



Monday, 10th September

- 8am **SIGS Registration**
Lindisfarne Room, Hadrian Building
- 8am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building
- 9am **Remote Sensing**
Alnwick Room, Hadrian Building
Chaired by: Dr Chris Banks
- 12pm **Challenger Conference 2018 - REGISTRATION**
Lindisfarne Room, Hadrian Building
- 12pm **Early Career Event Lunch**
Lindisfarne Room, Hadrian Building
- 12:30pm **Early Career Event and Registration inc. the Marine Science and Policy SIG.**
Bamburgh Room, Hadrian Building
Chaired by: Alejandra Sanchez-Franks
- 5pm **Drinks Reception - Sponsored by Digital Catapult**
Boiler House

Tuesday, 11th September

- 8am **Challenger Conference Registration**
Lindisfarne Room, Hadrian Building

8am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

8am **Poster Session 1**
Lindisfarne Room, Hadrian Building

Quantifying the impact of climate change on marine diazotrophy: insights from IPCC climate models

» [Lewis Wrightson](#), Claire Mahaffey, Alessandro Tagliabue

First deployment of an autonomous microfluidic Lab-on-Chip silicate sensor

» Geraldine Clinton-Bailey, [Emily Davey](#), Rudolf Hanz, Alex Beaton

GEOTRACES at BODC: Data management supporting a global programme

» [Mohamed Adjou](#), Gwenaelle Moncoiffe, Donna Cockwell, Helen Snaith

Towards the first 3D oceanic biogeochemical model of copper

» [Camille Richon](#), Alessandro Tagliabue

Influence of shelf break processes on the heat flux onto the eastern Amundsen Sea continental shelf

» [marina azaneu](#), Karen Heywood, Benjamin Webber, Karen Assmann, Povl Abrahamsen

Autonomous monitoring of phosphate concentrations in a shelf sea using a Lab-on-Chip analyser

» [Antony Birchill](#), Alex Beaton, Robin Pascal, Alison Schaap, Geraldine Clinton-Bailey, Andrew Morris, John Walk, Steve Woodward, Matthew Mowlem, Charlotte Williams, Matthew Palmer

Abysal water transformation in the Panama Basin

» [Donata Banyte](#), Miguel Angel Morales Maqueda, Richard Hobbs, David Smeed, Alexis Megann

Assessing the state of the sea for policy purposes

» [John Huthnance](#)



Why am I seeing double? A mechanistic classification of double tides.

» [Mattias Green](#), Dave Bowers, Hannah Byrne

Oxygenated volatile organic compounds: from catchment to coast

» [Paul Hackett](#), Rachael Beale, Joanna Dixon

Bedform dynamics around shipwrecks emplaced on a sand and gravel seabed

» [Katrien Van Landeghem](#), Connor McCarron, Rory Quinn, Thomas Smyth, Aggelos Dimakopoulos, Irinios Yannoukos, Mike Roberts

Finding the link between large-scale climatic variability and the onset of stratification in temperate shelf seas

» [Jenny Jardine](#), Matthew Palmer, Claire Mahaffey, Jason Holt, Adam Mellor, Sarah Wakelin

Sensitivity of shelf sea benthic carbon stocks to changes in temperature and bioturbation rates

» [John Aldridge](#), Ruth Parker, Silke Kroeger

The evolution of the RAPID monitoring array and the 12.9-year record of the AMOC at 26N

» [Ben Moat](#), David Smeed, Gerard McCarthy, Darren Rayner, William Johns, Chris Meinen, Dennis Volkov, Molly Baringer, Eleanor Frajka-Williams

Improving measurements of ocean turbulence from glider using Large Eddy simulation (LES)

» [Jan-Torben Witte](#), Ben Moat, Matthew Palmer, Alberto Naveira Garabato

Circulation, Transformation and Mixing in Orkney Passage

» [Carl Spingys](#), Alberto Naveira Garabato, Christian Buckingham, Povl Abrahamsen, Eleanor Frajka-Williams, Alex Forryan, Sonya Legg, Kurt Polzin

Transports and pathways of overflow water in the Rockall Trough

» [Clare Johnson](#), Toby Sherwin, Stuart Cunningham, Estelle Dumont, Loic Houpert, N. Penny Holliday

High-resolution observations of water masses in the southern Bay of Bengal

» [Peter Sheehan](#), Karen Heywood, Adrian Matthews, P. N. Vinayachandran, Benjamin Webber

Flows of organic carbon across salinity gradients from rivers to the shelf sea in Norfolk (UK)

» [Chiara Borsellino](#), Martin Johnson, Andrew Mayes, Naomi Greenwood, Dorothee Bakker, Silke Kroeger

The impact of atmospheric resolution on ocean energy transports into the Arctic in HadGEM3-GC2

» [Sally Woodhouse](#), Len Shaffrey, Reinhard Schiemann, Sheldon Bacon, Yevgeny Aksenov

Potential Vorticity Dynamics in the Orkney Passage (2015-2017)

» Christian Buckingham, [Povl Abrahamsen](#), Michael Meredith, Stephen Griffies, Alberto Naveira Garabato

8:30am Welcome From the Vice Chancellor - Professor Chris Day

Curtis Auditorium, Herschel Building

Chaired by: Professor Andrew Willmott - Head of School

8:45am Keynote - Dr Stephanie Henson - National Oceanography Centre

Curtis Auditorium, Herschel Building

Chaired by: Rob Upstill-Goddard - Professor of Marine Biogeochemistry Ecosystems Services, Newcastle University

9:30am David Goldsmith - Xylem

Curtis Auditorium, Herschel Building

9:40am Terry Sloane - Planet Ocean

Curtis Auditorium, Herschel Building

9:50am Dr Miguel Ángel Morales Maqueda

Curtis Auditorium, Herschel Building



10am **Oceans and Climate**
Lecture Theatre 1, Herschel Building
 Chaired by: Dr Jamie Shutler - Associate Professor in Earth Observation, University of Exeter

