

# Challenger Wave



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

## NEWS

### The Hydrographic Society meeting taking place next week, alongside the NOCS Marine Autonomy Technology Showcase

The Hydrographic Soc, is inviting members from other societies (SUT, IMarEST etc) to join in an evening meeting on the 13th of November. I will be representing the CSMS and providing a short talk and leaflet drop. Please register at: [www.eventbrite.co.uk/e/hydrographic-society-meeting-marine-autonomy-technology-showcase-tickets-75124259683](http://www.eventbrite.co.uk/e/hydrographic-society-meeting-marine-autonomy-technology-showcase-tickets-75124259683)

The Hydrographic Society Southern Region Evening Meeting hosted by the Marine Autonomy & Technology Showcase

Wednesday 13<sup>th</sup> November 2019 17:00 – 19:30

17:00 - 17:15 | Welcome drinks reception in the MATS marquee

17:15 - 17:30 | Introduction to the evening event

17:30 - 18:00 | Ocean Infinity Presentation

18:00 - 18:30 | 'Monitoring Active Hazardous Submarine Sediment Flows', Lewis Bailey & Maarten Heijnen, National Oceanography Centre.

Recent technological advances now enable direct measurement of powerful seafloor hazards, including avalanches of sediment called turbidity currents that can travel at fast speeds (up to 20 m/s) over long distances (>100s of km) and damage critical seafloor infrastructure. We will show exciting new measurements of these flows from a number of sites worldwide that enable more robust risk assessments for seafloor structures and shed light on one of the most important processes for transporting sediment, nutrients and carbon on our planet.

Lewis Bailey and Maarten Heijnen are specialists in characterising seafloor hazards and quantifying offshore sediment transport. Since October 2017, they have been enrolled as PhD students within the Marine Geohazards and Sedimentology Group at NOC and work with a range of international collaborators on research projects that aim to make direct measurements of powerful seafloor flows called turbidity currents. Both have a degree in Geology, Lewis from the University of Southampton, Maarten from Utrecht University, the Netherlands. Lewis' research focuses on how turbidity currents are initially triggered, using novel statistical approaches to better understand when and why flows occur. Maarten's focus is on the interaction of these flows with the seafloor, using time lapse surveys to document how offshore transport systems evolve through time.

18:30 - 19:00 | 'Geophysical and Geoenvironmental Applications for Understanding and Protecting Underwater Archaeological Sites', Dr Claire Mellett, Megan Metcalfe & Danielle Wilkinson, Wessex Archaeology.

Evidence of past human activity does not stop at the water's edge. Marine archaeological remains are an extensive resource that provide information about people of the past dating back thousands of years. Recent projects by Wessex Archaeology demonstrate the use of geophysical and geoenvironmental data in identifying significant archaeological sites ranging from the best known European prehistoric site to date, to timber shipwrecks and aircraft wrecks. Identification of these sites is critical in order to record them, protect the archaeological material and add to our understanding of past human activity.

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Danielle Wilkinson (Presenter) is a Project Manager with the Coastal and Marine archaeological team at Wessex Archaeology. Dani worked as an archaeological consultant in Australia for six years before joining Wessex Archaeology last year. She has since managed various projects in the UK including scoping and desktop studies, dive support projects, post excavation projects and archaeological protocols.

19:30 on wards | A social event will follow the evenings proceedings at a local venue (details TBC) which everyone is welcome to join.

### NOC MARINE AUTONOMY & TECHNOLOGY SHOWCASE



## Latest EGU news

Earlier this month EGU announced the winners of the 2020 awards and medals: 49 individuals who have made significant contributions to the Earth, planetary and space sciences and who will be honoured at the 2020 EGU General Assembly in May, [www.egu.eu/news/545/egu-announces-2020-awards-and-medals/](http://www.egu.eu/news/545/egu-announces-2020-awards-and-medals/). We also announced the winners of the Outstanding Student Poster and PICO (OSPP) Awards from the 2019 General Assembly, [www.egu.eu/awards-medals/ospp-award/2019/](http://www.egu.eu/awards-medals/ospp-award/2019/).

## VIEWS

### Steps to Improve Gender Diversity in Marine and Coastal Geoscience and Engineering: A Roundtable Seminar

Here is a summary of the event I am organising as part of the Challenger ERC and Diversity Portfolio at NOC, Southampton, on the 11th of November.

