

# Challenger Wave



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

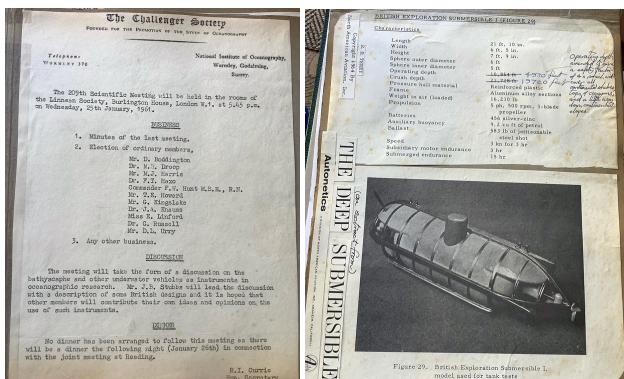
## NEWS

### In Memoriam of John Bruford Stubbs

The Challenger Society sadly announces the passing of John Bruford Stubbs, who died on the 18th August 2022, aged 90. John had been a member of the Challenger Society since the early 1960s.



At the end of 1960 and the beginning of 1961 meetings were held in the rooms of the Linnean Society in London to assess the potential of bathyscaphes. John opened the second meeting on January 25th referring to his plans and studies for a British bathyscaphe.



There were many references to his work in scientific journals and the press including the New Scientist (October 13th 1960, 8, No.204).

John's book entitled "Studies for a British Bathyscaphe 1957-1964" was lodged in the National Oceanographic Library in Southampton.

Today the Challenger Society covers many very different aspects of oceanography as the science has developed. However, fundamentally the need for an effective way to investigate the deeper ocean seabed remains. John's design, to be carried on a mother ship, so that the deeper areas of the oceans could be investigated, was innovative at the time and certainly a precursor of things to come.

The Royal Institution of Naval Architects, of whom John was also a life-long member made him a Companion of the institution. John is survived by his widow Linda Stubbs.

### New Challenger Society Secretary

As Prof. Mattias Green leaves the field of play, Dr Kate Hendry runs on. I am sure I speak for everyone in thanking Mattias for all his hard work over the last 8 years; and equally in welcoming Kate to her new role on council.



Prof. Mattias Green, Univ. Bangor, and Dr. Kate Hendry, BAS

### MASTS workshop feature: marine invasive non-native species

On Thursday 10th November, MASTS (Marine Alliance for Science and Technology Scotland) will be running its exclusive workshops, open to

all, and including the Scottish marine invasive non-native species workshop (10th November, 09:30–13:00). Understanding vectors and pathways for introduction and spread of invasive non-native species (INNS), and improved biosecurity and routine monitoring, is essential for safeguarding the marine environmental habitats in Scotland. The extent of coastline and range of varying activities relying on the marine environment in Scotland is large and without collaboration, effective monitoring, reporting, data and knowledge sharing it would remain challenging. This workshop is aiming to enhance our understanding of marine INNS monitoring activities across Scotland and promote collaboration which would lead to improved biosecurity for INNS species in Scotland. The workshop will also identify monitoring and data gaps and how best to address these by bringing together scientist, stakeholders and government. The session is being organised by Jenni Kakkonen and Bernadette Moloughney, with the following key objectives:

1. Improved understanding of marine INNS monitoring activities across Scotland, identification of available data sets and ensuring monitoring is covering all known INNS vectors and pathways.
2. To provide a platform for bringing people together and promoting good biosecurity and INNS reporting.
3. Raised awareness between different stakeholder groups of pathways by which INNS can spread and how to mitigate these risks.
4. Based on identified knowledge or monitoring gaps, develop a series of future pathway focused workshops.

Sign up for this workshop at [hopin.com/events/masts-12th-annual-science-meeting/registration](https://hopin.com/events/masts-12th-annual-science-meeting/registration).

### Call for applications for ICHO fellowships

The International Commission of the History of Oceanography (ICHO) invites applications for fellowship support from scholars studying the history of the marine sciences from a broadly conceived perspective. ICHO is a global body devoted to linking scholars, writers, and teachers interested in the history of the marine sciences. We are a commission of the International Union of History and Philosophy of Science and Technology IUHPST/DHST, <http://dhstweb.org/>.

