Submesoscale Processes: Mechanisms, Implications and new Frontiers

Monday, May 23rd, 2016

8:15	**Registration**			
09:30	**Welcome**			
Session: Multiscale interactions - energy cascade, impact of submesoscales on other scales				
Chair: Eric D'Asaro, Paulo H. R. Calil				
09:40	**Keynote: James C. McWilliams**	**Submesoscale Currents in the Ocean**	UCLA	USA
10:10	Nagai T., Inoue R., Tandon A., Yamazaki H.	Evidence of enhanced double-diffusive convection below the main stream of the Kuroshio Extension	Tokyo University of Marine Science and Technology	Japan
10:30	Lozovatsky I., Planella Morato J., Fernando H.J.S. , Shearman K., Sanchez A.	Turbulence on the Carolina shelf and at the Gulf Stream Cold Wall	University of Notre Dame	USA
10:50	**Coffee break**			
11:10	Chassignet E., Xu X.	Impact of horizontal resolution (1/12° to 1/50°) on Gulf Stream separation and penetration	COAPS, Florida State University	USA
11:30	Sasaki H., Klein P., Sasai Y.	Seasonal variations of submesoscale dynamics in high-resolution simulations of the North Pacific	JAMSTEC	Japan
11:50	Le Sommer J., Molines J.-M., Barnier B., Penduff T., Klein P.	Variability of submesoscale dynamics in the North Atlantic from a 1/60° ocean model simulation.	Laboratoire de Glaciologie et Géophysique de l'Environnement	France
12:10	**Break**			
14:00	**Keynote: Xavier Capet**	**The role of submesoscale in matter and energy transfers: recent progress and some enduring challenges**	LOCEAN IPSL	France
14:30	North R. P., Baschek B., Smith G. B., Angel-Benavides I. M., Miller D., Riethmüller R., Carrasco R., Cysewski M., Marmorino G. O.	Understanding the dynamics of a 1 km submesoscale coastal eddy using in situ and aerial observations	Helmholtz-Zentrum Geesthacht	Germany
14:50	Pérez J.G.C., Calil P.H.R.	The role of submesoscale processes in enhancing kinetic energy in the Caribbean Sea.	FURG	Brazil
Chair: John R. Taylor, Gualtiero Badin				
15:10	Basdurak B., Burchard H., Mohrholz V., Gräwe U., Holtermann P.	Submesoscale Subduction in the central Baltic Sea	Leibniz-Institut für Ostseeforschung	Germany
15:30	Badin G., Ragone F.	A study of surface semi-geostrophic turbulence	University of Hamburg	Germany
15:50	Lazar A., Thompson A. F., Menemenlis D., Buckingham C. E., Damerell G. M., Naveira Garabato A. C., Heywood K. J.	Open-ocean submesoscale instabilities from observations and a realistic global circulation model	California Institute of Technology	USA

16:10	**Coffee break**			
16:30	MacKinnon J., Nash J., Lucas A., Tandon A., Mahadevan A., Shroyer E., Sengupta D.	Evidence for energetic sub-mesoscale instabilities in the Bay of Bengal	University of California San Diego	USA
16:50	Buckingham C., Khaleel Z., Lazar A., Martin A., Allen	An unstable submesoscale front in the open ocean	University of Southampton	UK
17:10	Krug M., Swart S.	Sub-mesoscale instabilities in the frontal region of a non-meandering Agulhas Current	SOCCO - CSIR	South Africa
17:30	Schaeffer A., Roughan M., Mantovanelli A., Gramoulle A.	Submesoscale frontal vortices and eddies along the East Australian Current observed by HF Radars	University of New South Wales	Australia
17:50	D'Asaro E., Ozgokmen T.	Submesoscale Surface Dispersion Dynamics	University of Washington	USA
18:10 Reception				