Robust data are the base of an effective gender diversity policy. Evidence shows that gender inequality is still pervasive in science, technology, engineering and mathematics (STEM). Coastal geoscience and engineering (CGE) encompasses professionals working on coastal processes, integrating expertise across physics, geomorphology, engineering, planning and management. I will present novel results of gender inequality and experiences of gender bias in CGE, and propose practical steps to address it. We analysed the gender representation in 9 societies, 25 journals, and 10 conferences in CGE and established that women represent 30% of the international CGE community, yet there is under-representation in prestige roles such as journal editorial board members (15% women) and conference organisers (18% women). The

data show that female under-representation is less prominent when the path to prestige roles is clearly outlined and candidates can self-nominate or volunteer instead of the traditional invitation-only pathway. By analysing the views of 314 survey respondents (34% male, 65% female, and 1% “other”), we show that 81% perceive the lack of female role models as a key hurdle for gender equity, and a significantly larger proportion of females (47%) felt held back in their careers due to their gender in comparison with males (9%). The lack of women in prestige roles and senior positions contributes to 81% of survey respondents perceiving the lack of female role models in CGE as a key hurdle for gender equality. While it is clear that having more women as role models is important, this is not enough to effect change. Here seven practical steps towards achieving gender equity in CGE are presented: (1) Advocate for more women in prestige roles; (2) Promote high-achieving females; (3) Create awareness of gender bias; (4) Speak up; (5) Get better support for return to work; (6) Redefine success; and, (7) Encourage more women to enter the discipline at a young age. Some of these steps can be successfully implemented immediately (steps 1–4), while others need institutional engagement and represent major societal overhauls. In any case, these seven practical steps require actions that can start immediately. - **Dr Lidia Carracedo, Marine Physics and Ocean Climate, NOC**

## 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

**12th – 14th November 2019: Marine Autonomy and Technology Showcase (MATS) 2019**  
Southampton, UK

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



Registration is now open, [conference.noc.ac.uk/mats-showcase-2019](http://conference.noc.ac.uk/mats-showcase-2019), for the National Oceanography Centre's (NOC) Marine Autonomy and Technology Showcase (MATS) 2019, which will take place from 12–14 November at the NOC's waterfront site in Southampton.

MATS 2019 promises to be the biggest showcase to date, with a record number of abstracts received and a wide range of exhibitors already on board. MATS 2019 will feature a packed three-day programme of exhibits, presentations, panel discussions and networking, offering a unique and valuable opportunity to find out about the latest developments in marine autonomous technology and how this field is set to develop in the years to come. The event also enables organisations to engage with the NOC to explore opportunities around funding, sharing ideas and getting those ideas in front of influential, high-profile users from the marine and maritime sector.

The event will welcome a broad roster of speakers from across industry, academia, and government organisations. Each day of the showcase will see leading figures from the world of marine autonomy and technology take to the stage to present on innovative, disruptive technologies, as well as presentations on current developments and future priorities and challenges.

Marine autonomy is a transformative technology that continues to generate huge interest from major industry sectors, including offshore renewable energy, oil and gas, and defence, and the showcase event was established by the NOC in 2015 in response to this growing interest. Outside of industry, the technology has continued to capture the public imagination in the last 12 months with the global popularity of Boaty McBoatface, the name given to one of the NOC's Autosub Long Range autonomous underwater vehicles.

Tickets are priced at £180 (including VAT) for the three-day event, which includes lunch and refreshments, and access to the icebreaker drinks, and an evening networking supper. The full programme and biographies of the speakers will be announced in the coming weeks. Full details on how to register are available on the NOC Conference website, [conference.noc.ac.uk/mats-showcase-2019](http://conference.noc.ac.uk/mats-showcase-2019).

A limited number of discounted Student places will be available to apply for one of these please apply to [NOCevents@noc.ac.uk](mailto:NOCevents@noc.ac.uk) with your name, academic establishment details and your interest within the MATS event field.



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Please note that registration is compulsory for attendance, [Click Here](#) to register.

## 13th – 15th November 2019: Oceanology International China

Shanghai, China

Oi China, [www.oichina.com.cn/en-gb](http://www.oichina.com.cn/en-gb), attracts 6,000 attendees from over 20 countries, this is your chance to position yourself as a leader in the industry to professionals from across Asia's marine technology and ocean science community. This year specific topics include:

- Unmanned Vehicles
- Ocean ICT
- Ocean Observation and Sensing
- Positioning and Navigation

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

## 14th – 15th November 2019: UK Glider Community Workshop

Southampton, UK

Register now for the UK Glider Community Workshop. Hear all the latest on glider-related developments and discoveries. Interested in presenting ? Sign up and get involved at <http://bit.ly/gliders2019>.



