petroleum, all natural resources that many of us take for granted, would not be safely available without geoscience. Furthermore, geoscience brings jobs, attracts students and faculty to universities, and spurs research and innovation, while helping mitigate the risks of public health emergencies and natural hazards like earthquakes, hurricanes, and droughts.

These factsheets can also inform government policies and budget decisions on geoscience topics. When geoscientists arrive on Capitol Hill in September for in-person visits with their state representatives as part of the 10th annual Geosciences Congressional Visits Days, they will be bringing these factsheets with them. Allyson AGI's Executive Anderson Book, Director, believes that is important. "Here at AGI we work to make earth science accessible, regardless of whether you are a geoscientist or not. With these factsheets, scientists can more communicate how geoscience is vital to society at the state and local level." Find the factsheets at http://bit.ly/AGIStateSheets.

#### **Update for MASTS ASM workshops**

Details regarding the MASTS Annual Science Meeting Workshops are now available: 2017-workshops. Places on these workshops can be booked when you register online: annual-science-meeting/registration/.

#### Decommissioning and Wreck Removal

Organiser: Karen Seath

*Timings & Location*: 13.30-17.30 Thursday 5th & 08.45-12.45 Friday 6th October in Auditorium A

Details: Workshop schedule available here.

#### **Cumulative Effects of Multiple Stressors**

Organiser: Prof Peter Tyack

Timings & Location: 09.15-15.15 in Level One

Auditorium on Friday 6th October

Details:

09.15 Welcome

09.30 Prof Peter Tyack (St Andrews University)
Review of the report "Approaches to
Understanding the Cumulative Effects of
Stressors on Marine Mammals"

10.00 Prof John Harwood (St Andrews University)
Review of the conceptual model for Population
Consequences of Cumulative Effects on Marine

Mammals.

10.30 Morning coffee break

11.00 Prof Ailsa Hall (Director Sea Mammal Research Unit) Health assessments and multiple stressors: challenges and opportunities 11.30 Dr. Chris Brown (Griffith University) Managing for uncertain interactions among multiple stressors of marine ecosystems 12.00 Prof Colin Moffat (Marine Scotland Science) How Marine Scotland approaches cumulative effects, taking account of developments within the Regional Seas Conventions

12.30 Q&A and panel discussion 13.00 Lunch

13.30-15.00 6x 12min talks

#### EcoWatt 2050

Organiser: Jon Side

Timings & Location: Conference room 1 (09.30-

13.00) on Friday 6th October

Details: A special session reporting the findings of the EPSRC funded research project on the effects of the removal of energy by tidal and wave arrays, and comparison with the predicted effects of climate change. At an earlier MASTS Annual Science meeting we reported on the EPSRC funded TeraWatt research which sought to answer a series of questions posed by the Scottish regulatory authority responsible for licensing marine renewable developments. These required the development of methodologies for incorporating wave and tidal devices within hydrodynamic models (MIKE3 and Delft3D) and their application to the first round of licensing for wave and tidal developments in the Pentland Firth and Orkney Waters. In our present study, EcoWatt2050, the TeraWatt consortium has been extended to include new partners specialisms in climate change, marine mammals and seabirds, and has developed new models in the FVCOM Scottish Shelf model adopted by Marine Scotland. This session will report on the work that has enabled a comparison of climate change impacts against those predicted from the removal of energy on a range of species and biotopes. In addition EcoWatt2050 has addressed extensive array configurations, comprising very large scale arrays deployed not only in Orkney and the Pentland Firth but also in other regions of Scottish Shelf Seas. All are welcome to attend.

#### Scottish Microplastics Research Group

Organiser: Marie Russell and Brian Quinn Timings & Location: Conference room 2 (09.30-12.30) on Friday 6th October

Details: Meeting of the MASTS community project Scottish Microplastics Research Group (SMRG) to discuss various aspects of microplastics in the marine environment. We hope to cover issues relating to monitoring and recent research developments in the area of microplastics in the Scottish environment. Contact Marie if you are interested in contributing a talk to this workshop.