Tuesday, May 24th, 2016

Session: Internal waves, and Wave-front/eddy interactions				
Chair: Gualtiero Badin, John R. Taylor				
09:00	**Keynote: Leif Thomas**	**Energy exchange between near-inertial waves and balanced currents at ocean fronts**	Stanford University	USA
Session: Mixed layer and frontal instabilities - dynamical understanding, Lagrangian view, lateral mixing				
09:30	Yu X., Naveira Garabato A., Martin A., Buckingham C., Brannigan L.	Vertical Flow and Restratification in the Upper Ocean by Meso- and Submesoscale Processes	University of Southampton	UK
09:50	Adams K., Hosegood P., Taylor J.R., Sallee J.-B.	In-situ Submesoscale observations during the formation of a mesoscale eddy in the ACC	Plymouth University	UK
10:10	Taylor J.R., Hosegood P., Sallee J.-B., Adams K., Bachman S., Stamper M.	Submesoscale wrinkles on the ACC	University of Cambridge	UK
10:30	**Coffee break**			
10:50	Giordani H., Lebeaupin-Brossier C., Leger F.	Dynamics of the Dense Water Formation in the Northwestern Mediterranean during the HyMeX/ASICS Experiment: A PV-Perspective	Météo-France, CNRM/GMGEC	France
11:10	Mojica J.F., Sallares V., Biescas B.	Characterization of the sub-mesoscale energy cascade in the Alboran Sea thermocline from spectral analysis of high-resolution MCS data	Marine Sciences Institute (ICM-CSIC)	Spain
11:30	Shcherbina A.	Observing submesoscale interleaving and vertical exchange	University of Washington	USA
11:50	Wenegrat J.O., McPhaden M.J.	Implications of spatially varying boundary layer turbulence at a frontal system	Stanford University	USA
12:10	**Break**			
14:00	**Poster session**			
Session: Internal waves, and Wave-front/eddy interactions				
Chair: Jen MacKinnon, Mariona Claret				
16:00	Claret M., Tandon A., Mahadevan A.	Escape of frontally trapped near-inertial waves through wave-triad resonant interactions	McGill University	Canada
16:20	Wagner G.L., Young W.R.	An asymptotic model for the coupled evolution of quasi-geostrophic flow and near-inertial waves	University of California	USA
16:40	Thomas J., Smith S., Buhler O.	Interactions between inertial oscillations and geostrophic flows in the upper ocean	New York University	USA
17:00	Barkan R., Winters K.B., McWilliams J.C.	Enhancement of Eddy Kinetic Energy Dissipation by Internal Waves	University of California Los Angles	USA
17:20	Haney S., Young W.	The Wake of Internal Gravity Waves Behind Groups of Surface Gravity Waves	UC San Diego	USA

Wednesday, May 25th, 2016

Session: Remote sensing of submesoscale dynamics - surface topography, ocean temperature and color				
Chair: Ananda Pascual, Rosemary Morrow				
09:00	**Keynote: Hans Bonekamp**	**High-resolution ocean observations from Sentinel-3 and opportunities for their synergetic use**	EUMETSAT	Germany
09:30	Smith S.	Reconstructing ocean interior motions from surface observations: a systematic comparison of existing and new methods	New York University	USA
09:50	Johnson L., Lee C., D'Asaro E.A.	Global Estimates of Lateral Springtime Restratification	University of Washington	USA
10:10	Isern-Fontanet J., Turiel A., Olmedo E.	Characterization of ocean submesoscale turbulence regimes from satellite observations of Sea Surface Temperatures	Institut de Ciencies del Mar (CSIC)	Spain
10:30	**Coffee break**			
Chair: Rosemary Morrow, Jacques Verron				
10:50	Angel-Benavides I.M., Baschek B., Miller W.D., Smith G., North R.P., Marmorino G., Röttgers R.	High-resolution airborne observations of ocean color and thermal signatures of submesoscale eddies in the Southern California Bight	Helmholtz-Zentrum Geesthacht	Germany
11:10	Esnaola G., Barth A., Alvera Azcárate A., Saenz J., Ibarra-Berastegi G., González-Rojí S.J.	Combined DINEOF reconstruction of SEVIRI SST and HF-Radar surface current data aided with WRFDA winds. A case study in the Bay of Biscay during winters with a surface signal of the Iberian Poleward Current.	University of the Basque Country	Spain
11:30	Gommenginger C., Chapron B., Martin A., Marquez J., Doody S.	SEASTAR: a new satellite mission concept to observe submesoscale ocean surface currents and atmosphere/ocean coupling processes	Satellite Oceanography - Marine Physics and Ocean Climate	United Kingdom
11:50	Rascle N., Chapron B., Nouguier F., Ponte A., Mouche A., Molemaker J.	Observing submesoscale currents from high resolution roughness images	Institut Francais de Recherche pour l'Exploitation de la Mer	France
12:10	**Break**			
Chair: Jacques Verron, Ananda Pascual				
14:00	**Keynote: Lee-Lueng Fu, Rosemary Morrow**	**A next generation altimeter for mapping the sea surface height variability: opportunities and challenges**	Jet Propulsion Laboratory	USA
14:30	Samelson R. M., Chelton D. B., Schlax M. G., Farrar J. T., Molemaker M. J.	The Prospects for Future Satellite Estimation of Mesoscale and Submesoscale Vorticity	Oregon State University College of Earth	USA
14:50	Qiu B., Chen S., Klein P., Ubelmann C., Fu L.-L., Sasaki H.	Reconstructability of 3-Dimensional Upper Ocean Circulation from SWOT Sea Surface Height Measurements	University of Hawaii at Manoa	USA
15:10	Lee S., Tailleux R., Haines K., Ambaum M.	Global EOF analysis of NEMO OGCM output to constrain ocean interior from surface observations	University of Reading	United Kingdom

