Tuesday 23 June, 2.30pm BST

Over Zoom

(Details sent to registered attendees)

GSL Public Lecture: Strategies in times of crisis - lessons from past marine ecosystems

Climate change is projected to change the ecosystems on land and in the sea, and the rate of environmental change today has been unprecedented for millions of years.

Experiments assessing the impacts on marine ecosystems are unlike the real world - they are often limited to a select few species and drivers of environmental change, and hence cannot represent the complexity of interactions in 'real' ecosystems. The fossil record is an archive of responses to climate change at a global ecosystem scale, where the sensitivities of species (or higher taxa) to a specific environmental driver can be determined.

Professor Schmidt will explore historical and geological records of the response of marine ecosystems to environmental change, and the talk will give examples of the information that palaeontologists can contribute to the global challenge of estimating the impacts of climate change.

Professor Daniela Schmidt
University of Bristol

'I want to ensure that what I do has impact. Public lectures allow me to reach many more people than I could otherwise.'

Daniela is Professor for Palaeobiology at the School of Earth Sciences at the University of Bristol. She is an international expert on the impacts of climate change and ocean acidification on marine ecosystems and their services.

Her work covers a range of organisms from bryozoans, bivalves and coralline algae to marine plankton. She has contributed as a lead author of the 2014 IPCC report WGII, is an Expert Group Member of EU SAPEA (Science Advice for Policy by European Academies) of the European Scientific Advice Mechanism (SAM) on the topic "Food from the Oceans", and is currently the coordinating lead author for the WGII IPCC on Europe.

Further Reading

-*'Impacts of ocean acidification'*
MARINE CLIMATE CHANGE IMPACTS PARTNERSHIP: SCIENCE REVIEW
MCCIP Science Review 2013: 34-48
Published online 28 November 2013
Phillip Williamson, Carol Turley, Colin Brownlee, Helen Findlay, Andy Ridgwell, Daniela Schmidt, Declan Schroeder, Jerry Blackford, Toby Tyrrell and John Pinnegar

-*'The societal challenge of ocean acidification'*
Marine Pollution Bulletin
Volume 60, Issue 6 June 2010
C. Turley, M. Eby A.J. Ridgwell, D.N. Schmidt, H.S. Findlay, C. Brownlee U. Riebesell, V.J. Fabry, R.A. Feely and J.-P. Gattuso

-*'Impact of high CO2 on the geochemistry of the coralline algae Lithothamnion glaciale'*
Scientific Reports www.nature.com/scientificreports
Published 08 February 2016
F. Ragazzola, L. C. Foster, C. J. Jones, T. B. Scott, J. Fietzke, M. R. Kilburn and D. N. Schmidt

-*Potential and limitations of finite element modelling in assessing structural integrity of coralline algae under future global change*
Biogeosciences https://www.biogeosciences.net/12/5871/2015/
Published 14 October 2015
L. A. Melbourne, J. Griffin, D. N. Schmidt, and E. J. Rayfield

- *The Geological Record of Ocean Acidification'*
ASSS Science Mag
https://science.sciencemag.org/content/335/6072/1058
Vol. 335, Issue 6072, pp. 1058-1063
Published 2 March 2012
Bärbel Hönisch, Andy Ridgwell, Daniela N. Schmidt, Ellen Thomas, Samantha J. Gibbs, Appy Sluijs, Richard Zeebe, Lee Kump, Rowan C. Martindale, Sarah E. Greene, Wolfgang Kiessling, Justin Ries, James C. Zachos, Dana L. Royer, Stephen Barker, Thomas M. Marchitto Jr., Ryan Moyer, Carles Pelejer, Patrizia Ziveri, Gavin L. Foster and Branwen Williams

- *Surviving rapid climate change in the deep seaduring the Paleogene hyperthermals'*
PNAS https://www.pnas.org/content/110/23/9273
Published 4 June 2013
Laura C. Foster, Daniela N. Schmidt, Ellen Thomas, Sandra Arndt, and Andy Ridgwell