

# Wednesday, May 31

08:00 Registration opens

09:00 **Introduction** (Starrlight Augustine)

chair 1: Mike Kearney

09:15 **Environmental sustainability challenges in the Arctic – developing solutions with the help of DEB** (Keynote 1 - JoLynn Carroll)

10:00 Relating sub-organismal processes that occur at the molecular and cellular level to dynamic energy budgets (Cheryl Murphy)

10:20 Using Dynamic Energy Budget theory at the population scale to limit the risk of structural sensitivity (Clément Aldebert)

10:40 Decrease in food abundance in the non--breeding habitat may increase resilience of migratory populations (Catalina Chaparro-Pedraza)

11:00 **Coffee, tea break**

11:30 Modelling effects of environmental stressors on the population dynamics of the European sturgeon: first insight on downstream migration (Maxime Vaugeois)

11:50 Exploring the effect of temperature change on the spatial distribution of benthic species with a DEB-IBM model (Yoann Thomas)

12:10 Discussion / Questions

12:30 **Lunch**

chair 2: Tânia Sousa

14:00 **Effects of mixtures explained** (Keynote 2- Jan Baas)

14:50 Modelling individual and population dynamics in application to risk assessment of chemical mixtures (Gonçalo Marques)

15:10 Mechanistic model of Paralytic Shellfish Toxins (PSTs) accumulation in the Pacific oyster, *Crassostrea gigas* (Emilien Pousse)

15:30 Dynamic Energy Budget for modelling 'imprinting': insights from rainbow trout (Bastien Sadoul)

15:50 **Tea & posters**

chair 3: Nina Marn

16:20 A Dynamic Energy Budget model of fish bioenergetics under exposure to realistic PCB and PBDE mixtures: consequences for life-history traits (Khaled Horri)

16:40 Dynamics of lipid storage in marine copepods and its consequences for effects of oil pollution (Tjalling Jager)

17:00 DebX – MOOC on modelling metabolism at the individual level using DEB theory (Tânia Sousa)

19:00 Dinner at Skirri

# Thursday, June 01

09:00 Arrival and coffee

chair 4: Roger Nisbet

09:15 **A simple application of a complex ecosystem model** (Keynote 3 - Sofia Saraiva)

10:00 Using modelling to investigate effects of climate warming on the reproduction of the Pacific oyster *Crassostrea gigas* in the bay of Brest: from 1960 to 2100 (Mélaine Gourault)

10:20 Modelling the growth of the gilthead seabream (*Sparus auratus*) for aquaculture using the Dynamic Energy Budget (Inês Lopes)

10:40 Effects of plastic ingestions on the life cycle of an endangered sea turtle (Nina Marn)

11:00 **Coffee, tea break**

11:30 DeBInfer: Bayesian inference for dynamic models in R (Leah Johnson)

11:50 Comparison between two Derivative-Free Optimization Methods for DEB parameter estimation of different species (Jéssica Morais)

12:10 Discussion / Questions

12:30 **Lunch**

chair 5: Jaap van der Meer

14:00 **General Ecosystem Models: virtual tools for the living world** (Keynote 4 - Mike Harfoot)

14:50 Unexpected dynamics (including canard explosion) of fast-slow bitrophic food chains (Bob Kooi)

15:10 Population dynamics with multiple limiting nutrients: Life history mediated effects (Romain Richard)

15:30 Dynamic energy budgets in individual based population models: cross species test and application (André Gergs)

15:50 A multi-agent approach to couple physiological and foraging models: Optimization of vulture foraging strategies (Dorra Louati)

16:10 **Tea & posters**

19:00 **Networking Dinner at Polaria Aquarium**

## Friday, June 02

09:00 Arrival and coffee

chair 6: Jean-Christophe Poggiale

- 09:15 **Biodiversity in the context of DEB theory** (Keynote 5 - Sebastiaan Kooijman)
- 10:00 The altricial-precocial spectrum of avian development according to DEB theory (Carlos Teixeira)
- 10:20 Physiological performances of Southern Ocean key species (Charlène Guillaumot)
- 10:40 Bayesian parameter estimation for Dynamic Energy Budget models of albatross growth (Philipp Boersch-Supan)
- 11:00 **Coffee, tea break**
- 11:30 Evolution and regulation of Symbiotic Symbiosis (Roger Nisbet)
- 11:50 Biologically mediated and abiotic mechanisms for light enhanced calcification and the cost of carbonates deposition in corals (Giovanni Galli)
- 12:10 Discussion / Questions
- 12:30 **Lunch**

chair 7: Bob Kooi

- 14:00 DEB for any species: making the most of existing knowledge (Jorn Bruggeman)
- 14:20 Demand driven reserve allocation: can the reproductive buffer modulate kappa ? (Erik Muller)
- 14:40 Energy-limited tolerance to multiple stressors in the purple-tipped sea urchin, *Psammechinus miliaris* (Rose Stainthorp)
- 15:00 Damage-related protein turnover explains inter-specific patterns of maintenance rate in the DEB theory (Olivier Maury)
- 15:20 Physics of metabolic organization (Marko Jusup)
- 15:40 **Tea & Posters**
- 16:10 conclusions
- 16:40 end