10am **Overturning in the Subpolar North Atlantic Programme: a revolution in our understanding of the MOC**
 » [N. Penny Holliday](#), Susan Lozier, Feili Li

10:15am **Strong link between surface particle size and deep carbon flux suggested by a fast-growing, multi-ocean autonomous dataset of optical backscattering**
 » [Nathan Briggs](#), [Stephanie Henson](#), Hervé Claustre, [Filipa Carvalho](#)

10:30am **MultiDecadal Variability of Upper Ocean Heat Content in Relation to Landfalling Atlantic Hurricanes**
 » [Elizabeth Harris](#), Bob Marsh, Jeremy Grist, Gerard McCarthy

10:45am **Temporal variations in the contribution of physical and biological factors on the carbonate system of the mid-latitude North Atlantic**
 » [Vlad Macovej](#), Sue Hartman, Ute Schuster, Sinhue Torres-Valdes, Mark Moore, Richard Sanders

10am **On the sea shelf**
Lecture Theatre 2, Herschel Building
 Chaired by: Dr Jeff Polton - National Oceanography Centre

10am **Copepod Responses to Climate Change: Seasonality of marine copepod *Oithona similis* reproduction and abundance at a shelf site.**
 » [Louise Cornwell](#)

10:15am **Meteorological controls on primary production in shelf seas**
 » [Angela Andrea Bahamondes Dominguez](#), Anna Hickman, Bob Marsh, Mark Moore

10:30am **Resolving shelf-break exchange around the European north-west shelf**
 » [Jennifer Graham](#), Jonathan Rosser, Enda O'Dea, Helene Hewitt

10:45am **Modelling seabed sediment physical properties and nutrient content in the Firth of Clyde**
 » [Matthew Pace](#), David Bailey, Michael Heath, David Donnan, Bhavani E. Narayanaswamy, Eric Dalgarno, Gerald Mcallister, Jenny Hindson, Bill Turrell

10am **Fuel for ocean life**
Lecture Theatre 3, Herschel Building

10am **Glaciers, icebergs and silicon: Preliminary findings from the ICY-LAB research expedition to the continental shelf of SW Greenland**
 » [Katharine Hendry](#), Hong Chin Ng, Rebecca Pickering, Malcolm Woodward, Melanie Leng, Jacob Opher, Alexander Brearley

10:15am **Inter-ocean connectivity: from surface to abyss**
 » [Ronan McAdam](#), Erik van Sebille, Arnaud Czaja

10:30am **Iron limitation of mesopelagic microbial communities**
 » [Joanna Ainsworth](#), Mark Moore, Alex Poulton

10:45am **Evidence for iceberg fertilization of the NW Atlantic**
 » [Grant Bigg](#), Quentin Jutard, Bob Marsh

11am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

11:30am **Oceans and Climate**
Lecture Theatre 1, Herschel Building
 Chaired by: Dr Gavin Tilstone - Senior Scientific Officer, Plymouth Marine Laboratory



11:30am **Seasonal variations in water masses on the Antarctic continental shelf, Amundsen Sea, using seal-borne tags**
 » [Karen Heywood](#), Helen Mallett, Lars Boehme, Mike Fedak, David Stevens, Fabien Roquet

11:45am **Modelling deep ocean circulation in the Panama Basin driven by geothermal heating**
 » [Iowan Barnes](#), Alexis Megann, Miguel Angel Morales Maqueda, Jeff Polton

12pm **Antarctic sea-ice control on glacial and modern deep-ocean circulation and carbon storage**
 » [Alice Marzocchi](#), Malte Jansen

12:15pm **Mean, variability and trend of Southern Ocean wind stress: Role of wind fluctuations**
 » [Xiaoming Zhai](#), Xia Lin, Zhaomin Wang, David Munday

12:30pm **Ocean precursors to the extreme Atlantic 2017 hurricane season**
 » [Samantha Hallam](#), Bob Marsh, Joel Hirschi, Simon Josey, Patrick Hyder, Ben Moat

11:30am **On the sea shelf**
Lecture Theatre 2, Herschel Building

11:30am **Shelf sea tidal currents and mixing fronts determined from ocean glider observations**
 » Peter Sheehan, Barbara Berx, Alejandro Gallego, [Rob Hall](#), Karen Heywood, Sarah Hughes, Bastien Queste

11:45am **Glider provides evidence of enhanced mixing and heat fluxes above topographic sill in Ryder Bay, West Antarctic Peninsula**
 » [Ryan Scott](#), Alexander Brearley, Alberto Naveira Garabato

12pm **Tidal conversion and associated mixing in the Arctic Ocean**
 » [Tom Rippeth](#), Vasyi Vlasenko, Nataliya Stashchuk, Brian Scannell, Mattias Green, Ben Lincoln, Sheldon Bacon

12:15pm **'Can I have a P please Bob?': Ecological Stoichiometry and Shelf Sea Biogeochemistry**
 » [Alex Poulton](#), Clare Davis, Chris Daniels, Kyle Mayers, Malcolm Woodward

12:30pm **The open ocean, bathymetry and coastal sea level along western boundaries**
 » [Anthony Wise](#), Chris Hughes, Jeff Polton

11:30am **Fuel for ocean life**
Lecture Theatre 3, Herschel Building
 Chaired by: Professor Nicholas J P Owens - SAMS Director

11:30am **What governs the internal cycling of dissolved iron?**
 » [Alessandro Tagliabue](#), Andrew Bowie, Michael Ellwood, William Landing, Angela Milne, Daniel Ohnemus, Benjamin Twining, Philip Boyd

11:45am **Are all sediment traps created equal? An intercomparison study of carbon export methodologies at the PAP-SO site**
 » [Chelsey Baker](#), Margaret Estapa, Laura Heinlein, Lucy Walker, Morten Iversen, Richard Lampitt, Ken Buesseler

12pm **Departing from Redfield: Case scenarios in the Southern Ocean and North Atlantic**
 » [Katrin Schmidt](#), Simon Ussher, Angela Milne, Antony Birchill, Malcolm Woodward, James Clark, Luca Polimene, Maeve Lohan, Glen Tarran, Claire Widdicombe, Angus Atkinson

