Sophie Ricci

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31820 Pibrac

Age :36
Place of birth : Nice-France
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Actual position

11/08-present: Researcher in data assimilation at CERFACS in the Global Change and Climate Modelling (GLOBC) team. Expertise in data assimilation. Project leader for applications in hydrology and hydraulics as well as fire modelling.

Education

03/04 **PhD at Université Paul Sabatier** (UPS), Toulouse III, Ocean Dynamics.
06/00 **D.E.A.** in geophysics, Institut National Polytechnique, Toulouse.
06/00 **Engineer diploma** in Fluid mechanics at ENSEEIHT, Toulouse.

Research experience

Post-Doctorat at CERFACS (11/07-10/08), in the GLOBC team. Subject: *Innovative application in Data Assimilation.* Subject : Development of data assimilation algorithms for nuclear core modelling and correction of the neutronic flux in core; in collaboration with EDF R&D.

Post-Doctorat at CERFACS(10/06-11/07), with Anthony Weaver, in the "Climate Modelling and Global Change" team. Subject: *Variationnal assimilation of sea surface temperature and transition to the new assimilation platform NEMOVAR.* .

Post-Doctorat at Jet Propulsion Laboratory(08/04-08/06), with Ichiro Fukumori,in the "Ocean Dynamics and Data Assimilation into numerical ocean models" team. Subject: *Diabatics errors in the context of an Kalman Filter with the MIT ocean model.*

Research enginner(01/04-05/06) at CERFACS.

PhD at CERFACS, in the "Climate Modelling and Global Change" team (01/01-12/03) with Olivier Thual et Anthony Weaver. PhD presented in Mars 2004. Subject: *Ocean variationnal data assimilation : multivariate modeling of the background error covariance matrix.*
2007.

Collaborators

S. Biancamaria (CNRS-LEGOS), A. Boone (CNRM), E. Martin (CNRM), F. Habets (Mine Paris Tech), B. Cuenot (CERFACS), N. Goutal (EDF), K. Ide (Univ Maryland), B. Janet (SCHAPI), O. Pannekoucke (CNRM-GAME), P.-O. Malaterre (IRSTEA), C. Mari (Lab. Aerologie), N. Mognard (CNES), A. Trouvé (Univ. Maryland), A. Weaver (CERFACS)

Advisors

Thesis advisors: Prof. O. Thual (Institut National Polytechnique de Toulouse) and A. Weaver (CERFACS)
Post-doctoral spondors: I. Fukumori (Jet Propulsion Laboratory), A. Weaver (CERFACS)

Advising Experience

6 PhD. students and 1 Post-doctoral students.
Thesis advisor of : M. Coustau (Hydro Sciences Montpellier), E. Harader (CERFACS), V. Pedinotti (CNRM), S. Barthelemy (SCHAPI-CERFACS), J. Habert (DREAL-CERFACS), M. Rochoux (Ecole Centrale Paris), N. El Mocayd (CNES-EDF-CERFACS).
Post-doctoral spondor of M. Mouffe (CNES).

Recent publications with peer review comitee

Ricci, S., A. Piacentini, A. Weaver, N. Goutal, R. Ata, 2013: A Variational Data Assimilation Algorithm to Estimate Salinity in the Berre Lagoon with Telemac3D. Proceedings of the Telemac User Conference, Karlsruhe, 16-18/10/2013.

Habert, J.,**S. Ricci**, E. Le Pape, A. Piacentini, O. Thual, G. Joinville, N. Goutal, F. Zaoui, R. Ata, 2013: Towards Real-Time Flood Forecasting in Hydraulics: Merits of In Situ Discharge and Water Level Data Assimilation for the Modeling of the Marne Catchment in France. Advances in Hydroinformatics SIMHYDRO 2012 New Frontiers of Simulation, Springer Hydrogeology, ISBN 978-981-4451-41-3.

Harader E., Borrell Estupina V., **Ricci S.**, Coustau M., Thual O., Piacentini A. and Bouvier C.: Correcting the radar rainfall forcing of a hydrological model with data assimilation:application to flood forecasting in the Lez Catchment in Southern France. Hydrol. Earth. Syst. Sci. Discuss., 9, 3527-3579, 2012.

S. Ricci, A. Piacentini, O. Thual, E. Le Pape, G. Jonville, 2011: Correction of upstream flow and hydraulic state with data assimilation on the context of flood forecasting. Hydrol. Earth Syst. Sci., 15, (2011), 1-21.

G. Thirel, E. Martin, J.-F. Mahfouf, S. Massart, **S. Ricci**, F. Habet, 2010 : A past discharges assimilation system for ensemble streamflow forecast over France. Part 1 : Description and validation of the assimilation system. *Submitted to Hydrol. Earth Syst. Sci. Discu.*