Glider community Members - £25.00

Industry Representatives - £50.00

Both registrations above include dinner on the evening of 14 November access to the workshop on 15 November including refreshments and lunch.

## 20th - 24th January 2020: 9th EUROLAG conference on coastal lagoons and transitional environments

Venice, Italy.

[www.eurolag9.it/](http://www.eurolag9.it/)



**EuroLag9**  
Future vision and knowledge needs for coastal transitional environments

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The 9<sup>th</sup> EUROLAG conference on coastal lagoons and transitional environments will be held in the historic island of Venice (Italy) on 20-24 January 2020.  
The conference is devoted to science, research and management issues that are related to lagoons and transitional areas.

[EuroLag9 website](#)

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Abstract submission is now open

[Submit Abstract](#)

End of abstract submission 15 September 2019

November 2019

**16th – 21<sup>st</sup> February 2020: AGU Ocean Sciences meeting**

San Diego, USA

[agu.confex.com/agu/osm20/prelim.cgi/Home/0](http://agu.confex.com/agu/osm20/prelim.cgi/Home/0).

Announcing session PS011 – “Vertical Transport: Pathways from the Surface to the Interior”.

The vertical transport of properties, including carbon, oxygen, and heat, is crucial for the production and export of organic carbon, ventilating the subsurface ocean, and modulating ocean-atmosphere exchange. However, vertical transport is poorly constrained observationally, and a challenge for models because vertical velocity is highly sensitive to small-scale processes and model resolution. We will discuss both physical and biological mechanisms for vertical transport on scales ranging from the mesoscale to smaller scales, and including processes affected by surface forcing, seasonality of the mixed-layer, restratification, advection, subduction, mixing, sinking and topography. We will address the underlying dynamics and kinematics for vertical transport of water and properties using multi-platform observations, modeling and theory, while exploring three-dimensional Lagrangian pathways and their spatial and temporal scales of coherence. The effects of such transport on the biological production and export of organic matter is of interest, as also, the large-scale and long-term implications for exchange between the upper ocean and interior. **Primary Chair**, Dhruv Balwada, Courant Institute of Mathematical Sciences. **Co-chairs**, Amala Mahadevan, Woods Hole Oceanographic Institution, Julius Johannes Marian Busecke, LDEO/Columbia University, Daniel L Rudnick, Scripps Institution of Oceanography. **Primary Liaison**, Daniel L Rudnick, Scripps Institution of Oceanography.

**17th – 19th March 2020: Oceanology International**

London, UK

 **O**ceanology  
international  
2020 17-19 MARCH 2020, LONDON, ENGLAND



**16th February 2020: Ocean Obs Research Coordination Network (RCN) OceanObs'19 Conference follow-up meeting**

San Diego, USA

The Ocean Obs RCN will host an OceanObs'19 Conference follow-up meeting immediately preceding the AGU/TOS Ocean Sciences Meeting (<https://www2.agu.org/ocean-sciences-meeting/>).

The Ocean Obs RCN annual meeting on 16 February 2020 will be dedicated to the synthesis of threads and recommendations emerging from the OceanObs'19 Conference in Hawaii during September 2019. Of particular interest will be focusing the community on the planning for the implementation of initiatives emerging from OceanObs'19.

The meeting will advance links between observation networks and operational users to facilitate the delivery of critical information to stakeholders, and to address critical policy issues that require multidisciplinary ocean observing systems.

The OceanObs RCN is an NSF-sponsored forum on all aspects of ocean observing. Discussions identify advances and challenges in ocean observing and may identify new technologies and promote their cost-effective development, identify policy priorities, and highlight capacity building requirements for the next decade. This includes discussion of a Decade of Ocean Science for Sustainable Development (2021-2030) being organized by the IOC (<https://en.unesco.org/ocean-decade>), and balancing ocean observations, science, use, and conservation requirements.

Jay Pearlman, Ph.D. Fellow IEEE, IEEE France, Director, Four Bridges [jay.pearlman@ieee.org](mailto:jay.pearlman@ieee.org). "Submit your Best Practices in Ocean Observing for peer-review: <https://www.frontiersin.org/research-topics/7173/best-practices-in-ocean-observing>

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Celebrate the world's largest ocean technology exhibition and conference. Oceanology International is turning 50, and you are invited to the celebration. The event brings the industry together, from businesses to government and thought leaders from different sectors, to offer the latest information and technology that are moving our oceans.

