Marion Kersalé
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Field of interests : Meridional Overturning Circulation, meso- and submesoscale dynamics, coastal processes, inter-ocean exchanges, modeling and *in-situ* experiments

Current Employment

2017 - 2018 **Postdoctoral researcher** at CIMAS - University of Miami, NOAA/AOML, Miami, USA
Subject: Study of the temporal variability and the meridional coherence of the upper and lower limbs of the Atlantic Meridional Overturning Circulation.

Previous Employment

2016 - 2017 **Postdoctoral researcher** at the Ma-Re Institute, Cape Town, South Africa
Subject: Study of mesoscale features in the Cape Basin: Characteristics and local impacts on water masses distribution.

2013 - 2015 **Postdoctoral researcher** at the Laboratoire de Physique des Océans, Brest, France
Subject: Study of the mesoscale circulation on the shelf and slope of the Bay of Biscay, with in situ data collected from 1996 et 2011.

Education

October 2013 **PhD** at the Institut Méditerranée d'Océanologie (Ministerial Grant) - Aix-Marseille University
Subject: Dynamics of meso- and submesoscale oceanic processes from numerical simulations and in situ data
Advisor: Anne A. Petrenko, Andrea M. Doglioli *Awards:* Aix-Marseille University; Académie de la marine

Publications

Kersalé, M., Perez, R. C., Speich, S., Meinen, C. S., Lamont, T., Le Hénaff, M., van den Berg, M. A., Majumder, S., Ansorge, I. J., Dong, S., Schmid, C., Terre, T. and Garozoli, S. L. (submitted), Shallow and deep eastern boundary currents in the South Atlantic at 34.5°S: mean structure and variability. *J. Geophys. Res.*

Kersalé, M., Lamont, T., Speich, S., Terre, T., Laxenaire, R., Roberts, M. J., van den Berg, M. A., and Ansorge, I. J. (2018), Moored observations of mesoscale features in the Cape Basin: Characteristics and local impacts on water mass distributions. *Ocean Sci., 14, 923-945, doi:10.5194/os-14-923-2018*

Meinen, C. S., Speich, S., Piola, A. R., Ansorge, I., Campos, E., **Kersalé, M.**, Terre, T., et al. (2018), Meridional Overturning Circulation transport variability at 34.5°S during 2009-2017: Baroclinic and barotropic flows and the dueling influence of the boundaries. *Geophys. Res. Lett., 45, 4180-4188, doi:10.1029/2018GL077408*

Illig, S., Cadier, E., Bachelery, M-L., **Kersalé, M.** (2018), Sub-seasonal Coastal Trapped Wave propagations in the Southeastern Pacific and Atlantic oceans. Part I: Estimating the CTW mode contributions to the coastal variability. *J. Geophys. Res., 123, 3915-3941, doi:10.1029/2017JC013539.*

Petrenko, A. A., Doglioli, A. M., Nencioli, F., **Kersalé, M.**, Hu, Z., d'Ovidio, F. (2017), A review of the LATEX project: mesoscale to submesoscale processes in a coastal environment. *Ocean Dynam., 67, 513-533, doi: 10.1007/s10236-017-1040-9.*

Kersalé, M., Petrenko, A. A., Doglioli, A. M., Nencioli, F., Bouffard, J., Blain, S., Diaz, F., Labasque, T., Queguiner, B., Dekeyser, I. (2016), Lateral diffusivity coefficients from the dynamics of a SF6 patch in a coastal environment. *J. Mar. Syst., 153, 45-54, doi:10.1016/j.jmarsys.2015.09.003*

Kersalé, M., Marié, L., Le Cann, B., Serpette, A., Lathuilière, C., Le Boyer, A. (2016), Subinertial poleward along-shore currents pulses on the inner shelf of the Bay of Biscay. *Est. Coast. Shelf Sci., 179, 155-171, doi:10.1016/j.ecss.2015.11.018.*

Kersalé, M., Petrenko, A. A., Doglioli, A. M., Dekeyser, I., Nencioli, F. (2013), Physical characteristics and dynamics of the coastal Latex09 Eddy derived from in situ data and numerical modeling. *J. Geophys. Res., 118, 1-11, doi:10.1029/2012JC008229.*

Kersalé, M., Doglioli, A. M., Petrenko, A. A. (2011), Sensitivity study of wind forcing in a numerical model of mesoscale eddies in the lee of Hawaii Islands. *Ocean Sci., 7, 277-291, doi:10.5194/os-7-277-2011.*

Conferences

2018 **International AMOC Science meeting 2018**, Coconut Groove, Florida, USA: Shallow and Deep Eastern Boundary Currents in the South Atlantic at 34.5°S: Mean structure and variability. [link poster]

2018 **Ocean Sciences meeting 2018,** Portland, Oregon, USA: Variability of the Eastern Boundary Currents at 34.5°S in the South Atlantic.

2017 **Joint Assembly IAPSO-IAMAS-IAGA 2017,** Cape Town, South Africa: Study of mesoscale features in the Cape Basin: Characteristics and impacts over a large range of scales.