12:15pm **Differential coupling of oceanic nutrient cycles controlled through maximum biotic uptake ratios**
 » [Mark Moore](#), Raffaele Bernardello, Adrian Martin

12:30pm **Marine chemical speciation modelling for the 21st century**
 » [Matthew Humphreys](#), Heather Benway, Andrew Dickson, David Turner, Simon Clegg

12:45pm **LUNCH**
Lindisfarne Room, Hadrian Building



1pm	Shelf Seas Meeting <i>ETAL Room, Hadrian Building</i>	2:15pm	Fuel for ocean life <i>Lecture Theatre 3, Herschel Building</i> Chaired by: Dr Alex Poulton - Associate Professor, Heriot-Watt University
2:15pm	Oceans and Climate <i>Lecture Theatre 1, Herschel Building</i> Chaired by: Professor David Marshall, University of Oxford, Department of Physics	2:15pm	Speciation of dissolved copper in North Atlantic along the GEOTRACES GA01 section » Arthur Gourain , Pascal Salaun, Alessandro Tagliabue, Constant Van Den Berg, Marie Cheize, Jan-lukas Menzel-barraquetta, Helene Planquette, Geraldine Sarthou, Rachel Shelley
2:15pm	Submesoscale Rossby waves on the Antarctic Circumpolar Current » John Taylor , Scott Bachman, Megan Stamper, Phil Hosegood, Kate Adams, Jean-baptiste Sallee, Ricardo Torres	2:30pm	Oxic ocean margins: lithogenous factories of colloidal iron isotopes for seawater budgets » Will Homoky , Tim Conway, Seth John, Malcolm Woodward, Alessandro Tagliabue, Rachel Mills
2:30pm	Evidence of the Faroe Shetland Bottom Water overflow into the Darwin Mounds area » Vasiliy Vlasenko , Nataliya Stashchuk	2:45pm	Modelling the impact of macronutrients on the eutrophication status of small estuaries » Rebecca Huggett , Duncan Purdie, Ivan Haigh
2:45pm	Eddy saturation in coarse resolution ocean general circulation models » Julian Mak , James Maddison, David Marshall, Dave Munday	3pm	Weird happenings in the twilight zone: Spring-bloom diatoms are lonely sinkers » Sarah L C Giering , Stephanie Henson, Richard Sanders, Filipa Carvalho, Mark Moore, Joanna Ainsworth, Mark Stinchcombe, Robin Brown, Stephen J Shorter
2:15pm	On the sea shelf <i>Lecture Theatre 2, Herschel Building</i> Chaired by: Robert Hall - Lecturer, University of East Anglia	3:15pm	REFRESHMENTS <i>Lindisfarne Room, Hadrian Building</i>
2:15pm	Continuous glider occupation in the Barents Sea from the Polar Night into Polar Day » Marie Porter , Heather Bouman, Andrew Orkney, Sian Henley, Byongjun Hwang, Emily Venables, Estelle Dumont, Finlo Cottier	3:45pm	Oceans and Climate <i>Lecture Theatre 1, Herschel Building</i>
2:30pm	The effect of aggregation/disaggregation on Suspended Particulate Matter transport in a Sea Strait » suzie Jackson , Dave Bowers, Michael Harris	3:45pm	How do sea surface properties connect to Atmospheric Jets? » Liping Ma , Ric Williams, Tim Woolings, Doug Smith, Vassil Roussenov
2:45pm	Macronutrient and carbon dynamics across the Antarctic Peninsula shelf during summer » Sian Henley , Elizabeth Jones, Hugh Venables, Michael Meredith, Yvonne Firing, Ribanna Dittrich, Sabrina Heiser, Jacqueline Stefels, Julie Dougans	4pm	Circulation in the Eastern Subpolar North Atlantic Based on Three Years of Mooring Measurements » Stuart Cunningham , Loic Houpert, Clare Johnson, Stefan F. Gary, Mark Inall, Neil Fraser, N. Penny Holliday



4:15pm **Comparison of variability and forcing of sea-level based ocean circulation indices**
 » [Gerard McCarthy](#), Samuel Diabaté, Philip Leadbitter, Aurélie Duchez, Joel Hirschi

4:30pm **Modelling ocean waves and sea ice and the Polar Oceans**
 » [Yevgeny Aksenov](#), Stefanie Rynders, Lucia Hosekova, Danny Feltham, A.J. George Nurser

4:45pm **The effect of chlorophyll blooms on optical parameters as observed during the 2016 BoBBLE campaign**
 » [Jack Giddings](#), Karen Heywood, Adrian Matthews, Manoj Joshi, Benjamin Webber, Alejandra Sanchez Franks, Brian King, P. N. Vinayachandran, Nicholas Klingaman, Simon Peatman

3:45pm **On the sea shelf**
Lecture Theatre 2, Herschel Building
 Chaired by: Professor Tom Rippeth - Bangor University

3:45pm **Marine invertebrates affect seabed process dynamic but chronic trawling disturbance may profoundly alter this relationship**
 » [Clement Garcia](#), Stefan Bolam, Ruth Parker, David Sivyver, Rachel Hale, Steve Widdicombe, Jasmin Godbold, Martin Solan

4pm **Effects of near surface ocean gradients upon shelf sea air/sea gas exchange estimates**
 » [Richard Sims](#), Thomas Bell, Ute Schuster, Andrew Watson

4:15pm **The effects of increasing model resolution on physics-ecosystem interactions in the Celtic Sea**
 » [Sarah Wakelin](#), Yuri Artioli, Momme Butenschön

4:30pm **Pycnocline Mixing in Seasonally Stratified Shelf Seas**
 » [Jeff Polton](#), Maria Luneva, Karen Guihou, Ash Brereton

3:45pm **Fuel for ocean life**
Lecture Theatre 3, Herschel Building
 Chaired by: Professor Geraint Tarling - British Antarctic Survey