Funds can be used to support travel for archival research or conference participation, though other travel in support of ocean-centric scholarship will be considered. Applications are welcome from graduate students, early career researchers, contingent scholars, and independent scholars. Applicants should submit a cover letter describing the proposed research or presentation and budget justifying the amount requested (up to \$500) along with a 2-page c.v., and the names of two colleagues whom we could contact as references, all put together as a single pdf document. Applications are welcome on a rolling basis. Funds must be used within 12 months of being granted.

Once travel is complete, fellowship recipients will be expected to contribute a conference report, archive review, or research overview, which will be published to the ICHO blog. Potential grant applicants should contact Franziska Torma with questions. Send applications to [franziska.torma@rcc.lmu.de](mailto:franziska.torma@rcc.lmu.de). Review of applications will occur on a rolling basis. For more information, please visit [oceansciencehistory.com/2022/09/16/call-for-applications-for-icho-fellowships/](https://oceansciencehistory.com/2022/09/16/call-for-applications-for-icho-fellowships/).

### Parliamentarians call for Minister for the Ocean position in Government in an open letter to Prime Minister Liz Truss

In an open letter sent to the Prime Minister Liz Truss, a group of 29 cross-party parliamentarians have requested that she considers creating the position of Minister for the Ocean, in Government. The letter asks that a standalone Ministerial position, dedicated to all ocean issues, is created in order to “further establish the UK as a global leader in ocean protection, conservation and research.”

The open letter references three key reasons as to why it is crucial that the Minister for the Ocean role is created in Prime Minister Liz Truss’s new Government. Firstly, despite the vast importance of the ocean, and its relationship to several important policy areas including climate change, shipping, energy, research, defence, and fishing, there is currently no standalone Minister for the Ocean role in the UK. The letter therefore calls for a “separate Minister position with direct and exclusive responsibility for all ocean issues” to fill this ministerial gap.

Secondly, the letter highlights immediate policies related to the ocean which could be delivered by

a specific Minister. These include climate change, but also wider issues such as marine military territory and green shipping. Finally, the letter calls for a Minister for the Ocean position to be created in order to deliver an “integrated UK ocean strategy”, similar to that which has been achieved already in space strategy. To ensure that the UK remains world leading in ocean research and conservation, which would include the UK meeting Global Ocean Alliance’s 30×30 target to protect 30% of the world’s oceans by 2030; the letter highlights the need for a standalone Minister to take direct responsibility on this campaign.

Sally-Ann Hart MP, Chair of the All-Party Parliamentary Group (APPG) for the Ocean, said, “as Chair of the APPG for the Ocean, I am pleased to sign this open letter to the new Prime Minister Liz Truss, which calls for a distinct Minister for the Ocean role to be created. I am delighted that nearly 30 cross-party parliamentarians have also signed this letter, which highlights the important reasons for this role to be created and shows the impact a Minister for the Ocean can have on a range of policy issues, including climate change, energy and shipping.”

### **Innovative approach to measure the geochemistry of pore water in situ**

Scientists from the National Oceanography Centre (NOC) have successfully tested a new approach to help improve knowledge of the deepest parts of the ocean. The NOC’s Dr Anna Lichtschlag and Dr Allison Schaap are working in partnership with researchers from the centre of excellence for ultra-deep sea research: the Danish Center for Hadal Research, [dg.dk/en/centers/center-for-hadal-research-hadal](https://dg.dk/en/centers/center-for-hadal-research-hadal), to jointly improve understanding the processes governing organic carbon degradation in deep-sea trenches. The hadal zone is the deepest part of the global ocean and is one of the most remote, extreme, and scantily explored habitats on Earth.

To understand the driving biogeochemical processes in hadal sediments is of global importance, as carbon recycling in sediments can have critical implications for oxygen and nutrient availability and ocean chemistry, impacting life both in the oceans and on land. To achieve this goal, the team are developing a new approach which can be used to perform near-real

time, automated analysis of the geochemistry of the pore waters of sediments. To first test the new approach in a local setting, the team recently undertook the trials of the adapted sensors in the estuary of the River Itchen (UK South coast).