### BioTIME - how to interact with a biodiversity time series

Organiser: Faye Moyes

Timings & Location: Conference room 8 (09.15-

12.15) on Friday 6th October

Details: BioTIME is an extensive resource for biodiversity analysis. It is a curated database featuring over 12 million records belonging to a total of 380 individual time series from across the globe. This workshop will aim to illustrate the ease of producing an informative report given input data in a set format. We will first introduce the participants to bioTIME and its overall structure, and exemplify how it can be a useful tool for a broad range of researchers and stakeholders. We will use R scripts on a 'readymade' input dataset to show set outputs such as trends in S, beta diversity, species lists and maps of locations. We then plan to build on this in an interactive manner in order to co-design with participants a final document that will prove both interesting and useful and where participants input will be most valuable. Participants are invited to bring their own data (i.e. ecological community level temporal data), and may also contribute data to bioTIME, which is a growing effort mobilising time series data.

Expected Outcomes/Outputs: Co-design of informative reports on aspects of marine biodiversity Promote understanding of marine

biodiversity patterns Promote the importance of data sharing and collaboration Facilitate future data sharing and collaboration, with data users and providers, as well as with stakeholders

### MAREMAP: A Marine Environmental Mapping Network for the UK

Organiser: Keith Westhead

Timings & Location: Conference room 8 (13.00-

17.00) on Friday 6th October

Details: Launched in 2010 and supported by NERC. MAREMAP (Marine Environmental Mapping) succeeded in bringing together the UK seabed mapping community in terms of our shared experience and as a forum to develop new techniques and collaborate on projects. The MAREMAP partnership continues to work together today but the research and information landscape within which it operates has changed significantly. So during 2017 we are consulting on a new approach to our network – one that is more responsive to UK stakeholder needs.

Our aim is to revitalise the **MAREMAP** partnership as a 'marine environmental mapping network' for the UK, with the aim to bring together organisations involved in marine environmental science. There will be less of a focus on online delivery of spatial information through MAREMAP (which is now undertaken through a range of established portals, including EMODnet), and more of a focus on sharing science ideas and undertaking collaborative pilot projects aimed at improved spatial characterisation of the marine environment. It is hoped this refreshed MAREMAP will include network increased involvement from universities and industry.

This workshop marks a stage in this revitalisation of the MAREMAP network, where we hope to engage with members of the MASTS community who wish to find out more about MAREMAP and potentially join the network. A MAREMAP futures event will be held soon after this workshop to plan the way forward for the science network with wider UK stakeholders.

Expected Outcomes/Outputs: To bring individuals and organisations involved in marine environmental science spatial mapping together, to update them on the revitalised MAREMAP network, and to share ideas and discuss potential collaborations. To engage with stakeholders in order to determine what their needs are and how the MAREMAP network can address these.

SALTS

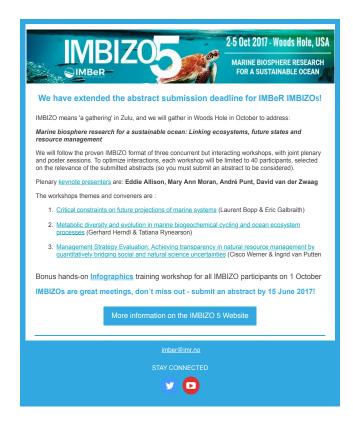
#### No news from sea this month I'm afraid

I know that this is a favourite section for many readers, where we get the inside information about life at sea, its thrills and spills. So please the next time you are at sea or carrying out any fieldwork, please remember that a simple paragraph or two will get you published here. – **Ed** 