3:45pm **Resource Stoichiometry in the Atlantic Ocean and Response to Changes in Winter Mixing**
 » [Shaun Rigby](#), Alessandro Tagliabue, Ric Williams, Eric Achterberg

4pm **Glacial iron supply to southwest Greenland: Distribution and longevity of bioactive trace metals**
 » [Amber Annett](#), Robert Sherrell, Katharine Hendry

4:15pm **Phosphorus and iron diagenesis during the birth of a Mediterranean mini-ocean: First results from IODP Expedition 381 (Gulf of Corinth)**
 » [Carol Mahoney](#), Christian März

4:30pm **Oxygen as a key ecosystem parameter: towards a vision of integrating observations from water column and sediments with modelling to support assessments of status and predict change**
 » [Silke Kroeger](#), Suzanne Painting, Naomi Greenwood, David Sivyver, Tom Hull, Briony Silburn, John Aldridge, Johan Van Der Molen, Tiago Silva, Sonja Van Leeuwen, Yuri Artioli, Gennadi Lessin, James Clark, Liam Fernand, Ruth Parker

Wednesday, 12th September

8am **Challenger Conference Registration**
Lindisfarne Room, Hadrian Building

8am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

8am **Poster Session 2**
Lindisfarne Room, Hadrian Building

Biogeochemical variability of the oligotrophic subtropical North Atlantic gyre on diurnal to seasonal timescales
 » [Pete Brown](#), Elaine McDonagh, Darren Rayner, Richard Sanders, David Smeed, Brian King, Mark Moore, Tim Smyth, Ute Schuster



Ocean Productivity variability in the subpolar North Atlantic from Gliders

» [Jason Salt](#), Keith Davidson, Andrew Dale

Iron supply from the Mid Atlantic Ridge to the North Atlantic ocean: GEOTRACES GA13

» [Alastair Lough](#), Maeve Lohan, Alessandro Tagliabue

Modelling the utilisation of dissolved organic phosphorus by phytoplankton in an optimality-based model

» [Bei Su](#), Alessandro Tagliabue

Behaviour of rare earth elements in the Severn and global rivers

» Kate Davies, [Yves Plancherel](#)

Temporal Variation in the Distribution of Ice Shelf Water in the Western Ross Sea from 2010 to 2012 Using Seal-borne Data

» [Yixi Zheng](#), Karen Heywood

Coccolithophore community distributions in an Atlantic summer shelf sea: Living on the edge

» [Lucie Daniels](#), Anna Hickman, Alex Poulton

Surfactant Photoreactivity in the Sea-Surface Microlayer

» [Philippa Rickard](#), Guenther Uher, Rob Upstill-Goddard

NEODAAS: Earth observation services for UK marine science

» [Lauren Biermann](#), [Peter Miller](#), Steve Groom, Silvia Pardo, Ben Taylor, Nick Selmes

The Oceanids system: Command, control and management for autonomous ocean robots, metadata and data.

» [thomas gardner](#), Justin Buck, Alexandra Kokkinaki, Oceanids C2 development

UK Glider Data Management

» [Emma Slater](#), Mark Hebden, Justin Buck

Microplastics in the marine environment: Detection using a novel, hyperspectral infrared camera on a UAV

» [Jennifer Cocking](#), Philip Anderson, Bhavani E. Narayanaswamy, Hugh Mortimer, Claire Waluda

Trial of a wideband acoustic equipped Wave Glider to quantify zooplankton patchiness in the North Sea

» [Martina Bristow](#), Angus Atkinson, Fabio Campanella, Sophie Fielding, Karen Heywood, Tom Hull, David Pearce, Bastien Queste, Jeroen Van Der Kooij

Development of Novel Microfluidic Systems for Radionuclide Detection

» [Sarah Laughlin](#)

Seagliders: a platform for microstructure measurements

» [Gillian Damerell](#), Rob Hall, Karen Heywood

Droplet microfluidics for in situ chemical sensing

» [Adrian Nightingale](#), Gareth Evans, James Zhu, Brett Warren, Kyriacos Makris, Sammer-ul Hassan, Hywel Morgan, Matthew Mowlem, Xize Niu

Microbial phosphorus acquisition strategies in a nutrient limited ocean.

» [Sarah Reynolds](#), Julie Robidart, Stephanie Sargeant, Clare Davis, Despo Polyviou, Malcolm Woodward, Maeve Lohan, Claire Mahaffey

Diversity of bacterial nucleases in marine gel particles

» [Aisha Al-Wahaibi](#), Rob Upstill-Goddard, Grant Burgess

Automated Parameter Tuning in Earth System Models

» [Sophy Oliver](#), Coralia Cartis, Iris Kriest, Simon Tett, Samar Khatiwala

Modelling the effects of nutrient limitation on phytoplankton-bacterial interactions

» [Lavenia Ratnarajah](#), Alessandro Tagliabue

Dissipation in mesoscale eddies impinging on topography

» [D. Gwyn Evans](#), Eleanor Frajka-Williams, Alberto Naveira Garabato



- 8:40am **Housekeeping**
Curtis Auditorium, Herschel Building
- 8:50am **Emma Johnson and Sam Kirby - Chelsea Technologies**
Curtis Auditorium, Herschel Building
- 9am **Keynote - Dr Erik van Sebille - University of Utrecht**
Curtis Auditorium, Herschel Building
Chaired by: Professor Miguel Morales Maqueda - Senior Lecturer
Oceanography Ecosystems Services, Newcastle University
- 9:45am **Oceans and Climate**
Lecture Theatre 1, Herschel Building
Chaired by: Dr Hugh Venables - British Antarctic Survey

