



# AMEMR 2017

## Conference Programme

### MONDAY 3 JULY

**Welcome and Introduction by Icarus Allen, PML Director of Science**

**Modelling: where have we come from and where are we going?**

9:00-11:00

**KEYNOTE 1: Stefanie Dutkiewicz (Massachusetts Institute of Technology)**

Modelling diverse phytoplankton Communities

**KEYNOTE 2: Kevin Flynn (Swansea University)**

From sublime simplicity to enigmatic models: sharing knowledge and responsibilities

**KEYNOTE 3: Beth Fulton (CSIRO)**

Integrated modelling – the challenge is making it relevant

**Panel Discussion (30mins)**

**Chair Icarus Allen**

Coffee Break 30 mins

11:30-13:00

**Making an Impact - Part I**

**Chair Jerry Blackford**

Introducing the “Shaping future research agendas workshop” **Morten Skogen for the EMB (5mins)**

**Scott Condie (CSIRO)**

If you build it, they will come: Decision support tools for aquaculture and environmental management

**Jess Melbourne-Thomas (Australian Antarctic Division)**

The role of models in marine ecosystem assessment and management: a Southern Ocean example

**Alain Ménesguen (IFREMER)**

Modelling benthic invasion of the English Channel and the Bay of Biscay by the colonial gastropod *Crepidula fornicata* and its competition for space with the scallop *Pecten maximus*

**Daniele Brigolin (Università Ca' Foscari Venezia)**

Models for aquaculture zoning and site selection in the northern Adriatic Sea

Lunch Break

13:50-15:10

**Pierre Bourdaud (IFREMER)**

**Chair Hermann Lenhart**

Fisher's behaviour and ecosystem state under the EU landing obligation implementation in a mixed-fisheries ecosystem

**Mike Heath (University of Strathclyde)**

Modelling the whole ecosystem impacts of trawling

**Marie Savina (IFREMER)**

Modelling the effects of the Landing Obligation on marine ecosystems across Europe

**Steven Saul (Arizona State University)**

An agent-based model of fisher behaviour and fish population dynamics in the Gulf of Mexico: how does fisher behavior affect stock assessment?

15:10-15:40

**Flash poster presentations**

**Chair Susan Kay**

Coffee Break 30 mins

16:10-17:50

**Kim Scherrer (ICTA, Universitat Autònoma de Barcelona)**

**Chair Marie Savina-Rolland**

Incorporating management effectiveness of fisheries into a global ocean model

**Philippe Cugier (IFREMER)**

An ecosystem-based modelling approach to assess the growth potential of oysters cultured under various scenarios of density, mortality and environment

**Lily Genevier (University of Plymouth)**

An updated fishmeal trade model in a changing world

**Morgane Travers-Trolet (IFREMER)**

Reducing the gap between complex ecosystem models and their use in operational context

**Discussion Session**

17:50

**Flash poster presentations**

Followed by ICE BREAKER BBQ Reception Reservoir cafe

## TUESDAY 4 JULY

### Making an Impact Part II

Chair Lynne Shannon

9:00-10:40

**Natasha Henschke (Princeton University)**

Current and future trends in global jellyfish blooms: Investigating the impact of climate change

**Jerry Blackford (Plymouth Marine Laboratory)**

Monitoring of offshore geological carbon storage integrity: implications of natural variability in the marine system and the assessment of detection criteria

**Simone Libralato (OGS)** presented by [Cosimo Solidoro](#)

On the optimal strategies for building scenario ensembles with dynamic food web models

**Fabian Große (Universität Hamburg)**

Riverine nitrogen and oxygen deficiency in the North Sea – extending trans-boundary nutrient transports for the ecological management of low oxygen conditions

**Mike Spence (University of Sheffield)**

A dynamic multi-model ensemble for ecosystem simulators

10:40-11:00

**Flash poster presentations**

Chair Susan Kay

Coffee Break 30 mins

11:30-12:40

**Jason Holt (National Oceanography Centre)**

Biogeochemical implications of potential future changes in shelf sea circulation

**Solfid Hjøllø (Institute of Marine Research)**

Application of an ecosystem model in developing a management plan for *Calanus finmarchicus*

**Rob McEwan (Met Office)**

Challenges of transition a research model into an operational system

Chair Beth Fulton

**Discussion Session**

12:40-13:00

**Flash poster presentations**

Chair Susan Kay

Lunch Break

### Data, data everywhere, yet no time to think

Chair Stefano Ciavatta

14:00-15:50

**KEYNOTE: Ketil Malde (Institute of Marine Research, Norway)**

Machine intelligence and the data-driven future of marine science (30mins)

**Asta Audzijonyte (University of Helsinki)**

Bayesian parameter inference and uncertainty estimation in complex ecological models

**Karen Wild-Allen (CSIRO Oceans & Atmosphere)**

Simulation of observed properties improves model accuracy and leads to wider uptake of model products for research and management

**Mike St. John (DTU AQUA)**

Can we predict the emergent properties of marine systems, a way forward?