Visit the show to:

- Have access to a free and interactive educational programme that will inspire and inform you on key industry topics.
- Meet experts and do business – the show offers more than 500 exhibitors, global suppliers of cutting-edge technology.
- Stay up to date with regulations and policies to make more effective decisions for your business and projects.
- Explore features such as the Ocean ICT Zone, focused on marine and ocean IT, communications, satellite and data solutions.

To succeed in your future ocean strategies, you need to be where the people shaping them are. Register now to Oceanology International 2020 and celebrate our 50th anniversary where the industry is.



This is your opportunity to connect with new technical and strategic audiences from academia, government and over 15 other industries, all unified by their use of ocean technology.

Presentation subjects include:

- Offshore energy development
- Asset integrity and monitoring
- Hydrography, geophysics and geotechnics
- Coastal zone and shallow water
- Navigation and positioning
- Imaging and metrology
- Ocean observation and sensing
- Marine pollution and environmental stressors
- Automation and AI
- Unmanned vehicles and vessels

- Ocean ICT

In its 50 years, Oi has consistently advanced with the community involved in exploring, monitoring, developing or protecting the world's oceans by providing networking across different sectors, knowledge exchange from various disciplines and valuable business opportunities. That reflects on the developments of the show programme year by year and the new benefits for attendees.

Here are some of the exciting developments for 2020 so far:

- Expanded Dockside Demonstrations - we doubled the number of companies demonstrating technology at the dockside so you have even more options for an immersive experience.
- New tracks at this year's conference - Asset Integrity and Monitoring, Coastal Zone and Shallow Water, Data Interpretation and AI, and much more. Full programme coming soon.
- Expanded Ocean ICT Zone – More exhibitors and technology at the area dedicated to the latest IT and Communication Technologies for the Ocean Space.

More to come for the 50th anniversary special edition of the show. Join the community next year in London by registering online now to attend Oi 2020: [www.oceanologyinternational.com/](http://www.oceanologyinternational.com/).

### **3rd - 8th May 2020: European Geophysical Union (EGU2020)**

*Vienna, Austria*

The programme for EGU 2020 is now available at [meetingorganizer.copernicus.org/EGU2020/provisionalprogramme](http://meetingorganizer.copernicus.org/EGU2020/provisionalprogramme).

### ***Nearshore processes: fluid motions and sediment transport***

The nearshore zone is one of the most dynamic places on earth. Here, the perpetual interaction between waves, tides, wind and the seabed drive the fluid motions that initiate sediment transport and, ultimately, shape the world's coastal areas. The magnitudes and spatiotemporal scales at which these processes act vary tremendously, and understanding the small-scale processes that underlie large-scale coastal dynamics remains a challenge.

This session welcomes contributions that focus

on small scale (from turbulence to mean flow, sand grains to ripples) physical processes in the nearshore zone of wave-dominated coasts. Ranging from approximately 10 m water depth up to the shoreline, this region comprises the shoaling, surf and swash zones. Topics include cross-shore and alongshore wave field evolution, wave-breaking and turbulence, swash-zone processes, cross-shore and alongshore current structures, extreme events, sediment mobilisation and transport, and biophysical interactions. This session will include abstracts describing field measurements, numerical and laboratory modelling, theoretical analysis, and model-data assimilation. We particularly welcome studies including innovative data collection approaches, or with a focus on uncertainties in measurements and predictions.

Further details of the session, abstract submission and general assembly: <https://meetingorganizer.copernicus.org/EGU2020/session/36177>

Abstract deadline: **15 January 2020, 13:00 CET** or, for those applying for EGU travel support, December 1st 2019. This year we decided to go for a PICO session (Presenting Interactive Content). PICO sessions are a great way to share results, ideas and experiences by combining the advantages of both oral and poster presentations and enhancing the interaction between authors and the audience. With this session we hope to further raise the current coastal research profile at EGU. For those that are not familiar with EGU, but do know AGU: the annual General Assembly is similar to the AGU Fall meeting, hosting a wide range of interesting sessions that link to our field.