Dr Anna Lichtschlag, the NOC’s Principal Investigator for the Hadal sensors project said: “Our successful sensor deployment has shown



that this new approach can resolve spatial and temporal fluctuations in pore water chemistry, which are not readily analysed with any other method. This new technique could easily be expanded to measure a wide range of other

biogeochemical parameters and to many other environments, enabling new understanding of the variable and complex biogeochemical process in sediments.”. The work was presented in a poster at the Challenger Society conference last month.

### **Wanted, PhD students and early career researchers working on Blue Carbon**

IMBeR established a Blue Carbon Working Group (BCWG), [imber.info/science/imber-science-plan-and-implementation-strategy-spis/innovation-challenge-6-sustainable-management-of-blue-carbon-ecosystems/](https://imber.info/science/imber-science-plan-and-implementation-strategy-spis/innovation-challenge-6-sustainable-management-of-blue-carbon-ecosystems/), last year to work towards Sustainable Management of Blue Carbon Ecosystems. One of the unique things about IMBeR is its interdisciplinary approach to marine research and desire to link science, policy and society.

These are the priority research questions that the BCWG aims to address :

- 1 How do the oceans act as a sink for carbon and how might this change in a changing ocean?
- 2 What is the economic, social and cultural value of this ecosystem service ?
- 3 How can we improve policy, management and governance approaches to prioritise and protect this off shore ecosystem service ?



- 4 How can we include blue carbon in statutory monitoring initiatives and national inventories of sinks versus sources of CO<sub>2</sub>?

We would like to include PhD students and early career researchers (3-years post PhD) working on Blue Carbon to join the BCWG. If you are interested in being considered, please email Lisa at [imber@dal.ca](mailto:imber@dal.ca), including a short note on the Blue Carbon research that you are involved in. This is a great opportunity to get experience working with more established scientists with similar research interests, but in some cases, in a different discipline.

### Marine Facilities Advisory Board (MFAB) Membership Vacancies

The role of the Marine Facilities Advisory Board (MFAB) is to acquire views from the UK's marine science community, to provide advice to the Chief Executive of the National Oceanography Centre (NOC), on current capability and future development of the Natural Environment Research Council's (NERC) National Marine Equipment Pool (NMEP).

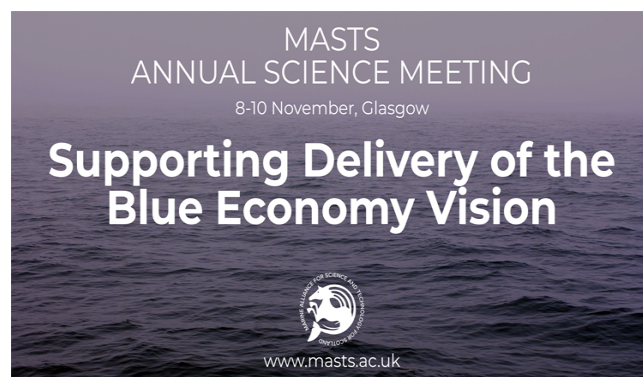
The NMEP is co-ordinated through and lead by the NOC, on behalf of NERC. MFAB sits within a governance framework which reviews the performance of NOC and is a subcommittee of the NOC Association of Marine Science National Capability Beneficiaries (NOCA). The Chair of MFAB sits on NERC's Cruise Programme Executive Board (CPEB), to provide assurance to the CPEB Chair, NERC's Director of Research and Skills, that the strategic investments made by the NOC are prioritised, to benefit the UK's marine science community.

We are looking to recruit five new members from the UK marine scientific user community who are keen to provide vital insight into the potential future needs of the National Marine Equipment Pool (NMEP). The deadline for applications is the 30th November 2022. For more information please see the terms of reference, [noc.ac.uk/files/documents/about/ispo/Marine Facilities Advisory Board October 2022.pdf](https://noc.ac.uk/files/documents/about/ispo/Marine_Facilities_Advisory_Board_October_2022.pdf), and / or contact MFAB Secretary, Jackie Pearson, [jpea@noc.ac.uk](mailto:jpea@noc.ac.uk).

### MASTS 12th Annual Science Meeting : programme available and registration open

Join us in Glasgow next month for one the biggest marine science conferences in the UK.