# CALENDAR

#### 2nd-6th October 2017: the 5th IMBIZO

Woods Hole, MA, USA



# 4th-6th October 2017: MASTS 7th Annual Science Meeting: "Sea Change – Changing Seas, Changing Times"

Glasgow, Scotland, UK

The Marine Alliance for Science and Technology for Scotland (MASTS) will hold its seventh Annual Science Meeting (ASM) at the Technology & Innovation Centre, Glasgow. Now the largest gathering of marine scientists in the UK, this cross-disciplinary meeting will promote the latest

advances in marine science, good governance and using sound science responsibly. It will revisit the vision: 'Clean, healthy, safe, productive, biologically diverse marine environments, managed to meet the needs of people and nature'

This cross-disciplinary meeting brings together members of the marine science community, with the aim of promoting and communicating research excellence and forging new scientific collaborations. The cross-disciplinary nature of the event as well as the high calibre of the selected talks means that scientists can broaden their knowledge in marine science as well as benefit from expertise and ideas gained in a range of fields other than their own.

Topical meeting sessions include:

General Science Session

Maximising capabilities of volunteer observing systems

SNH session - Safeguarding Scotland's coasts and seas - perspectives and visions

Deep Sea

Circulation, dispersion and connectivity in Scottish Waters

Marine Biogeochemistry

For more details about these sessions please visit http://www.masts.ac.uk/annual-science-meeting/ registration/

On the 5th and 6th of October a series of workshops have been organized; an article listing these workshops is in this month's Views section above.



Science presentations and e-poster sessions will take place on the first two days, together with opportunities to network. On the third day, the venue will host a number of meetings and

workshops. We also invite you to join us at the conference dinner to be held on the evening of Wednesday 4th October at the Millennium Hotel Glasgow (featuring MASTS own Prof Nick Hanley and his Hoochie Coochie Ceilidh band).

The MASTS ASM is an inclusive event and we encourage all members of the Marine Science community to attend, whether you are based in Scotland, the UK or further afield. Everyone is welcome, so please circulate this notice widely. For more general details visit <a href="http://www.masts.ac.uk/annual-science-meeting/">http://www.masts.ac.uk/annual-science-meeting/</a> or contact <a href="masts@st-andrews.ac.uk">masts@st-andrews.ac.uk</a>. We look forward to welcoming you at the MASTS ASM.

## 13th-15th October 2017: Fifth Arctic Circle Assembly

Reykjavík, Iceland



#### **PROGRAM NEWS**

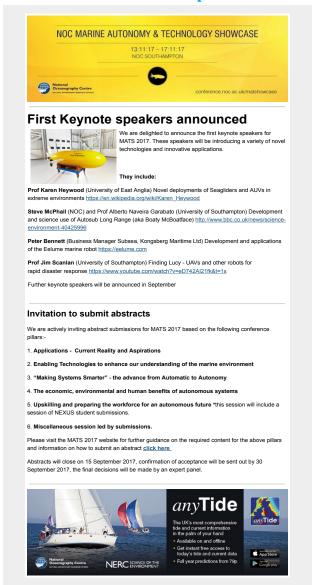
A number of governments, corporations, universities, organizations, associations, think tanks and other institutions are already preparing their participation in the fifth Assembly.

To be held at the Harpa Concert Hall and Conference Centre, https://player.vimeo.com/video/152251225?autoplay=1. The Arctic Circle Assembly provides an open, democratic forum for discussion and cooperation on Arctic Affairs. We hope to see you in Reykjavík this fall. For more information please visit Secretariat@ArcticCircle.org.

# 13th-15th November 2017: NOC Marine Autonomy & Technology Showcase

Southampton, UK

For more information visit conference.noc.ac.uk/ matshowcase.



# 15th November 2017: Royal Meteorological Society meeting

London, UK

Early announcement of a Royal Meteorological Society meeting entitled 'Maritime Meteorology', to be held at Trinity House, London. Attendance at the meeting will be free but it will probably be necessary to register in advance. More information nearer the time.