Please consider submitting your abstract on small scale (from turbulence to mean flow, sand grains to ripples) physical processes in the nearshore of wave-dominated coasts to our session. In addition to a wide range of topics, we explicitly strive for a diversity of gender, nationality and career stage. We hope to see many of you in Vienna! and spread the word!

Co-conveners:

*Timothy Price* - Utrecht University, the Netherlands

*Matthieu de Schipper* - Delft University of Technology, the Netherlands

*Nadia Sénéchal* - University of Bordeaux, France

*Àngels Fernández Mora* - SOCIB Balearic Islands

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

Coastal Observing and Forecasting System, Spain

## 25th - 29th May 2020: 52nd International Liège colloquium on Ocean Dynamics: towards an understanding and assessment of human impact on coastal marine environments Liège, Belgium

The first announcement of the 52nd Liège colloquium is now on the Web site: <http://labos.ulg.ac.be/gher/home/colloquium/>.



### Terms of reference

The coastal ocean is under increasing multiple (climate and not-climate) pressures that affect its functioning and health, and compromise the provision of services to the society. The set-up of a scientifically underpinned ecosystem-based management scheme for the coastal ocean requires a thorough understanding of human impacts on the physics, biogeochemistry and biodiversity at large scale. Such a management scheme should be firmly embedded in the science-management-policy interface, taking account of selecting useful and communicable indicators for ecosystem health, targeting ecosystem services and making use of novel analytical tools acknowledging the complexity of Drivers-Pressures-Stressors-Impacts-Responses (DPSIR) interactions.

The 52nd international Liège colloquium will gather an interdisciplinary community of scientists to overview the progress in our capabilities to understand, monitor and forecast the impact of human activities on coastal marine environments to guarantee a productive and healthy system as requested by the EU Marine Strategy Framework Directive and the UN Sustainable Development Goal 14.

Regular sessions will be held on the following themes:

- ◊ Assessing the impact of sedimentary changes on the coastal ocean physics, biodiversity and biogeochemistry.  
**KEYNOTE** : **Martin Solan** (University of Southampton, United Kingdom)
- ◊ Assessing the impact of marine structures on the coastal ocean physics, biodiversity and biogeochemistry.  
**KEYNOTE** : **Jennifer Dannheim** (AWI and HIFMB, Germany)
- ◊ Assessing the impact of land-based pressures on the coastal environment, river-estuary-coastal ocean coupling.  
**KEYNOTE** : **Marjorie A.M. Friedrichs** (Virginia Institute of Marine Science, USA)
- ◊ Multiple stressors, multi-use, cumulative effect assessment, including climate change.  
**KEYNOTE** : **Philip Boyd** (University of Tasmania, Australia)
- ◊ Ecosystem services.  
**KEYNOTE** : **Tara Hooper** (Plymouth Marine Laboratory, United Kingdom)
- ◊ Indicators definition for ocean health assessment in connection with SDG14 and GES assessment.  
**KEYNOTE** : **Angel Borja** (AZTI, Spain)
- ◊ Science base for marine spatial planning.  
**KEYNOTE** : **Vanessa Stelzenmüller** (Thünen Institute, Germany)

### SIDE EVENT:

A special event gathering scientists, stakeholders and industries is foreseen for reviewing current knowledge and gaps on offshore wind farms impacts on biodiversity and biogeochemistry. The special event will set the scene for a follow-up discussion during a networking reception directly following the presentations.

Website: <http://labos.ulg.ac.be/gher/home/colloquium/>

### Place of the Conference:

University of Liège - Place du 20-Août, 7 - 4000 Liège - Belgium

### Organization Committee:

Ulrike Braeckman (UGent, BE)  
Arthur Capel (ULiège, BE)  
Steven Degraer (RIBINS, BE)  
Marilaure Grégoire (ULiège, BE)  
Tom Moens (UGent, BE)  
Karine Sotoclet (NIOZ, BE)  
Jan Vanaverbeke (RIBINS, BE)  
Gert Van Hoey (ILVO, BE)