**Elina Virtanen (SYKE)**

How much data is needed for species models with different niche requirements – implications for spatial models

15:50-16:00

**Flash poster presentations**

Chair Susan Kay

Coffee Break 30 mins

16:30-17:50

**Anna Teruzzi (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale)**

Chair Karen Wild-Allen

Investigating chlorophyll dynamics in coastal areas by means of a biogeochemical model with variational data assimilation scheme

**Daniel Kaufman (Virginia Institute of Marine Science, College of William and Mary)**

Changing Ross Sea biogeochemistry assessed by a data assimilative model and bio-optical glider observations

**Danielle Dempsey (Dalhousie University)**

Comparison of neural networks and redundancy analysis for predicting ecosystem state with fishing and environmental indicators

**David Ford (Met Office)**

Assessing the role and consistency of satellite observation products in global physical-biogeochemical reanalysis

17:50-18:10

**Discussion Session**

Poster Reception, University of Plymouth, Rolland Levinsky Building - 18:15 onwards

## WEDNESDAY 5 JULY

### Building blocks: truth or dare?

09:00-09:30

**KEYNOTE: Thomas Kiørboe (National Institute for Aquatic Resources, Technical University of Denmark)**

The mechanistic underpinning of plankton models: from complex details to simplified generalizations

09:30-11:10

#### Plankton in motion

Chair Luca Polimene

**Wendy Gentleman (Dalhousie University)**

Currently misdirected: Big steps toward improving random walk modeling

**C. Gabriela Mayorga Adame (National Oceanography Centre)**

The ANChor project: Appraisal of Network Connectivity between North Sea subsea oil and gas platforms

**Chris Lindemann (University of Bergen)**

Allometric scaling of physiological buoyancy regulation in marine diatoms

**Arnaud Pourchez (Takuvik Joint International Laboratory, Laval University)**

Impact of the implementation of the diapause trait on the dynamics of plankton communities and carbon cycle in a numerical pelagic Arctic ecosystem

**Marco Uttieri (Stazione Zoologica "Anton Dohrn")**

Copepod vulnerability to chaetognath predation as a function of swimming behaviour - An IBM approach

Coffee Break 30 mins

11:40-13:20

#### Model experiments and experimental models Part I

Chair Morten Skogen

**Tineke Troost** presented by Ghada El Serafy (Deltares)

Do microplastics affect marine ecosystem productivity?

**Kevin Sorochan (Dalhousie University)**

Advances in encounter theory and application in larval ecology

**Raphaël Savelli (Université de La Rochelle)**

Drivers of microphytobenthos seasonal cycle on a temperate intertidal mudflat : a modeling experimental approach

**Geneviève Lacroix (Royal Belgian Institute of Natural Sciences)**

How is connectivity pattern of hard substrate species impacted by artificial structures in the North Sea?

#### Discussion Session

Lunch Break

### Workshops

14:30-17:30

Please see website for more details and to sign up to workshops. Workshops are free for everyone to join, but places are limited, sign up in advance to ensure your place.

[www.amemr.com/workshops.html](http://www.amemr.com/workshops.html)

Workshops include:

- Play with ERSEM
- Ecopath with Ecosim (EwE)
- Modelling marine biodiversity
- Time series analysis in earth system analyses
- Public and Media Engagement for Researchers
- Mentoring Session

## THURSDAY 6 JULY

### Building blocks: truth or dare?

9:00-10:40

#### Model experiments and experimental models Part II

Chair Kevin Flynn

**Luca Polimene (Plymouth Marine Laboratory)**

Are we able to model the microbial carbon pump? Current state and future directions

**Melinda Choua (Strathclyde University)**

Modelling plastic and evolutionary responses for marine viruses

**Kari Eilola (Swedish Meteorological and Hydrological Institut)**

Modelling cyanobacteria life cycle dynamics and nitrogen fixation in the Baltic Sea

**Jacqueline Maud**

Paying attention to expiration labels: the importance of non-predatory death for copepod survivorship and mortality-related ecological processes (**Queen Mary University of London and Plymouth Marine Laboratory**)

#### Discussion session

Coffee Break 30 mins

11:10-12:50

#### Building the zoo

Chair Baris Salihoglu

**Roger Cropp (Griffith University)**, presented by John Norbury

Population Interactions in Marine Ecosystems

**Delphi Ward (University of Tasmania)**

Modelling the importance of DMS-mediated feedbacks in pelagic ecosystems

**Aditee Mitra (Swansea University)**

Modelling the new paradigm for marine planktonic ecology

**Cara Nissen (ETH Zürich)**

Factors controlling Southern Ocean coccolithophore biogeography – a modeling approach

**Sevrine Saille (Plymouth Marine Laboratory)**

Zooplankton diversity modelling, combining size and trait based approach

Lunch Break

13:50-15:10

**Sandra Kitan (Dalhousie University)**

Chair Jorn Bruggeman

Stage duration and survivorship as emergent properties: how variation in mortality and environmental conditions influence copepod demographic patterns

**Charlotte Laufkötter (Princeton University)**

Impact of iron from icebergs on Southern Ocean biogeochemistry

**Ute Daewel (Helmholtz-Zentrum Geesthacht)**

“End-to-End” marine ecosystem modelling in a functional group approach: An application for long-term variations in the North Sea and Baltic Sea ecosystem

**Ryan Heneghan (The University of Queensland)**

Zooplankton feeding behaviour mediates energy transfer in the global marine ecosystem

Coffee Break 30 mins

15:40-17:00

**Selina Vage (University of Bergen)**

Chair Wendy Gentleman

Ecology reveals fascinating regularities in patterns emerging across different ecosystems

**Kai Wirtz (Helmholtz-Zentrum Geesthacht)**

Working at the edge: Macrobenthic ecosystem engineering and its change in the anthropocene

#### Discussion session

17:00

#### Closing session and prize giving

Conference Dinner at Rockfish, Barbican. 19:00

Please note all talks apart from keynotes are 15mins with an extra 5mins allowed for questions and change over. Please ensure you stick to the allotted time.

### Friday 7th July

#### “Marine Ecosystem Modelling : Shaping future research agendas”

Full day workshop organised by the European Marine Board.

Open to all AMEMR participants. More info at [www.amemr.com/shaping-future-research-agendas.html](http://www.amemr.com/shaping-future-research-agendas.html)