- 9:45am **Cessation in the decline of dense Antarctic water to the Atlantic Ocean overturning circulation**
» [Povl Abrahamsen](#), Andrew Meijers, Kurt Polzin, Alberto Naveira Garabato, Brian King, Yvonne Firing, Jean-baptiste Sallee, Katy Sheen, Arnold Gordon, Bruce Huber, Michael Meredith
- 10am **Influence of air-sea coupling on tropical cyclone prediction**
» [Xiangbo Feng](#), Nicholas Klingaman, Kevin Hodges
- 10:15am **The role of ocean in climate change: ocean carbon cycle feedbacks**
» [Anna Katavouta](#), Ric Williams
- 10:30am **Trend detection of the Atlantic Meridional Overturning Circulation time series**
» [Delphine Lobelle](#), Claudie Beaulieu, Valerie Livina, Florian Sévellec, Eleanor Frajka-Williams

- 9:45am **On the sea shelf**
Lecture Theatre 2, Herschel Building
Chaired by: Dr Anna Hickman - University of Southampton

- 9:45am **Assimilation of tide gauge data into operational storm surge forecasting in the North Sea**
» [David Byrne](#), Kevin Horsburgh
- 10am **A new biogeochemical reanalysis incorporating chlorophyll assimilation**
» [Robert McEwan](#), Susan Kay, David Ford
- 10:15am **Modelling the impact of bottom trawling on shelf sea biogeochemistry and ecosystem**
» [Yuri Artioli](#), Gennadi Lessin, Momme Butenschön, James Clark, Jason Holt, Roi Martinez, Paulette Posen, Tiago Silva, Johan Van Der Molen, Sonja Van Leeuwen, Sarah Wakelin, Icarus Allen
- 10:30am **Dissolved organic matter at the west Antarctic Peninsula: spatial variability and physical and biological controls**
» [Ribanna Dittrich](#), Sian Henley, Hugh Ducklow, Raja Ganeshram, Gregory L Cowie, Michael Meredith
- 10:45am **Bottom trawling at Whittard Canyon: seabed modification, trawl plumes and food source heterogeneity**
» [Eoghan Daly](#), Mark Johnson, Annette Wilson, Hans Gerritsen, Konstadinos Kiriakoulakis, Louise Allcock, Martin White

- 9:45am **Technology and instrumentation**
Lecture Theatre 3, Herschel Building
Chaired by: Jeff Neasham - Senior Lecturer, Newcastle University

- 9:45am **Oceanids: Development of Next Generation Marine Autonomous System Capabilities for the National Marine Equipment Pool**
» Alexander Phillips, [Maaten Furlong](#)
- 10am **Development and Field Trials of Two Autonomous Telemetry Systems for Transferring Data from the RAPID 26°N Array**
» [Darren Rayner](#), Stephen Mack, Peter Foden, John Walk, Hannah Wright, Chris Balfour, David Smeed



10:15am **Use of Ocean gliders for Passive Acoustic Monitoring**
 » [pierre cauchy](#), Karen Heywood, Nathan Merchant, Bastien Queste, Denise Risch, Pierre Testor

10:30am **Investigating Spatial Differences in Water Level using X-Band Radar Imagery**
 » [Kieran Newman](#), Paul Bell, Jenny Brown, Andy Plater

10:45am **Glider observations of an eastern boundary slope current and upwelling system**
 » [Callum Rollo](#), Karen Heywood, Rob Hall, Jan Kaiser, Eric Desmond Barton, Francisco De La Granda, Gareth Lee

11am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

11:30am **Oceans and Climate**
Lecture Theatre 1, Herschel Building
 Chaired by: Professor Ric Williams - University of Liverpool

11:30am **The impact of high-frequency weather systems on SST and surface mixed layer in the Central Arabian Sea**
 » [Shenjie Zhou](#), Xiaoming Zhai, Ian Renfrew

11:45am **Squeeze dispersion: the enhancement of diapycnal mixing by large-scale strain**
 » [Gregory Wagner](#), Raffaele Ferrari, Glenn Flierl

12pm **Impacts of regional ocean heat and carbon uptake on surface warming**
 » [Katherine Turner](#), Ric Williams, Anna Katavouta, Andreas Oschlies

12:15pm **Rapid laundering of Antarctic Bottom Water in an abyssal boundary current**
 » Alberto Naveira Garabato, Eleanor Frajka-Williams, [Carl Spingys](#), Sonya Legg, Kurt Polzin, Alexander Forryan, Christian Buckingham, Povl Abrahamsen, Stephen Griffies, Keith Nicholls, Michael Meredith

12:30pm **Estimating Advective and Diffusive Fluxes of Heat and Freshwater in the Arctic Using a Novel Inverse Method in Thermohaline Coordinates**
 » [Neill Mackay](#), Chris Wilson, Jan Zika, N. Penny Holliday

11:30am **From physics to fish**
Lecture Theatre 2, Herschel Building
 Chaired by: Dr Carol Robinson - Professor of Marine Sciences, University of East Anglia

11:30am **Acoustically cryptic fish mask Southern Ocean mesopelagic biomass**
 » [Tracey Dornan](#), Sophie Fielding, Ryan Saunders, Martin Genner

11:45am **Acantharian cysts: highly soluble yet still important contributors to particulate organic carbon fluxes in the bathypelagic zone**
 » [Anna Belcher](#), Clara Manno, Sally Thorpe, Geraint Tarling

12pm **Inferring the inter-annual control of plankton communities across the North Atlantic**
 » [Stephanie Allen](#), Stephanie Henson, Anna Hickman, Claudie Beaulieu, David Johns

12:15pm **Assess the ecological cost/benefit of very large scale tidal energy extraction vs future climate change using joint modelling of mobile marine predators and their prey**
 » [Beth Scott](#), Dina Sadykova, Alexander Sadykov, Michela De Dominicis, Sarah Wakelin, Judith Wolf

12:30pm **Wind-forced upwelling, deep anoxia and dead eels in a coastal basin**
 » [Sean Kelly](#), Elvira De Eyto, Russell Poole, Martin White

11:30am **Technology and instrumentation**
Lecture Theatre 3, Herschel Building
 Chaired by: Dr David Berry - National Oceanography Centre