**19th-21st November 2017: Arctic Circle Forum** *Edinburgh, Scotland, UK* 



AGU is taking that commitment to the next level by introducing an Application Program Interface (API) that will open the door for scientists, developers, and others to create innovative applications that advance science and our mission. Read more about this newest element of AGU's Digital Strategy focusing on engagement, experimentation, and open data in Executive Director/CEO Chris McEntee's *From the Prow* post. With this launch, we invite you to develop a web-based tool that adds value to an API containing data from the AGU Fall Meeting Scientific Program.

The goal is to advance scientific enterprise, whether it's through serendipitous discovery of relevant research, discovery of new collaboration opportunities, identification of emerging areas of science, or something we haven't though of.

Individuals and teams interested in participating will need to request access to the API. Access to the data will be granted in early August.

Deadline to Request API Access: 11 September, 11:59 P.M. EDT

Submission Deadline: 2 October, 11:59 P.M. EDT Prizes:

1st Prize: \$15,000, 2nd Prize: \$10,000, 3rd Prize: \$5,000

Each winning team will also receive up to four complimentary one-day passes to Fall Meeting to attend the award ceremony.

A new city. An intellectually-stimulating scientific program. New session formats. Distinguished speakers like veteran journalist Dan Rather. And enjoy a few more surprises. There's so much new to discover at this year's Fall Meeting! Don't miss out on all the excitement, and save money by making your arrangements now.

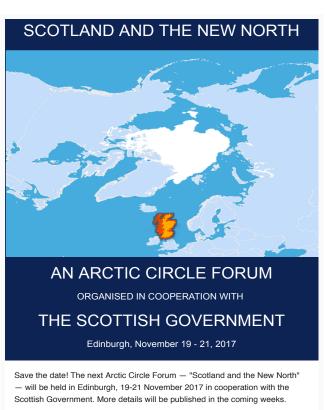
#### Housing

Reserve Housing: AGU's Housing Bureau offers attendees access to more than 50 hotels at special rates. Hotels sell out quickly, so book early to reserve your favorite.

Share a Room: Use AGU's roommate board to find someone to share a room. It's a great way to meet new people, stay at your favourite hotel, and save extra money.

#### Registration

Early Registration Deadline: 3 November, 11:59 p.m. ET



AretieCirele.org CTIC CIRCLE

www.arcticcircle.org

# 11th-15th December 2017: AGU Fall Meeting New Orleans. USA

For more information visit fallmeeting.agu.org/2017.



AGU has long been a proponent and leader in open data and open science, not only in our own publications and meetings, but also within the broader research community.

Register Now: Save over \$100 by registering for Fall Meeting by 3 November. AGU members receive up to \$145 in additional discounts. Not an AGU member yet? Renew your membership or join by 14 October.

#### Connect

London, UK

Regardless of your career stage or areas of interest, we have a variety of events that will give you an opportunity to meet with and learn from others.

For Students and Early Career Scientists: When registering, sign up for the Student & Early Career Scientist Conference taking place on Sunday, 10 December, where you can learn how to improve your skills around publishing in peer-reviewed journals, data management, networking and more. Then put those skills to the test at other relevant events.

Get Mentoring: Attending Fall Meeting for the first time can be overwhelming. Apply for one of our mentoring programs, where you can be paired up with 'a more seasoned attendee' or established scientist.

13th-15th March 2018: Oceanology International

For more information visit the OI website or contact Ellen Burgess.





#### Technical Tracks: Be a part of the conference

Whether you are a technologist seeking to describe a new development, a scientist or an engineer wishing to share a new application or a user of ocean data wanting to share your specific needs, we invite you to submit an abstract to the Oceanology International 2018 technical conference programme.