The 12th MASTS Annual Science Meeting "Supporting Delivery of the Blue Economy" is a cross-disciplinary event that brings together members of the marine science community, with the aim of promoting and communicating research excellence and forging new scientific collaborations. From the 8th – 10th November, at the Technology & Innovation Centre, University of Strathclyde, Glasgow. 1 day, 2 day and 3 day tickets are available, plus student discounts.



The first two days will bring together expert plenary speakers and contributed talks, panel sessions and e-posters outlining the latest research and management practices that address key topics related to marine science and management in the face of global climate change. Alongside our general science sessions, the event will include special topic sessions, and plenty of opportunities to enjoy networking and making new contacts. The third day will be devoted to workshops (open to all).

MASTS is pleased to welcome the following keynote speakers:

- **Mairi Gougeon** (Cabinet Secretary for Rural Affairs and Islands) "A Blue Economy Vision for Scotland"
- **Professor Dickon Howell** (Director, Howell Marine Consulting & Visiting Professor of Practice, Newcastle University) "INSITE and ECOWind – creating impact in marine policy"
- **Lewis Coenen-Rowe** (Creative Carbon Scotland) "Expanding Your Impact: The Benefit of Art-Science Collaborations"

View the full programme and obtain your tickets to join MASTS this November in Glasgow, [masts.ac.uk/wp-content/uploads/2022/10/MASTS-ASM-2022-programme-5\\_10\\_2022-linked-abstracts.pdf](https://masts.ac.uk/wp-content/uploads/2022/10/MASTS-ASM-2022-programme-5_10_2022-linked-abstracts.pdf).

## Climate Linked Atlantic Sector Science, CLASS, project opportunities

### *Berths available on CLASS expeditions*

The sustained observation expeditions have berths available for students and early career researchers (ECRs) to join them and make measurements or collect samples for projects in collaboration with CLASS researchers. Students and ECRs will receive support in collecting their data and samples at sea, gain experience in a range of seagoing activities and benefit from working closely with CLASS researchers.

ECRs can apply for a berth on a CLASS research cruise through one of three options:

- a) A berth funded by the ECR's own project, to collect data and/or samples to carry out research that will enhance CLASS objectives.
- b) A berth associated with a CLASS ECR Fellowship (see below) or a PhD with a CLASS Principal Investigator
- c) A berth as a volunteer for the core science team. Some, but not all, CLASS cruises need volunteers for their core team of people who take samples and process data.

Details of CLASS cruises and deadlines for applications can be found in the Application Form on the CLASS website. ECRs considering applying for a berth on a CLASS cruise should contact the Principal Investigator (PI) to discuss their ideas and plans first. More information, including contact details for the PI, what you need to know, and where to send your form, is given in the Application Form, [projects.noc.ac.uk/class-project/academic-engagement](https://projects.noc.ac.uk/class-project/academic-engagement). Applications can be submitted at any time.

### *CLASS Fellowships for Early Career Researchers*

CLASS has an ECR Fellowship scheme to support extended visits by graduate students or postdocs to NOC and SAMS. The purpose of CLASS ECR Fellowships is to support the career development of ECRs by enabling collaborative working with CLASS researchers, as well as access to CLASS facilities, data sets, model output and tools, and berths on CLASS cruises.

The research carried out by the ECR during the Fellowship should enhance the CLASS objectives and build on the project's observations and/or modelling and/or technology

development. Applications are invited for CLASS Fellowships at NOC and SAMS. The deadlines are given at [projects.noc.ac.uk/class-project/academic-engagement](https://projects.noc.ac.uk/class-project/academic-engagement).

## VIEWS

### **Meeting the challenges of the marine sector, 2023 and beyond; a new report published by the IMarEST.**

A new report from the Institute of Marine Engineering, Science & Technology (IMarEST) identifies the skills gap as one of the major challenges the marine sector faces over the coming decade. The report; 'Challenges in the Marine Industry: 2023 and beyond', [www.imarest.org/reports/1239-imarest-industry-challenges-report](https://www.imarest.org/reports/1239-imarest-industry-challenges-report), is based on short, medium and long-term challenges identified by over 700 IMarEST professional members in a survey. Responses show that concerns broadly align along the themes of people (skills), technology, and the environment.