### Scientific Committee:

Tundi Agardy (Marine Conservation, US)  
Salvatore Arico (IOC-Unesco)  
Silvana Binchough (CEPAC, UK)  
Angel Borja (AZTI, SP)  
Denise Breitburg (Smithsonian, US)  
Joop Coolen (Wageningen Marine Research, NE)  
Valérie Cummins (University College Cork, Future Earth Coast, IE)  
Farid Dahdouh-Guebas (ULB, BE)  
Minhan Dai (Xiamen University, CN)  
Shada El Serary (Deltara, NE)  
Emmanuel Hanert (UCL, BE)  
Stéphane Isoard (EEA, Benin)  
Philippe Lelieys (UAG, Benin)  
Diego Macías (JRC, IT)  
Patrick Meire (UA, BE)  
Angélique Météé (MOK, FR)  
George Petlakos (EuroGOOS)  
Pierre Pettigás (IFREMER, FR)  
Nadia Pinardi (IUG, IT)  
Augustin Sanchez Arcilla (Polytechnic University of Barcelona, SP)  
Irene Schloss (University of Ushuaia, AR)  
Emily Snail (NOAA, US)  
Emil Stanev (HZG, GE)  
Adrian Stancu (GeoEcoMar, RO)  
Vanessa Stelzenmüller (Thünen Institut, DE)  
Michiel Vandegheuchte (VLIZ, BE)  
Johan van der Molen (NIOZ, NE)



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Deadline for Abstract submission: **January 17th 2020.**

Regular sessions will be held on the following themes:

Assessing the impact of sedimentary changes on the coastal ocean physics, biodiversity and biogeochemistry.

KEYNOTE Speaker: **Martin Solan** (University of Southampton, United Kingdom)

Assessing the impact of hard substrate introduction on the coastal ocean physics, biodiversity and biogeochemistry.

KEYNOTE Speaker: **Jennifer Dannheim** (AWI and HIFMB, Germany)

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We are looking forward to welcoming you in Liege - **Organizing committee**

**15th - 17th June 2020: INCISE 2020 "Canyons: human connections to the deep sea"**

*Cork, Ireland*

On behalf of the international and local organising committee we would like to announce early details for this event hosted at University College. The official INCISE 2020 website can be found at <https://www.incise2020.com/> where we will provide updates as the conference develops.

INCISE (International Network for Submarine Canyon Investigation and Scientific Exchange) is an annual forum bringing together scientists from around the world working on all aspects of submarine canyon research, and to stimulate discussions across disciplines. This cross-discipline approach allows scientists to collaborate and initiate a holistic approach to canyon research. The bi-annual conference brings together 80 - 100 geologists, biologists, engineers, oceanographers, ecologists and environmental managers. It provides a truly multidisciplinary and exciting forum for the exchange of knowledge and generation of ideas that underpin sustainable submarine canyon management.

At this early stage, we also welcome proposals and suggestions for pre-conference workshops to be hosted at INCISE 2020. For ideas, suggestions and proposals, please email: [incise2020@gmail.com](mailto:incise2020@gmail.com). We look forward to welcoming you to the City of Cork to experience our culture, engage in scientific discussion and discovery and enjoy the benefits that INCISE engagement offers. - **Prof Andy Wheeler and Dr Aaron Lim**

**21st - 25th June 2020: 6th International EcoSummit Congress, EcoSummit 2020 -**

**Building a sustainable and desirable future:  
Adapting to a changing land and sea-scape,  
Gold Coast, Australia**

This conference series was founded in 1996 in Copenhagen, as a forum for scientists, practitioners, and policy-makers working across disciplines to solve the integrated environmental, social, and economic problems facing the world today. Since 1996, EcoSummits have occurred around the world (Canada, China, USA and Europe), with EcoSummit 2016 hosting 1400 participants from 87 countries in Montpellier, France.

EcoSummit 2020 will have a focus on coastal and marine ecosystems including adjacent terrestrial ecosystems and all habitats that are integrated within those ecosystems, including river networks, wetlands and catchments. We expect all aspects of environmental modelling, engineering, science, and policy to be covered under the focus of climate adaptation and the need for developing socio-economic and environmental resilience and sustainable prosperity around the world. Further focus will be placed on fragile systems that are more likely to suffer the consequences of climate change and anthropogenic pressure such as islands, coastal communities and arid landscapes.

In the current context of an increasing world population, in particular in coastal regions, it is evident that building sustainable cities and using resources sustainably is inevitable. It is envisaged that the Summit will produce a declaration encompassing its vision and policy recommendations. We welcome your participation and look forward to seeing you at EcoSummit 2020. Abstract submission is now open; this is an open Call for Abstracts for presentations and posters to be submitted against the symposium topics listed on the conference website [ecosummitcongress.com/](http://ecosummitcongress.com/). Abstract submission deadline: 15 November 2019.