2016 **Ocean Sciences meeting 2016,** New Orleans, Louisiana, USA: Poleward along-shore current pulses on the inner shelf of the Bay of Biscay - Eastern North Atlantic.

2014 **Ocean Sciences meeting 2014,** Honolulu, Hawaii, USA: Dynamics of meso- and submesoscale processes from in situ data and numerical modeling in a coastal environment.

2012 **European Geosciences Union General Assembly 2012,** Vienna, Austria: Physical characteristics and dynamics of the coastal LATEX09 eddy Gulf of Lion (NW Mediterranean Sea). *Geophys. Res. Abs.,14, EGU2012-858.*

2011 **European Geosciences Union General Assembly 2011,** Vienna, Austria: A numerical study on the collision of a Meddy with a seamount. *Geophys. Res. Abs., 13, EGU2011-3478, 2011*

Seminars - Workshops

2018	**Seminar at NOAA/AOML**, Miami, Florida, USA : Shallow and Deep Eastern Boundary Currents in the South Atlantic at 34.5°S: Mean structure and variability.
2016	**Seminar at NOC**, Southampton, UK: Indian-Atlantic ocean transport: Dynamics, Observations and Variation.
2016	**SANAP Symposium,** University of Pretoria, South Africa: Indian-Atlantic ocean transport: Dynamics, Observations and Variation.
2014	**XIVth International Symposium on Oceanography of the Bay of Biscay (ISOBAY 14)**, Bordeaux, France: Subinertial poleward along-shore currents on the shelf and slope of the Bay of Biscay.
2014	**Seminar at LPO**, Brest, France: Dynamics of meso- and submesoscale processes from in situ data and numerical modeling.
2012	**Workshop TURBINTERMED,** Toulon, France: Physical characteristics and dynamics of the coastal LATEX09 eddy Gulf of Lion (NW Mediterranean Sea).
2012	**Joint TANGGO/Green Mercator Workshop**, Paris, France: LATEX eddies: Hypotheses of generation and New observations.
2011	**Seminar at IMEDEA**, Mallorca, Espagne: M. eddies (LATEX eddies & Meddies)
2011	**Worshop TURBINTERMED**, Toulon, France: A numerical study on the collision of a Meddy with a seamount.

Teaching

2012	Internship supervisor of Matthew Carr - Master level (13 months) Title : Quantifying the impact of mesoscale activity on the Benguela upwelling front
2016	Lecturer on the course: "Coastal Dynamics" - Bachelor level (10 hours)
2012	Internship supervisor of Anna-Maria Rammou - Master level (2 months) Title : Lagrangian numerical study of the connectivity in the Mediterranean Sea
2011	Lecturer on the course: "Fluid Mechanic" - Bachelor level (2 hours)
2011	Lecturer on the course: "Oceanic Mesoscale" - Master level (2 hours)

Scientific cruise

2017 **MSM60** cruise on the RV Maria S. Marian (January 4 - February 1), Cape Town, South Africa - Montevideo, Uruguay

- Data treatment in near-real time of the ship-mounted VMBB-75/38 kHz ADCP
- Processing and analysis of CTD
- Deployment of Lagrangian floats and XBT's

2010 **LATEX10** cruise on the RV Téthys II (September 7 - 24) - LAgrangian Transport Experiment (LATEX) Project

- Data treatment in near-real time of the ship-mounted VMBB-150 kHz ADCP
- Processing and analysis of CTD, ADCP and SF_6 data
- Deployment of Lagrangian floats and XBT's
- On-board retrieving and processing of satellite, glider and drifter data from on-land servers

Modeling experience

ROMS (Regional Ocean Modeling System) v3.0 – version IRD (set up and analyze) : **1/** Climatological simulations of the ocean circulation in the lee of the Hawaiian Islands; **2/** Idealized simulations of the collision of a Meddy with a seamount.

Symphonie (set up and analyze)
Regional simulation of the circulation of the Gulf of Lion

HYCOM (HYbrid Coordinate Ocean Model) - (analyze)
Regional simulation of the circulation of the Bay of Biscay

Summer Schools

2011	**Coastal Dynamics Modeling 2011**, Toulon, France.
2011	**5th International SOLAS Summer School**, Cargèse, Corsica, France .

Internships

2010	Master internship (four months) in Centro de Oceanografia, Lisboa, Portugal. Advisor: Alvaro J. Peliz Subject: A numerical study on the collision of a Meddy with a seamount.
2009	Two months internship in LOPB (Laboratoire d'Océanologie Physique et Bio-Géochimie). Advisor: Andrea M. Doglioli Subject: Sensitivity study of wind forcing in a numerical model of mesoscale eddies in the lee of Hawaii Islands.
2008	Two months internship in LOPB (Laboratoire d'Océanologie Physique et Bio-Géochimie).Advisor: Christel Chevalier Subject: Study of turbulence impact on lagrangian particles - Tests of diffusion models used in numerical code.

Qualifications

Languages: French (Mother tongue); English (Fluent); Spanish (Intermediate); Portuguese (Basic)

Computer skills	Operating	Unix/Linux, Windows
	Programming	Matlab, Fortan90, HTML
	Writting	LaTeX, Vim