Gwynne Lewis, Chief Executive of the IMarEST says: "The findings reflect the daily experiences of our members and provide a valuable insight into the challenges our sector faces over the next decade. It is clear to see that the themes and

challenges are deeply interconnected and reinforce the need for continuing collaboration between marine scientists, engineers, and technologists to find solutions and secure the future of the sector."

Chief among the theme related to people and skills, is the challenge of being able to attract new talent and retain existing expertise. Member responses included such comments as, a 'lack of interest from young people to enter the engineering and technical fields', a 'lack of experienced engineers, especially ones with

hands-on and practical experience to support their new recruits' technical education and knowledge', and a 'general lack of engineers 'also means that there are fewer engineers to whom to pass the lifelong experiences of other engineers', are among the many responses.

Martin Shaw, President Elect of the IMarEST says: "The challenges raised by our members were echoed in a recent conversation I had with ship owners in Athens who are focused on two things with manning being the big one. Covid's impact on seafarers and on relieving patterns is still making a difference and on top of that the Ukraine crisis has affected 30% of the officer complement of the tanker industry."

Challenges associated with protecting the environment was also raised as one of the major issues for the medium to long term. Concerns included decarbonisation, reaching net zero, climate change and mitigation, and being able to meet regulations. Alastair Fischbacher, IMarEST President: "The issue of sustainability has become mainstream and particularly so in the marine sector. From being a fringe topic, it has now taken centre stage and there is increasing interest, participation and, importantly, expectation; in time it will become ingrained. As an Institute, the breadth and depth of expertise of our members who are working in engineering, science and technology is unparalleled, and gives us great insight and understanding of the issues, challenges, and potential solutions."

Technology is the third theme raised as a challenge and opportunity for the future, with expectation of the expansion of autonomous shipping, increased digitisation and further introduction of artificial intelligence systems. Kevin Daffey, IMarEST Chair of the Board of Trustees, says: "The sector is already embracing innovation and there is much more to come across all areas of marine, not just shipping. It is an exciting time and one of much opportunity for all of us. However, we also must recognise that it will bring disruption and challenges. First and foremost, we must remember to put the human front and centre."

In addition to this report, the IMarEST, together with Protolabs, also ran a Digital Manufacturing survey, in which 65% of respondents identified decarbonisation and lack of expertise/skilled personnel as the number one challenge

specifically for the maritime sector. Tim Kent, Co-Chair of the IMarEST Technical Leadership Board, says: "I think the findings of both surveys show that anticipating future skills is vital if the marine sector is going to be able to apply current and future technologies and achieve environmentally acceptable and commercially sustainable outcomes."

### **Sonardyne welcomes customers to new Singapore base**

Marine technology company Sonardyne officially opened its new South East Asia headquarters at Loyang Offshore Supply Base, Singapore, last month. The three-storey facility, which has been completely re-modelled and refitted to meet Sonardyne's operational needs, has extensive offices and warehouse space, workshop and test tank, as well as visitor, break out and recreation areas.



*Pictured (left to right): Head of Sales, José Puig, Sales Director, Steve Martin, and Director of Operations, Hwee Chin Cheng, led the official ceremony to open Sonardyne's new facility in Singapore.*

The building will also provide offices and test facilities for Sonardyne's sister company, EIVA, both of whom are part of the Covelya Group of companies. Leading the official ceremony to open the facility was recently appointed Director of Operations, Hwee Chin Cheng, Head of Sales, Jose Puig, and Sales Director, Steve Martin. The event also provided an opportunity for the company to celebrate its 50th anniversary with clients and partners from across the region. Sonardyne was founded in 1971 and has had offices in Singapore since 1994.

### **Challenger Society merchandise store on Teemill**

Please visit [challengersociety.teemill.com/](https://challengersociety.teemill.com/) where you can browse, and even purchase items if you



like. Please feel free to provide feedback in the help section.

**Buy your Challenger Society T-shirts now!**



To get your Challenger clothing in time for the conference, go to: <https://challengersociety.teemill.com/>

T-shirts and hoodies for men and women are available in a variety of colourways, with large Challenger Expedition 150th anniversary celebration logos as in the photos, or with smaller Challenger Society logos.

Women's T-shirts and hoodies are available in both fitted and loose-fitting styles.

T-shirts for children and Challenger tote bags are also available.



