

JONSMOD 2016

18th Joint Numerical Sea Modelling Group Conference

Program

May 10-12, 2016

Oslo, Norway

http://met.no/Kurs/JONSMOD_2016



About JONSMOD

The JONSMOD acronym dates from the mid 1970s. At that time the acronym stood for Joint North Sea Modelling Group. The modelling formed part of the initiative centered around a few North Sea projects active at the same time 40 or more years ago. JONSMOD quickly developed into an “informal forum” of interested parties for countries that border the North Sea. The notion of JONSMOD as an “informal forum” thus has its roots in these early days, and certainly describes the present JONSMOD with accuracy. In 1981 Professor Phil Dyke from the Plymouth University was asked to take over the vacancy as Chairman after Professor Jaques Nihoul from the University of Liège, who had acted as Chairman of JONSMOD since 1973. Under Professor Dyke’s Chairmanship there have been biennial JONSMOD conferences since 1982. When he resigned as Chairman in 2010 the JONSMOD Conferences have continued as a “relay” in which the local host of JONSMOD has acted as Chairman before giving the relay stick onward to the next local host. The 2012 JONSMOD was chaired by Dr. Pierre Garraud from IFREMER, Brest, and the 2014 JONSMOD by Dr. Patrick Luyten from the Royal Belgian Institute of Natural Sciences, Brussels, Belgium. In 2016 a Steering Committee was established in order to continue promoting and organising future JONSMOD Conferences and Professor Lars Petter Røed from the Norwegian Meteorological Institute and University of Oslo was asked to organize the 2016 JONSMOD.



Figure 1: Professor Phil Dyke, the long time Chairman of JONSMOD (1981-2010), with his wife and daughter at the 2006 JONSMOD organized by him in Plymouth, UK.

No systematic funding has ever existed or been sought for JONSMOD. This has sometimes been irritating, but it has given the JONSMOD research community a freedom to follow research directions unfettered by the demands of funding bodies. This also helps in another respect. Delegates are able to present work that is still in progress rather than a fait accompli, which gives a more dynamic feel to the sessions. Longer than normal time for presentation (25 or 30 min) and lively question-and-answer sessions always conducted in a positive atmosphere have helped maintain JONSMOD.

For further reading about JONSMOD and what it has achieved the reader is referred to Dyke, P., 2007: The history of Jonsmod 1981-2006, *Ocean Dynamics*, **55**, pp. 239-244. DOI 10.1007/s10236-007-0107-4.

Organizing Institutions

Norwegian Meteorological Institute, P.O. Box 43 Blindern, NO-0313 Oslo, Norway (MET Norway)

Department of Geosciences, University of Oslo, P.O. Box 1022 Blindern, NO-0315 Oslo, Norway (MetOs-UiO)

International Steering Committee

Ulf Gräwe, Leibniz Institute for Baltic Sea Research, Warnemuende, Germany

Erik de Goede, Deltares, Delft, The Netherlands

Pierre Garreau, IFREMER, Brest, France

Eric Deleersnijder, Universite Catholique de Louvain, Louvain-la-Neuve, Belgium and Delft University of Technology, Delft, The Netherlands

Patrick Luyten, Royal Belgian Institute of Natural Sciences, Brussels, Belgium

Lars Petter Røed, Norwegian Meteorological Institute (MET Norway) and Department of Geosciences, University of Oslo (MetOs/UiO), Oslo, Norway

Local Organizing Committee

Lars Petter Røed, MET Norway/MetOs-UiO (Director)

Gunn Nygård, MET Norway

Kristin Goa, MET Norway

Kai Håkon Christensen, MET Norway

Øyvind Sætra, MET Norway

Bjørg Rognerud, MetOs-UiO

Pål Erik Isachsen, MetOs-UiO/MET Norway

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Social Events

1. Tuesday May 10, 2016 - Icebreaker

18:00-19:00, Tallhall, MET Norway¹

2. Wednesday May 11, 2016 - Conference Dinner

- 18:00 Bus leaves outside of Oslo Science Park. If weather is suitable the bus takes us to the Holmenkollen Ski Jump which is in walking distance from the restaurant.
- 19:00, Dinner at Holmekollen Restaurant, Holmenkollvn 119, Oslo
<http://www.holmenkollenrestaurant.no/index.php>

¹Norwegian Meteorological Institute, Henrik Mohns plass 1, Oslo.

Agenda

Tuesday May 10, 2016

Registration

09:00-10:00 Oslo Science Park, Lobby outside of auditorium Forum, CIENS

10:00-10:15: Welcome by Anton Eliassen, Director of the Norwegian Meteorological Institute

Session 1:	Tides
Chair:	Patrick Luyten
10:15-10:40	<i>An et al.:</i> Simulating the tidal regime in the coastal zone of the Red River Delta
10:40-11:05	<i>Apecechea and Verlaan:</i> Ocean self-attraction and loading (SAL) and internal tides dissipation implementation within an unstructured global tide-surge model
11:05-11:30	<i>Dam:</i> Simulating Saltstraumen: The highest tidal current of the world (?)
11:30-11:55	<i>Hjelmervik et al.:</i> Adjusting global tidal forcing for use in high-resolution fjord models
11:55-12:20	<i>Tverberg et al.:</i> Circulation generated by a tidal jet
12:30-13:30:	Lunch (Dining hall, CIENS, Oslo Science Park)
13:30-13:55	<i>Verlaan et al.:</i> On the modeling of vertical reference surfaces
13:55-14:20	<i>Zijl et al.:</i> On the origins of annual modulations of M2 and M4 harmonic constituents