- 11:30am **Micropod equipped Seagliders; a new platform for observing ocean mixing**
» [Philip Leadbitter](#), [Rob Hall](#), Elizabeth Creed
- 11:45am **Scientific Altimetry Studies from Pole to Pole with CryoSat-2**
» [Chris Banks](#), Francisco Calafat, Helen Snaith, Paolo Cipollini, Andrew Shaw, Nadim Dayoub, Christine Gommenginger, Jérôme Bouffard, Pierre Féménias
- 12pm **From floating algae to schooling fish - using combinations of high to medium-resolution earth observation data to map the marine environment.**
» [Lauren Biermann](#), Sevrine Sailley, Nick Selmes, Elena Couce, Jeroen Van Der Kooij, James Thompson
- 12:15pm **Measuring sea surface height with a GNSS Wave Glider**
» [Miguel Angel Morales Maqueda](#), Nigel Penna, Jing Guo, Ian Martin, Peter Foden
- 12:30pm **Large Scale, Cost-Effective Underwater Wireless Sensing Networks**
» [Jeff Nesham](#)
- 12:45pm **LUNCH**
Lindisfarne Room, Hadrian Building
- 1pm **Science Policy - Dr Jacqueline Tweddle,**
ETAL Room, Hadrian Building
- 1pm **Challenger Society Annual General Meeting, including CLASS meeting announcement.**
Curtis Auditorium, Herschel Building
- 2pm **Martin Stemp - RS Aqua**
Curtis Auditorium, Herschel Building
- 2:10pm **Keynote - Dr Bess Ward - Princeton University**
Curtis Auditorium, Herschel Building
Chaired by: William Reid - Research Associate Ecosystems Services

- 2:55pm **Sequencing the Seas**
Lecture Theatre 1, Herschel Building
Chaired by: Professor R.C. Upstill-Goddard - Newcastle University
- 2:55pm **Eukaryotic contribution to suspended and sinking particles and their potential influence on the oceanic biological carbon pump**
» [Manon Duret](#), Richard Lampitt, Phyllis Lam
- 3:10pm **Evaluating the use of dissolved DNA (dDNA) and environmental (eDNA) as a means of assessing marine plankton diversity**
» [Nathan Christmas](#)
- 2:55pm **Dr Miguel Ángel Morales Maqueda - Newcastle University - From physics to fish**
Lecture Theatre 2, Herschel Building
- 2:55pm **Mesopelagic zooplankton: are they supersensitive to temperature change? And does it matter if they are?**
» [Corinne Pebody](#), Richard Lampitt
- 3:10pm **Modelling tidally induced larval dispersal over Anton Dohrn Seamount**
» [Nataliya Stashchuk](#), Vasiliy Vlasenko, Kerry Howell, Alex Nimmo-smith
- 2:55pm **The power of microbes**
Lecture Theatre 3, Herschel Building
Chaired by: Dr Gary Caldwell - Newcastle University
- 2:55pm **Sources of nitrogen for marine nitrifiers in the mesopelagic Atlantic Ocean**
» [Phyllis Lam](#), Jessika Fuessel, Andrew Rees, Lisa Al-moosawi, Thomas Bibby, Ian Brown, Paul Skipp, Rod Johnson, Nicholas Bates
- 3:10pm **Controls on diazotroph populations across the oligotrophic North Atlantic**
» [Elena Cerdan](#), Thomas Bibby, Mark Moore, Julie Robidart, Maeve Lohan, Claire Mahaffey



3:25pm **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

3:55pm **Oceans and Climate**
Lecture Theatre 1, Herschel Building
Chaired by: Dr Penny Holliday - National Oceanography Centre

3:55pm **How does ocean circulation set the pattern of future projections of dynamic sea level rise?**
» [Matthew Couldrey](#), Jonathan Gregory

4:10pm **Future ocean colour**
» Stephanie Dutkiewicz, [Anna Hickman](#), Oliver Jahn, Stephanie Henson, Claudie Beaulieu, Erwan Monier

4:25pm **Wide-spread mesoscale dipoles in the global ocean**
» [Qinbiao Ni](#), Xiaoming Zhai, Guihua Wang, Chris Hughes

3:55pm **From physics to fish**
Lecture Theatre 2, Herschel Building
Chaired by: Guenther Uher - Newcastle University

3:55pm **Effect of Submesoscales Processes on Negatively Buoyant Tracers**
» [Kat Smith](#), John Taylor

4:10pm **Phytoplankton dynamics and Carbon export in an iron enriched region (South Georgia)**
» [Filipa Carvalho](#), Stephanie Henson, Nathan Briggs, Sandy Thomalla

4:25pm **Application of a life-history model to investigate inter-annual variation in energetic trade-offs of Arctic copepods**
» [Laura Hobbs](#), Neil Banas, Finlo Cottier, Kim Last, Jørgen Berge

4:40pm **Physical Controls And Biogeochemical Consequences Of Upper Ocean Mixing Over The Mid-Atlantic Ridge**
» [Matthew Palmer](#), Juliane Wihsgott, Jonathan Sharples, Claire Mahaffey

4:55pm **Influence of advection on the structure of Antarctic krill swarms**
» [Geraint Tarling](#), Sally Thorpe, Sophie Fielding

3:55pm **The power of microbes**
Lecture Theatre 3, Herschel Building
Chaired by: Dr Alessandro Tagliabue - University of Liverpool

3:55pm **Chewing on chalk: Is there a role for coccolithophore calcification in protection from microzooplankton grazing?**
» [Kyle Mayers](#), Alex Poulton, Kay Bidle, Brittany Schieler, Sarah L C Giering, Seona Wells, Glen Tarran, Daniel Mayor, Thais Bittar, Sean Anderson, Elizabeth Harvey

4:10pm **Rapid Remineralisation Constrains the Biological Carbon Pump**
» [Victoria Hemsley](#), Mark Trimmer, Jessika Fuessel, Phyllis Lam

4:25pm **Autonomous sampling and sensing of a bloom of N2 fixing microorganisms in North Atlantic shelf seas**
» [Julie Robidart](#), Weiyi Tang, Matthew Mowlem, Nicolas Cassar