The Teemill website states that their products are made from organic cotton and printed in the UK in a factory powered by renewable energy.

Note that the black T-shirts being sold on the Natural History Museum Challenger 150 Conference website are not the Society T-shirts.

## SALTS

### Scientists set off on collaborative expedition to Davis Strait

At the end of September, NOC scientists Dr Pete Brown and Dr Alice Marzocchi set off on board the US R/V *Neil Armstrong*, led by Chief Scientist Craig Lee from the University of Washington. The expedition, which is part of the NERC BIOPOLE multi-centre programme, is bound for the Davis Strait observatory, [iop.apl.washington.edu/project.php?id=davis](http://iop.apl.washington.edu/project.php?id=davis), between Greenland and Canada.



The Arctic is thought to export large quantities of nutrients to the North Atlantic, where they support marine biodiversity and major fisheries, and enhance the region's ability to absorb carbon dioxide from the atmosphere. Currently the team are deploying autonomous water samplers on deep water moorings and collecting seawater

[www.challenger-society.org](http://www.challenger-society.org)

samples for macronutrient and trace element analyses in the UK. The data will enable a step-change in our understanding of what drives changes in the transport of nutrients from the Arctic into the North Atlantic, and how it is responding to human-derived pressures. The NOC team will also collect additional water that will be used to assess the contribution of melting polar ice to the export.



Now halfway through the expedition, the team have completed work on two of the four hydrographic sections planned around the Davis Strait mooring line and deployed a new bottom pressure recorder (BPR) in the middle of Baffin Bay. The team are now redeploying recovered moorings with updated sensors and new batteries to sustain another two years of measurements, before heading to the Labrador Sea for the final sections. Follow expedition updates on NOC Twitter at [twitter.com/NOCnews?](https://twitter.com/NOCnews?).

## CALENDAR

### 8th-10th November 2022: 12th MASTS Annual Science Meeting: Supporting the Blue Economy Vision

Glasgow, Scotland

View the full programme here, [masts.ac.uk/wp-content/uploads/2022/09/MASTS-ASM-2022-programme-30\\_9\\_2022-linked-abstracts.pdf](https://masts.ac.uk/wp-content/uploads/2022/09/MASTS-ASM-2022-programme-30_9_2022-linked-abstracts.pdf), to see who is speaking and when, when our themed sessions will be running or when specific ePosters will be presented.

MASTS is pleased to announce our ASM key note speakers are:

*Mairi Gougeon*, Cabinet Secretary for Rural Affairs and Islands “A Blue Economy Vision for Scotland”

*Professor Dickon Howell* (Director, Howell Marine Consulting & Visiting Professor of Practice, Newcastle University) “INSITE and ECOWind – creating impact in marine policy”

*Lewis Coenen-Rowe* (Creative Carbon Scotland) “Expanding Your Impact: The Benefit of Art-Science Collaborations”

In addition to talks and discussions, MASTS will be running a variety of workshops on Thursday 10th November, all are open to any attendees but registration is required, [hopin.com/events/masts-12th-annual-science-meeting/registration](https://hopin.com/events/masts-12th-annual-science-meeting/registration).

Scotland's blue economy includes the marine, coastal and the inter-linked freshwater environment of Scotland, the different marine and maritime sectors it supports, and the people connected to it. It also encapsulates the legislation, policies, programmes and international commitments that determine its management, as well as the underpinning scientific research that provides data and information for evidence-informed policy development and is used to evaluate our success.

Join us as we celebrate our twelfth annual conference and discuss how to support the blue economy vision. The MASTS Annual Science Meeting is a cross-disciplinary event that brings together members of the marine science community, with the aim of promoting and communicating research excellence and forging new scientific collaborations. After hosting the ASM online for the past two years.

The first two days will bring together expert plenary speakers and contributed talks, panel sessions and e-posters outlining the latest research and management practices that address key topics related to marine science and management in the face of global climate change. Alongside our general science sessions, the event will include special topic sessions, and plenty of opportunity to enjoy networking with your peers and making new contacts.

The third day will be devoted to workshops. Confirmed workshops to date include Scottish marine invasive non-native species workshop; and Improving Diversity & Inclusivity in Aquaculture. MASTS also look forward to co-hosting with the SUT, their annual “Decommissioning & Wreck Removal” workshop.