Session 2:	Processes: models and observations
Chair:	Jinyu Sheng
14:20-14:45	<i>Berntsen and Alendal:</i> Numerical studies of density driven currents down a slope and in canyons
14:45-15:10	<i>Glenn et al.:</i> Enhanced ahead-of-eye cooling of stratified coastal oceans and feedback on tropical storm intensity
15:10-15:25:	Coffee (Dining hall, CIENS, Oslo Science Park)
15:25-16:00	<i>Gäwe and Klingbeil:</i> Analysing sea level rise in the Baltic Sea for the period 1950-2015
16:00-16:25	<i>Kranenburg et al.:</i> How to accurately predict salinity intrusion in the Rotterdam Waterway?
16:25-16:50	<i>Paskyabi and Fer:</i> Characterization of wave-related processes in the upper ocean boundary layer in the North Sea: OBLEX-F1 experiment
16:50-17:15	<i>Wang and Sheng:</i> Examination of wave-current interactions over the eastern Canadian shelf under severe weather conditions using a coupled circulation-wave model
16:50-17:15	<i>Weber and Christensen:</i> Mean particle drift in long gravity waves at the interface between immiscible viscous fluids
18:00-19:30:	Icebreaker, Tallhall, MET Norway Short presentation of MET Norway celebrating its 150 years anniversary

Wednesday May 11, 2016

Session 3:	Advances in numerics
Chair:	Bjørn Ådlandsvik
09:00-09:25	<i>Brodtkorb and Røed:</i> Massive ensembles and GPUs for short-term ocean current forecasts
09:25-09:50	<i>Delandmeter et al.:</i> An adaptive vertical coordinate system for a coastal flows discontinuous Galerkin finite element model
09:50-10:15	<i>Dumas et al.:</i> CROCO (Coastal and Regional Ocean Community model)
09:50-10:15	<i>Lemarié and Debreu:</i> A compact high-order (one-step) coupled time and space discretization to represent vertical transport in oceanic models
10:40-10:55:	Coffee (Dining hall, CIENS, Oslo Science Park)
10:55-11:20	<i>Rauwoens et al.:</i> Implementation of a semi-implicit scheme using a multigrid solver into a regional ocean model

Session 4:	Regional high-resolution modeling
Chair:	Jan Erik Weber
11:20-11:45	<i>Albretsen et al.:</i> Resolving the spatial variability of environmental conditions in Norwegian fjords by a numerical ocean model
11:45-12:10	<i>Kristensen et al.:</i> A high-resolution ocean model for the Oslofjord
12:10-12:35	<i>Nøst et al.:</i> Modeling coastal circulation in Finnmark, Norway, with the unstructured grid model FVCOM
12:35-13:30:	Lunch (Dining hall, CIENS, Oslo Science Park)
13:30-13:55	<i>Sheng and Shan:</i> Three-dimensional circulation and hydrography over the Scotian Shelf, a numerical study using a multi-nested ocean circulation model

Session 5:	Forecasting and assimilation
Chair:	Lars Petter Røed
13:55-14:20	<i>Büchmann and Baasch-Larsen:</i> On meteorological forcing in ocean modelling
14:20-14:45	<i>Doronzo et al.:</i> Application of multi-window maximum cross-correlation to multi-sensor datasets and comparison with HF radar current measurements
14:45-15:10	<i>Büchmann and Søderkvist:</i> On ensemble variability in ocean modelling
15:10-15:50:	Coffee (Dining hall, CIENS, Oslo Science Park)
15:50-16:15	<i>Dreano et al.:</i> Forecasting the ecology of the Red Sea using a cluster of regional 1D marine ecosystem assimilative models
16:15-16:40	<i>Fattorini et al.:</i> Optimize oceanographic observation networks to reduce ocean forecast uncertainty
16:40-17:05	<i>Kele et al.:</i> EnKF vs. EnOIs for data assimilation in the Red Sea and sensitivity to atmospheric forcing
17:05-17:30	<i>Siripatana et al.:</i> Assessing and Ensemble Kalman Filter Inference on Manning's n coefficients of a storm surge model against a polynomial chaos-based MCMC
18:00-22:00:	Conference dinner (Holmenkollen Restaurant)

Thursday May 12, 2016

Session 6:	Transport in the ocean
Chair:	Erik de Goede
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09:30-09:55	<i>Dagestad et al.:</i> OpenDrift - an open source framework for ocean trajectory modeling
09:55-10:20	<i>Simonsen et al.:</i> Long-term dispersion of radioactive Technetium-99 from Sellafield: the impact of resolution
10:20-10:45	<i>Staalstrøm et al.:</i> Dispersion of land-derived substances in the coastal environment
10:45-11:00:	Coffee (Dining hall, CIENS, Oslo Science Park)
11:00-11:25	<i>Gusdal et al.:</i> Changes in drift pathways of fish egg along the coast of Norway
11:25-11:50	<i>Vinh et al.:</i> Suspended sediment transport in Red River Delta coastal area
11:50-12:15	<i>Ådlandsvik:</i> Using ocean modelling to structure salmonid farming in Norway
12:15-12:30:	<i>Closing remarks</i>
12:30-13:30:	Lunch (Dining hall, CIENS, Oslo Science Park)