7pm **Conference Dinner sponsored by Sky News**
Crowne Plaza Hotel, Hawthorn House, Forth St, Newcastle upon Tyne NE1 3SA

Thursday, 13th September

8am **Challenger Conference Registration**
Lindisfarne Room, Hadrian Building

8am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

8am **Poster Session 3**
Lindisfarne Room, Hadrian Building



Heat Content Variability in the Bay of Bengal and inter-basin exchange with the Indian Ocean

» [Alejandra Sanchez Franks](#), Brian King, Benjamin Webber, Adrian Matthews, P. N. Vinayachandran

Kinetic energy variability of near-inertial motions in the upper ocean of the South China Sea

» [Juan Li](#), Xiaoming Zhai, Shuqun Cai

Deep-ocean mixing driven by small-scale internal tides

» [Clément Vic](#), Alberto Naveira Garabato, Mattias Green

Drivers of Subantarctic Mode Water variability

» [Rachael Sanders](#), Andrew Meijers, Paul Holland, Alberto Naveira Garabato

A software framework for automating the NERC long-range marine autonomous fleet

» Catherine Harris, [Sam Jones](#), Paola Arce, Matthew Toberman, Alvaro Lorenzo, Alexander Phillips

Tide Gauge Innovations for Hostile Environments and Developing Economies

» [Angela Hibbert](#), Jeff Pugh, Dave Jones, Simon Williams, Kevin Horsburgh, Francisco Calafat, Alan Evans, Neil Milliken, Chris Pearce, Geoff Shannon, Phil Woodworth

RRS Sir David Attenborough – have your say on data management

» [Alex Tate](#)

Developments in HF radar technology, applications and accuracy

» [Lucy Wyatt](#)

Technological developments for autonomous platforms in marginal ice zones as part of the COMPASS project

» [Bastien Queste](#), Martin Wadley, Karen Heywood, Mike Poole, David Maclean, Peter Bromley, Hugh Maclean

MEDIN - 10 years of increasing access to marine data.

» [Clare Postlethwaite](#), Gaynor Evans, Sean Gaffney, Charlotte Miskin-Hymas

The British Oceanographic Data Centre (BODC) – a roadmap for the future?

» Elizabeth Bradshaw, [Mohamed Adjou](#)

Inversion of HF radar Doppler Spectra using a Neural Network

» [Rachael Hardman](#), Lucy Wyatt

Enhancing Altimetry in the Coastal Zone with Sentinel-3 Mission

» [Nadim Dayoub](#), Chris Banks, Christine Gommenginger, Val Byfield, Helen Snaith, Paolo Cipollini, Andrew Shaw

First results from a new autonomous total alkalinity sensor

» Allison Schaap, [Stathys Papadimitriou](#), Ed Mawji, Socratis Loucaides

From historical climatology to near-real time: mapping ocean physics using scattered observations and robotic gliders

» [Sam Jones](#), Mark Inall, Matthew Toberman

Beneath George VI : Characterising ISOBL

» [Leo Middleton](#), John Taylor, Keith Nicholls, Paul Holland, Peter Davis, Catherine Vreugdenhil

Seasonal nutrient supply and uptake in the Barents Sea under changing sea ice cover

» [Judith Braun](#), Sian Henley, Keith Davidson

The Semiannual Oscillation of South Atlantic and Southern Ocean Sea Level

» [Angela Hibbert](#), Harry Leach, Phil Woodworth

Scavenging amphipods of the abyssal and hadal Wallaby-Zenith Fracture Zone in the East Indian Ocean

» [Johanna Weston](#), Rachael Peart, Heather Ritchie, Stuart Piertney, Alan Jamieson



Distribution of microplastics along the Scottish coastline using standardized sampling and extraction methods

» [Lola Paradinas](#), Neil James, Brian Quinn, Andrew Dale, Bhavani E. Narayanaswamy

Role of temperature and salinity in AMOC weakening and recovery in an ensemble of freshwater hosing simulations

» [Rosalind Haskins](#), Kevin Oliver, Laura Jackson, Sybren Drijfhout, Richard Wood

8:40am

Housekeeping

Curtis Auditorium, Herschel Building

8:50am

Phil Gibbs - Swale Oceanographic

Curtis Auditorium, Herschel Building

9am

Keynote - Professor David Holland sponsored by MDPI

Curtis Auditorium, Herschel Building

Chaired by: Professor Andrew Willmott - Head of School Mathematics, Statistics and Physics, Newcastle University

9:45am

Oceans and Climate

Lecture Theatre 1, Herschel Building

Chaired by: Dr Miguel Ángel Morales Maqueda – Newcastle University

9:45am

Inferring eddy-induced overturning and circumpolar volume transport in the Southern Ocean from eddy energy and its residence time

» [David Marshall](#), Xiaoming Zhai

10am

Impact of Ensemble Size on Near-term Prediction of North Atlantic Ocean State

» [Guantong Lyu](#), Florian Sévellec, Sybren Drijfhout

10:15am

Zonal Jets, Eddy-Mean-Flow Interactions and Turbulent Cascades

» [Natasha Senior](#), Hayder Salman, Xiaoming Zhai, David Stevens

10:30am

Abyssal Upwelling within Mid-Ocean Ridge Fracture Zones

» [Louis Clement](#), Andreas Thurnherr

10:45am

Trends in Southern Ocean deep and bottom waters observed in Drake Passage

» [Yvonne Firing](#), Elaine McDonagh

9:45am

The rising tide of human impact

Lecture Theatre 2, Herschel Building

Chaired by: Professor Grant Bigg - University of Sheffield

9:45am

Can we forecast the behaviour of a deep sea oil spill in the Faroe Shetland Channel?