Side events will also take place during Ecosummit 2020. If you wish to participate in a side event, please contact the organiser by email beforehand, as the number of places is limited in each event. There is no abstract submission to side events. Still time to submit a symposium or side event proposal: [www.ecosummitcongress.com/participation-events.asp](http://www.ecosummitcongress.com/participation-events.asp). For more general information Visit the EcoSummit 2020 website: [ecosummitcongress.com](http://ecosummitcongress.com).

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

EcoSummit 2020 Co-Chairs:

*Robert Costanza*, Crawford School of Public Policy at Australian National University, Australia.

*Bai-Lian (Larry) Li*, University of California, Riverside, USA.

*Jan-Olaf Meynecke*, Griffith University, Australia

**7th - 11th September 2020: Challenger Society  
Biennial Meeting**

*Oban, Scotland*



The biennial Challenger conference attracts around 300 leading UK marine scientists, science managers and early career scientists. As well as showcasing cutting edge marine science and technology, the conference is noted for its training of young scientists and networking events, including a public lecture by an eminent authority on relevant societal marine issues.

Once again the call is out for sponsors and exhibitors wishing to participate in next year's conference. The conference is a great place to be if you are recruiting marine science graduates.

The range of sponsorship opportunities are listed below. The conference organiser is Professor Nick Owens, and commercial exhibition organiser Terry Sloane will be happy to discuss any requirements that you may have.

Terry Sloane by email: [terry@planet-ocean.co.uk](mailto:terry@planet-ocean.co.uk) or phone 01276 427 971

[www.challenger2020.co.uk](http://www.challenger2020.co.uk)

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

❖ **Sponsorship Packages**

**Headline sponsor of conference (one only):**

- 3m x 2m exhibition stand in prime location with 2 delegate passes
- Prominent name and logo on the conference website and abstract book acknowledging **MAIN SPONSOR**
- leaflet in delegates bag,
- Full page advert on inside front cover of abstract book
- Free "Gold upgrade"

**£1600**

**Individual sponsorship opportunities:**

Sponsors of individual elements of the event will be acknowledged in the lecture theatres, abstract book, on the conference website and on posters. Those sponsors with manned exhibition stands are able to upgrade to the **Gold package**, where they will have the opportunity to have a 5 minute speaking slot at the start of the plenary sessions.

- |  |      |
|--|------|
| • Manned exhibition stand 3m x 2m with 2 delegate passes | £600 |
| • "Gold Upgrade" (only five slots available)             | £100 |
| • Co-sponsorship of conference dinner                    | £750 |
| • Co-sponsorship of ice breaker reception                | £700 |
| • Co-sponsorship of poster session                       | £500 |
| • Co-Sponsorship of public lecture                       | £500 |
| • Sponsorship of keynote speaker                         | £550 |
| • Exhibition banner unmanned                             | £200 |
| • Brochure in delegates bag                              | £200 |
| • ¼ Page advert in conference handbook                   | £150 |
| • ½ Page advert in conference handbook                   | £300 |
| • One A4 leaflet in delegates bag                        | £100 |

Corporate society members benefit from a 15% discount



### Background

To promote interdisciplinary studies in marine environmental science and to foster the next generation of ocean scientists, the State Key Laboratory of Marine Environmental Science (MEL, <http://mel.xmu.edu.cn/en>), Xiamen University initiated the Xiamen Symposium on Marine Environmental Sciences (XMAS) in 2014, with the overarching theme **The Changing Ocean Environment: From a Multidisciplinary Perspective**. XMAS has grown to be one of Asia's largest conferences in marine sciences and acts as a hot spot to exchange research interests in global and regional oceans.

Its fifth iteration, XMAS-V (<http://melmeeting.xmu.edu.cn/xmas5>) will be held in Xiamen from **January 11th to 14th, 2021**. XMAS-V will focus on how **Multidisciplinary Sciences Can Serve a Sustainable and Healthy Ocean**. It will be one of the important hallmarks of Xiamen University's centenary celebrations. The symposium will consist of different, interconnected sessions covering physical oceanography, marine biogeochemistry, biological oceanography, and marine ecotoxicology along

with workshops for emerging topics in marine environmental sciences such as how to achieve the goals outlined in the United Nations Decade of Ocean Science for Sustainable Development (2021-2030).

MEL was established in 2005 under sponsorship from the Ministry of Science and Technology of China (MOST). It has been awarded the Excellent State Key Laboratory twice in two recent official reviews by MOST. MEL is dedicated to interdisciplinary cutting-edge research in marine environmental sciences, with particular strengths in marine biogeochemistry and ecosystem studies.