#### The topics for submission are:

- Unmanned Vehicles and Vessels
- · Hydrography, Geophysics and Geotechnics
- · Navigation & Positioning
- Underwater Imaging & Metrology
- Ocean Observation & Sensing
- Ocean Information & Communications Technology
- Monitoring Structural Integrity
- Delivery Efficiencies Across the Offshore Oil & Gas Life Cycle
- Marine Renewables
- Aquaculture
- Delivering Information & Data Needs for Coastal Engineering

The descriptions for each track and submission guidelines can be found on our website. The deadline for submissions is 15 September 2017. If you have any questions about the above technical tracks and how you can get involved as a speaker, chair or contributor, please don't hesitate to contact Ellen Burgess.

The CSMS email address is info@challenger-society.org.uk. Contributions for next month's edition of Challenger Wave should be sent to: john@vectisenvironmental.com by the 29th September.

We continue to send printed copies of Challenger Wave to members of the CSMS without email addresses. However it is in everybody's interest to send your email address to Jennifer Jones, <code>jxj@noc.ac.uk</code>, as soon as possible





#### PLANKTON ANALYST (20 hours per week)

£17885.93 per annum (£9667.35 pro rata)

#### SIR ALISTER HARDY FOUNDATION FOR OCEAN SCIENCE (SAHFOS)

#### Plymouth, Devon, UK

www.sahfos.ac.uk

#### The Post

SAHFOS, a UK registered international charity, is looking to appoint a Plankton Analyst. This is a part-time position at 20 hours per week. Once trained the post holder will work as a member of a team carrying out the microscopic analysis of plankton samples, fixed in formalin, collected by the Continuous Plankton Recorder (CPR) Survey.

#### The CPR Survey

The Survey, started in 1931 and managed by SAHFOS since 1991, collects epipelagic plankton from CPRs towed by volunteer merchant ships on regular monthly routes in the North Atlantic, North Sea, North Pacific and Southern Ocean. Recently, the Survey has expanded into the Arctic Ocean and has carried out one-off surveys in the Indian Ocean, Baltic and Mediterranean Seas.

The analysis generates temporally and spatially unique dataset that provides a range of environmental and climatic indicators used throughout the world by marine scientists and policy makers. It helps them to address marine environmental management issues such as harmful algal blooms, loss of biodiversity, pollution, eutrophication, climate change and problems with fisheries.

#### **Requirements for the Post**

You will need a minimum of 'A' levels in sciences and experience using optical microscopes. We expect you to be well organised, work effectively as part of a team, have excellent attention to detail and be proactive in a growing organisation. You must have a good working knowledge of MS Windows and Office products.

#### Responsibilities

- Routine analysis of plankton samples
- Data entry using a computer
- Preparation of samples for analysis
- Preparation of preservation chemicals
- Contribute to the curation of the International Sample Archive
- · Any other associated tasks as required

The successful candidate can look forward to working in a unique international Centre of Excellence in Marine Plankton Taxonomy.

#### **Conditions**

SAHFOS has a flexible working arrangement.

You will be automatically enrolled into SAHFOS' group personal pension scheme (the 'Company Scheme') to which SAHFOS will contribute a sum equivalent to 10% of your salary, such contributions to be paid in equal monthly instalments in arrears.

The annual leave allowance is 30 days per annum (pro rata) plus statutory Bank Holidays.

Informal enquiries concerning the post can be made to Marianne Wootton: Tel 01752 426491, mawo@sahfos.ac.uk

The closing date for applications is Friday 8 September.

Interviews will be held in Plymouth, Devon on Wednesday 20 September. References will be sought prior to interview unless advised otherwise.

To apply, please send a covering letter, your CV and names and contact details of two referees to:

Marion Smith, SAHFOS, The Laboratory, Citadel Hill, Plymouth, PL1 2PB Tel: 01752 426413 or by e-mail: sahfos@sahfos.ac.uk

#### Senior Research Associate School of Environmental Sciences, University of East Anglia, Norwich, UK

Applications are invited for a Senior Research Associate to undertake studies of ocean biogeochemical processes on the European continental shelf using autonomous vehicles. The SRA will work with Professor Jan Kaiser and others on the NERC-funded project "AlterEco: An Alternative Framework to Assess Marine Ecosystem Functioning in Shelf Seas". The SRAwill participate in the design and delivery of ocean glider campaigns in the North Sea, calibrate and analyse the resulting observations, derive relationships between them, calculate rates of relevant biogeochemical processes and disseminate the work to academic audiences, stakeholders and policymakers.