» [Ryan Gilchrist](#), Rob Hall, John Bacon, Jon Rees

10am

Out of sight out of mind? Microplastic pollution of the deep-sea ecosystem, a study from the Rockall Trough

» [Winnie Courtene-Jones](#), Brian Quinn, Stefan F. Gary, Bhavani E. Narayanaswamy

10:15am

Modelling the three-dimensional distribution of plastics in the global ocean

» [Alethea Mountford](#), Miguel Angel Morales Maqueda, Andrew Willmott

10:30am

The effects of fisheries trawling on marine sediment biogeochemistry.

» [Sarah Breimann](#), Barry O'Neill, Keith Summerbell, Mark Stinchcombe, Daniel Mayor

10:45am

The use of the Continuous Plankton Recorder for monitoring plastics in the open oceans

» [Clare Ostle](#), Richard Thompson, Derek Broughton, Lance Gregory, Marianne Wootton, David Johns

9:45am

The marine extremes

Lecture Theatre 3, Herschel Building

Chaired by: Dr Angela Hibbert - National Oceanography Centre



9:45am **Meander-driven export of shelf waters in the West Antarctic**
 » [Alexander Brearley](#), Carlos Moffat, Hugh Venables, Michael Meredith, Michael Dinniman

10am **Quantifying and understanding annual freshening events of the Denmark Strait Overflow**
 » [Jacob Opher](#), Alexander Brearley, Stephen Dye, Ian Renfrew, Michael Meredith

10:15am **Annual mean and seasonality of ocean temperature in HiGEM**
 » [Yanxin Wang](#), Karen Heywood, David Stevens, Gillian Damerell

10:30am **Exploring the Composition of Macromolecular Organic Matter in Arctic Ocean Sediments along a Changing Sea Ice Gradient**
 » [Mark Stevenson](#), Geoffrey Abbott

10:45am **Wintertime Fjord-Shelf Exchange in Southeast Greenland**
 » [Neil Fraser](#), Mark Inall, Sam Jones

11am **REFRESHMENTS**
Lindisfarne Room, Hadrian Building

11:30am **Oceans and Climate**
Lecture Theatre 1, Herschel Building
 Chaired by: Professor Karen Heywood - University of East Anglia

11:30am **Multiple sources of variability in a twenty year Antarctic Time Series**
 » [Hugh Venables](#), Alexander Brearley, Michael Meredith, Ollie Legge

11:45am **Coherent Circulation Changes in the Deep North Atlantic from 16°N and 26°N Transport Arrays**
 » [Eleanor Frajka-Williams](#), Matthias Lankhorst, Jannes Koelling, Uwe Send

12pm **Natural surfactants on the ocean basin scale and their impact on climate change**
 » [Bita Sabbaghzadeh](#), Robert Upstill-Goddard, Rachael Beale, Ryan Pereira, Phil Nightingale

12:15pm **Reduction of air-sea gas exchange by surfactants in the North Sea and Atlantic Ocean**
 » [Ryan Pereira](#), Ian Ashton, Bita Sabbaghzadeh, Klaus Schneider-Zapp, Jamie Shutler, Robert Upstill-Goddard

11:30am **The rising tide of human impact**
Lecture Theatre 2, Herschel Building
 Chaired by: Dr Ryan Pereira - Lyell Research Fellow, Lyell Centre

11:30am **Polycyclic Aromatic Hydrocarbon (PAH) Accumulation, Degradation & Transport within Harbour Sediments Impacted by Regular Contamination & Resuspension.**
 » [Lesley Chapman-Greig](#), Fay Couceiro, Steve Mitchell, Charlie Thompson, John Williams

11:45am **The challenge of meeting the Paris Climate Agreement**
 » [Philip Goodwin](#), Ric Williams, Anna Katavouta, Vassil Roussenov, Gavin Foster, Eelco Rohling

12pm **How do natural cycles in coastal carbonate chemistry affect copper toxicity for mussels?**
 » [Alice Wilson-McNeal](#), Cameron Hird, Rod W. Wilson, Ceri Lewis

12:15pm **Observing marine litter from space**
 » [Manuel Arias](#), Mark Hennen, James Delaney, François-Regis Martin-Lauzer, Andres Cozar, Laurent Lebreton, Shungu Garaba, Guillaume Bonnerly, Paolo Corradi

11:30am **The marine extremes**
Lecture Theatre 3, Herschel Building
 Chaired by: Professor John Huthnance - National Oceanography Centre

11:30am **Behaviour of iron isotopes in hydrothermal systems**
 » [Wenhao Wang](#), Alastair Lough, Maeve Lohan, Douglas Connelly, Rachael James

11:45am **Large-eddy simulations of turbulence in the ocean boundary layer below ice shelves**
 » [Catherine Vreugdenhil](#), John Taylor



12pm	Radium isotope inputs and dispersion from hydrothermal vent sites of the Mid-Atlantic Ridge » Sean Selzer , Amber Annett, Will Homoky
12:15pm	Internal Solitary Waves in Ice Covered Waters » Magda Carr
12:45pm	LUNCH <i>Lindisfarne Room, Hadrian Building</i>
1pm	SCOR Meeting - Gideon Henderson <i>Alnwick Room, Hadrian Building</i>
2pm	Keynote: Prince Albert of Monaco and Awards <i>Curtis Auditorium, Herschel Building</i> Chaired by: Rachel A Mills - President of Challenger Society for Marine Science - Dean Faculty of Natural and Environmental Sciences, University of Southampton,
3:15pm	REFRESHMENTS <i>Lindisfarne Room, Hadrian Building</i>
3:45pm	Professor Michael Meredith - Challenger Society Medal Winner <i>Curtis Auditorium, Herschel Building</i> Chaired by: Dr Katharine Hendry - University of Bristol
4:45pm	Closing remarks and SAMS Handover <i>Curtis Auditorium, Herschel Building</i> Chaired by: Professor Alan Jamieson
5pm	Poster Discussion, Awards and Refreshments <i>Lindisfarne Room, Hadrian Building</i>

Friday, 14th September

8am	REFRESHMENTS <i>Percy Building</i>
9am	Ocean Modelling <i>Percy Building</i> Chaired by: Helen Johnson
9am	AMBIO - Dr Will Homoky <i>Percy Building</i>