This workshop will be open to all, and will take place on Thursday 10th November. However, there are more workshops in development, so more details will be coming soon.

We are delighted that IMarEST have kindly agreed to sponsor the student prizes for the 2022 ASM. Don't forget to stay up to date on the ASM by following us on Twitter or LinkedIn [#MASTSasm2022](https://twitter.com/MASTSasm2022). If you would like to get involved or have a query about the ASM, please drop us an email, [masts@st-andrews.ac.uk](mailto:masts@st-andrews.ac.uk).

### **27th–30th November 2022: 2nd Springer MedGU Annual Meeting 2022**

*Marrakech, Morocco*

The Mediterranean Geosciences Union, [association.medgu.org/](https://association.medgu.org/), in collaboration with Springer and Ibn Tofail University (Morocco) organizes the 2nd MedGU. Visit our website ([www.medgu.org](https://www.medgu.org)) to learn more about the event.

On this occasion, we are pleased to invite you to take part in the conference (in-person or virtually) and share/discuss your latest research findings. The MedGU Annual Meeting is one of the largest international geoscience meetings (200 attended in-person the MedGU-21 in Istanbul and 250 online). The MedGU Annual Meeting aims to provide a forum where geoscientists, especially early career researchers, can present and discuss their findings with experts in all fields of geosciences. It will feature talks and panels covering a diverse range of geoscience and geoscience-society topics.

The MedGU-22 encourages submissions of research works from all regions of the world. The MedGU-22 Proceedings will be published in Springer ASTI Series (indexed in Scopus & SCImago). Contact us, if you need more information, [contact@medgu.org](mailto:contact@medgu.org).

### **23rd-28th April 2023: EGU General Assembly 2023**

*Vienna, Austria*

EGU23 invites you to take an active part in organizing the scientific programme of the conference, from now until 19 September 2022, by suggesting sessions with conveners and description in your preferred programme group. You have the possibility of proposing either physical oral/poster sessions with a hybrid component or hybrid vPICO sessions, [meetingorganizer.copernicus.org/EGU23/provisio](https://meetingorganizer.copernicus.org/EGU23/provisio)



nalprogramme.

When suggesting a session, Short Course, or Townhall Meeting, as a general guideline, we strongly encourage considering and promoting under-represented demographics, in particular including: (i) multiple countries and institutes, (ii) different career stages, with particular attention to the participation of Early Career Scientists, (iii) different genders and all other forms of diversity, and (iv) diverse scientific approaches. Please check with all conveners that they agree to take part in the proposed session. Please see the convener guidelines and rules for further information, [egu23.eu/guidelines/conveners.html](http://egu23.eu/guidelines/conveners.html).

From 1st November 2022 until 20th January 2023 you can apply for Townhall Meetings. Townhall Meetings offer an active discussion platform that is open to all interested participants to inform them of new opportunities and initiatives. Rooms for a splinter meeting can be booked for smaller, targeted discussion groups. Splinter Meeting booking is open from 1st November 2022.

If you have questions about the appropriateness of a specific session topic, please contact the programme group chair and/or the officers of the

specific programme group, [www.egu23.eu/about/programme\\_committee\\_composition.html](http://www.egu23.eu/about/programme_committee_composition.html).

#### 4th – 6th November 2023: Arctic Circle Japan Forum

*Tokyo, Japan*

The Arctic Circle is collaborating with the Sasakawa Peace Foundation in organizing the Forum. Governments, universities, companies, research institutions, organizations, associations and other partners were invited to submit proposals for Sessions. For more information visit [www.arcticcircle.org/forums/arctic-circle-japan-forum](http://www.arcticcircle.org/forums/arctic-circle-japan-forum).




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The CSMS email address is [info@challenger-society.org.uk](mailto:info@challenger-society.org.uk). Contributions for next month's edition of Challenger Wave should be sent to: [john@vectisenvironmental.com](mailto:john@vectisenvironmental.com) by the 31st October.

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# ***JOBS and OPPORTUNITIES***

**University of Bergen (UiB) invites talented researchers to apply for 23 postdoctoral fellowships.**



SEAS is a career and mobility fellowship programme for 37 postdoctoral research fellows within marine sustainability. This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101034309.