Originally known as Amoy, Xiamen is an island renowned for rich cultural relics, a pleasant climate, and beautiful natural scenery. It is located on the southeast coast of China and has a long history of international commerce. It has a monsoonal humid subtropical climate characterized by mild and dry winters (average January temperature around 15 °C /59 °F).



### Important Dates

**January 1, 2020:** Call for Session/Workshop Proposals Begins  
**April 30, 2020:** Call for Session/Workshop Proposals Ends  
**May 15, 2020:** Decision of Proposals Sent  
**June 1, 2020:** Abstract Submission Begins  
**August 31, 2020:** Abstract Submission Closes  
**September 30, 2020:** Authors Notified of Acceptation  
**October 1-31, 2020:** Registration  
**November 15, 2020:** Scientific Program Posted

### Chair of XMAS-V

Minhan Dai, Xiamen University

### Local Organizing Committee

Yawei Luo  
 Zhimian Cao, Yongxiang Huang, Xing Jian, Xin Lin, Jian Ma,  
 Dalin Shi, Shanlin Wang, Siqi Wu and Wei Zhuang

### Organizers

State Key Laboratory of Marine Environmental Science, Xiamen University  
 Department of Earth Sciences, National Natural Science Foundation of China

### Contact

Ying Huang  
[xmas@xmu.edu.cn](mailto:xmas@xmu.edu.cn) +86-592-2181571

For the only the third time, the conference will be held at SAMS (Scottish Association for Marine Science in beautiful OBAN. SAMS hosted the first post war conference back in 1946 and since then only once more since in 2006.

## 11th – 14th January 2021: The Fifth Xiamen Symposium on Marine Environmental Sciences

### Xiamen, China

The State Key Lab of Marine Environmental Science (MEL), Xiamen University and the Earth Science Division of the National Natural Science Foundation of China (NSFC) are going to hold the fifth bi-annual meeting XMAS-V. The theme of XMAS-V is **Multidisciplinary Sciences Serving a Sustainable and Healthy Ocean**. More information about the meeting can be found at <http://melmeeting.xmu.edu.cn/xmas5/>.

## 5th - 9th September 2022: Challenger Society Biennial Meeting – celebrating the 150<sup>th</sup> anniversary of the Challenger Expedition London, UK

To be hosted by the National History Museum, just a 'date for the diary', stayed tuned.

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 29th November.

*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, [jxj@noc.ac.uk](mailto:jxj@noc.ac.uk), as soon as possible*

# JOBS

There are jobs on the IMBER web site

<http://www.imber.info>



Integrated Marine Biosphere Research

### Jobs and opportunities

- Interdisciplinary PhD: Perceptions, power relationships, and the decision support process, ZMT, Bremen, Germany. Apply by 15 Nov
- Interdisciplinary PhD: Environmental indicators of tourism-generated wastewater pollution, ZMT, Bremen, Germany. Apply by 15 Nov
- Interdisciplinary PhD: Wastewater impacts on functional traits and diversity, ZMT, Bremen, Germany. Apply by 15 Nov
- UNESCO/Japan Research Fellowships for postgraduates from developing countries: Apply by 29 Nov
- PhD: Assessing the impact of multiple environmental stressors on Atlantic Ocean deep-sea ecosystems. Herriot Watt University, UK. Apply by 5 Dec
- Science technician/IT crew member. Volstad Shipping. Norway. Apply by 30 Nov
- Delta Science Fellowship: Research projects for coupled natural-human systems in California Bay-Delta. Apply by 20 Dec
- Two track-tenure marine policy positions, WHOI, Woods Hole MA, USA. Apply by 31 Dec
- Contribute to the TBTI ebook on Blue Justice for Small-Scale Fisheries. Submissions by 31 Dec
- Call for proposals for the ASSEMBLE Plus Transnational Access Programme for free use of infrastructure and research services not available at home institutes. Submit before April 2020
- Senior scientist: Ocean acidification, EAP, Lacey, WA, USA. Closing date: Continuous
- UNESCO/Japan Research Fellowships for postgraduates from developing countries : Apply by 29 Nov
- Postdoc: Marine chemistry, University of Southern Mississippi, USA. Position open until filled

[Visit the IMBeR Website](#)

[imber@imr.no](mailto:imber@imr.no)