

Maritime Rapid Environmental Assessment Conference

Quantifying, Predicting, Exploiting Uncertainties in Marine Environments

NURC



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18 - 22 October 2010
at Villa Marigola, Lerici, Italy

Objective of meeting

The objective of the conference is to review the present state-of-the-art in **Quantifying, Predicting, Preparing, Understanding and Exploiting Uncertainties** within the operational oceanography context.

We are inviting scientific contributions on all aspects of environmental uncertainty monitoring, forecasting, transfer, management, etc. We **equally welcome contributions from research in related fields, including atmospheric and land component. Tactical, operational and strategic scales are all relevant.** Uncertainty studies with long-term strategic and operational implications like climate change, will be considered as well.

Our intention is to complement the conference with the publication of a special issue in Ocean Dynamics (Springer).

Topics of interests (non exhaustive)

Observational uncertainties: sensor and platforms, satellite remote sensing, coastal HF and marine radars, autonomous vehicles (gliders, AUVs, etc), representation errors, calibration/validation, geophysical model functions, ocean colour and optics modelling, radiative transfer, NRCS, SAR, atmospheric corrections, CFD studies for sensors and platform optimization.

Modeling and data assimilation uncertainties: deterministic and non-deterministic methods, structured and unstructured modeling approaches, model error covariances, ensemble and multi-model forecasting, coupled and nested modelling, variational and sequential univariate and multivariate data assimilation, error sub-space, parallel computing, physical constraints.

Prepare for future uncertainties: impact of climate change, multiple futures, environmental challenges in the High North/Arctic, extreme climates and weather events, tactical, operational and strategic analyses and implications.

Understanding uncertainty transfers: process studies, parameterization, interactions between e.g. air, sea, land, ice, river components, turbulence, case studies, transfer of uncertainties, irreducible uncertainties, uncertainties of uncertainties, error metrics, non-Gaussian statistics.

Exploiting uncertainties: acoustics, tomography, ocean services (search and rescue, oil spill, etc), decision support, decision making, operational effectiveness, adaptive sampling, mission planning, data fusion, human factors, training, simulation, virtual reality, situational awareness, multi-objective optimization, artificial intelligence, optimal observational network design, risk analysis, group decisions, game theory, operations research.

Oral and Poster Awards

The scientific committee will award a lump sum and a certificate both to the three best oral presentations and to the three best poster presentations.

Time line

Conference: Deadline for abstract submission: ~~30 June~~ **21 July 2010**
Deadline for registration: **30 September 2010**
Special publication: Deadline for manuscript submission: **15 December 2010**
Closure of review process: **15 September 2011**

Contacts

Chair: Dr M. Rixen (NURC)
Co-chairs: Dr J. Osler (DRDC), Dr P. Lermusiaux (MIT)
Scientific committee: Dr C. Trees (NURC), Dr J. Horstmann (NURC), Dr A. Alvarez (NURC), Dr J. Chiggiato (NURC), Dr B. Mourre (NURC), Dr M. Rixen (NURC), Dr C. Strode (NURC), Dr R. Grasso (NURC), Dr B. Mourre (NURC), Dr M. Cococcioni (NURC)
Organisation: P. Nardini (NURC)
Web master: F. Di Stefano (NURC)
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Web: <http://geos2.nurc.nato.int/mrea10conf> for details

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