Marine and coastal areas face multifaceted challenges, threatening biodiversity and humanity on a global scale. To have an impact on marine sustainability, there is an urgent need to integrate perspectives and insights from a diverse range of fields and sectors.

The University of Bergen's SEAS programme brings together a variety of aspects of marine sustainability, involving all UiB faculties, and many academic and non-academic partners.

The second call of the SEAS programme, [www.uib.no/en/seas/155601/call-2-23-msca-seas-postdoctoral-research-fellow-positions](http://www.uib.no/en/seas/155601/call-2-23-msca-seas-postdoctoral-research-fellow-positions), has an application deadline of October 31st, 2022.



**Senior Robotics & Embedded Software Engineer, Planet Ocean ecoSUB Robotics Division, NOC, Southampton**

Planet Ocean ecoSUB Robotics Division are seeking a talented individual to join our small team to develop our capabilities at this next crucial growth phase of the technology. Our ecoSUB Division is based within the Marine Robotics Innovation Centre within the National Oceanography Centre Southampton.

ecoSUB Autonomous Underwater Vehicles (AUVs) are robotic platforms at the leading edge of subsea technology development. They are affordable, intelligently designed and extremely disruptive to the market, markedly increasing accessibility to a wide range of users in research, offshore energy, and defence markets. Following the release of production systems, the ecoSUB division is in the process of growing a strong team of talented engineers to advance the system and achieve the growth plan.

This position will primarily be responsible for software development for the ecoSUB AUV. The embedded software is very much at the heart of the AUV system and as such is the lead engineering role. This role involves working closely with mechanical and electronics development to ensure complete system functionality and cohesive operation. The role is primarily R&D focused with aspects of existing system support. The Senior Robotics & Embedded Software Engineer role will involve supporting colleagues and will benefit from career development opportunities and excellent compensation. The role will involve fieldwork and travel, with time spent at sea guaranteed. Required offshore training will be provided.

Please contact [carole@planet-ocean.co.uk](mailto:carole@planet-ocean.co.uk) for further information and visit [www.ecosub.uk](http://www.ecosub.uk).



There are jobs on the IMBER web site

<http://www.imber.info>



Integrated Marine Biosphere Research

## Jobs and opportunities

### New

- Call for applications: 2023 AMT Shipboard Training Fellowship: Towards global observation scheme for the ocean. Apply by **24 October**
- PhD: Plankton ecology and marine foodwebs. Nord University, Norway Apply by **24 October**
- Research Lecturer/Senior Lecturer: Tyndall Centre, University of East Anglia, UK. Apply by **31 October**
- Vacancy: Executive Director, Inter-American Institute for Global Change Research. Apply by **1 November**
- Postdoc/Predoc/Grad student Fellowship Program: Smithsonian. Apply by **1 November**
- Program Specialist/Chief Scientist: Coordination of Decade Actions, University of Bologna Italy. Apply by **7 November**
- Postdoc: Social aspects of C sequestration, Södertörn University, Sweden. Apply by **15 November**
- Call for oceanographic members: Ocean observations physics and climate panel (OOPC). Apply by **15 November**
- Two tenure-track faculty positions: Chemical Oceanography, University of South Florida, USA. Apply by **2 December**
- Opportunity: 2023 Simons Investigator in Aquatic Microbial Ecology Awards. Apply by **2 December**
- Student research grants: Marine Stewardship Council. Apply by **5 December**

### In case you missed it...

- Join SOCCOM (Southern Ocean Carbon and Climate Observations and Modeling) early career scientists network. Email Roberta Hotinski <[rhotinski@princeton.edu](mailto:rhotinski@princeton.edu)> stating that you'd like to join the listserv and for more information.
- Postdoc: Southern Ocean Trace metal-phytoplankton interactions, Stellenbosch University, South Africa. Apply by **4 November**
- Director: Beyond Plastics solutions to the plastic pollution crisis resource centre, work remotely. Open until filled. Apply **now**
- Consultancy: Reef restoration and monitoring. Time and Tide Foundation, Madagascar. Applications reviewed as received
- Senior scientist: Area based conservation and fisheries, WWF, in Chile. Apply **now**
- Senior program officer: Ocean hub technical lead, WWF, Washington DC, USA. Apply **now**

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