The successful candidate will have a minimum of a Ph.D in oceanography or equivalent independent research experience, and be able to fulfill all the essential elements of the person specification.

This full time post is available from 1 October 2017 for a fixed term period until 30 April 2020.

For an informal discussion please contact Professor Jan Kaiser, Professor of Biogeochemistry, on Tel: 01603 593393 or email: J.Kaiser@uea.ac.uk.

To apply for this vacancy, please follow the online instructions at:	
http://www.uea.ac.uk/hr/vacancies/research	

#### There are jobs on the IMBER web site

http://www.imber.info



Integrated Marine Biosphere Research

#### **IMBeR e-News**

#### **Announcements and reminders**

- Last day to nominate yourself or someone else for IMBeR Scientific Steering Committee!!
- GEOTRACES Intermediate Data Product 2017 is now available!
- Marine Ecosystem Assessment for the Southern Ocean Conference and Policy Forum, Hobart, Australia, 9-13 April 2018. Deadline for abstract submission 30 November 2018
- 2018 ASLO Summer Meeting session proposals due 1 October 2017
- GOOS Biogeochemistry Essential Ocean Variables (EOVs) Specification Sheets (version: 2)
- Short survey on SCOR communications please give your views
- Status report: What are Marine Ecological Time Series telling us about the ocean?
- Opening of the new Ocean CArbon Data System (OCADS) Project

#### **IMBeR-relevant sessions at Ocean Sciences 2018**

#### Deadline for abstracts is 6 September 2017

- <u>Deep Ocean Observing Strategy (DOOS) Town Hall</u>
- ED014: Societal Applications of Deep-Ocean Observations
- BN002. Advances in Aquatic Respiration: New Ideas, Conceptual Models, and Recent Findings on Plankton Community Respiration
- BN004.Biogeochemical and Ecological Change from Integrated, Multiscale Observations
- BN005. Biogeochemical Argo Science and Regional Profiling Float Studies including SOCCOM, NAOS, remOcean, INBOX and IOBioArgo
- BN010. Impacts of animals on nutrient, oxygen and carbon cycling
- PL003. Biophysical dynamics of boundary upwelling systems in a changing ocean: Synthesis of current knowledge and future observational and modeling approaches
- EP007. Physics to predators: Understanding Bottom-up Forcing of Pelagic Ecosystems
- 28650: Closing the gap between wind stress and ecosystem productivity in eastern boundary upwelling regions
- 28520: Linking modern "omics" techniques and ecosystem models
- 27656: Ocean global change: teasing apart individual and interactive effects of drivers on microbes and plankton
- OC010: The Global Ocean Acidification Observing Network, GOA-ON: linking local info globally.

#### Jobs and opportunities

- Research Scientist: Quantitative population ecology, IMR, Tromsø. Apply by 15 September
- Scientists & students invited on IIOE2 cruise on SA Agulhas II Oct-Nov 2017. Apply by 15 Sept
- GO-SHIP student cruise opportunity in Pacific sector of Southern Ocean: Apply by 22 September
- Grad Student Workshop on Socio-Environmental Synthesis: Interdisciplinary skill building, proposal writing, & collaborating. Apply by 20 November 2017

Visit the IMBeR Website

imber@imr.no

### Looking for a job in marine science? Follow CIESM on Facebook



In a world where jobs are increasingly hard to find, we are pleased to let you know that we just started to post on our Facebook page a diversity of relevant job offers regularly brought to our attention.

Follow us on Facebook now!

All the best,

the CIESM team
Mediterranean Science Commission