Impact of atmospheric surface forcing, sea ice, river plumes and waves on mixed layer and submesoscale turbulence				
Chair: Swart S., Amit Tandon				
15:30	Viglione G.A., Thompson A.F., Sprintall J., Swart S.	Classification of Submesoscale Instabilities in the Antarctic Circumpolar Current using Seagliders	MC 131-24	USA
15:50	Mensa J-A, Timmermans M-L	Submesoscale dynamics under sea ice	Yale University	USA
16:10	**Coffee break**			
16:30	Fox-Kemper B., Suzuki N., Qing Li, Haney S.	Effects of ocean surface gravity waves: on turbulence, instabilities, and frontogenesis	Brown University	USA
16:50	du Plessis M., Swart S., Mahadevan A., Ansorge I.J.	Characterising the atmospheric interactions on the submesoscale instability in the Southern Ocean and their impacts on mixed layer stability	University of Cape Town	South Africa
17:10	Brannigan L., Johnson H., Lique C.	Generation of halocline anticyclones at submesoscale fronts - a new twist on the Ekman spiral	University of Oxford	United Kingdom
17:30	Tandon A., Ramachandran S., Mahadevan A.	Interaction between winds and fronts in shallow mixed layers in the Bay of Bengal during the summer monsoon	University of Massachusetts	USA
17:50	Yelekçi Ö., Charria G., Capet X., Reverdin G., Theetten S., Vandermeirsch F., Sudre J., Yahia H.	Wintertime Submesoscale River Plumes in the Bay of Biscay	LOPS - IFREMER	France
19:30 Colloquium dinner at the Crowne Plaza Hotel				

Thursday, May 26th, 2016

Physical-biological interactions - implications for biogeochemistry, productivity, export, diversity and transport				
Chair: Arthur Capet, Antonio Olita				
09:00	**Keynote: Karen Heywood**	**High-definition Oceanography: Observing the submesoscale with ocean gliders**	University of East Anglia	United Kingdom
09:30	Ruiz S., Pascual A., Mahadevan A., Claret M., Olita A., Troupin C., Tintoré J., Poulain P., Tovar-Sánchez A., Mourre B., Capet A.	Intense ocean frontogenesis inducing submesoscale processes and impacting biochemistry	IMEDEA (CSIC-UIB)	Spain
09:50	Monteiro P.M.S., Chang N., Lévy M., Swart S., Thomalla S.J.	Do coupled sub-mesoscale – intraseasonal dynamics influence the seasonal cycle of surface ocean CO2: SOSCEX: a glider observations and model outputs experiment in the Sub-Antarctic Zone of the SE Atlantic Ocean	SOCCO - CSIR	South Africa
10:10	Frenger I., Bianchi D., Oschlies A.	Long-range transport of biogeochemical tracers by coherent eddies in the ocean interior	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany
10:30	**Coffee break**			
10:50	Mahadevan A., Freilich M., Curry R., Nicholson D., Claret M., Omand M., D'Asaro E., Lee C.	Subduction by submesoscale processes	Woods Hole Oceanography Institution	USA
11:10	Waite A., Stemmann L., Hogg A., Guidi L., Calil P.	The submesoscale “wine-glass effect” concentrates particle export and biogeochemical fluxes	Alfred Wegener Institute	Germany
11:30	Franks P., de Verneil A.	Biological and Physical Fine Structure at Fronts: Thin Layers from Submesoscale Patches	UC San Diego	USA
11:50	Cotroneo Y., Aulicino G., Ruiz S., Pascual A., Budillon G., Fusco G., Tintoré J.	Glider and satellite high resolution monitoring of a mesoscale eddy in the algerian basin: Effects on the mixed layer depth and biochemistry	Università degli Studi di Napoli "Parthenope"	Italy
12:10	**Group photo and break**			
14:00	**Poster session**			
Chair: Antonio Olita, Simón Ruiz				
16:00	**Keynote: Marina Levy**	**Submesoscale control on marine ecosystems and diversity**	LOCEAN	France
16:30	Whitt D.B., Taylor J.R., Levy M.	How unsteady winds can fuel phytoplankton blooms at submesoscale fronts	Centre for Mathematical Sciences	United Kingdom
16:50	Calil P.H.R.	Frontal Instabilities in the South Atlantic Subtropical Front and their Impact on Phytoplankton Blooms	FURG - DinaMO	Brazil
17:10	Couespel D., Lévy M., Klein P., Talandier C.	Response of the North Atlantic Ocean carbon sink to climate change : role of submesoscale processes	LOCEAN-IPSL, Université Pierre et Marie Curie	France
17:30	Doglioli A. M., Grégori G., Thyssen M., Wagener T., Marrec P., Rougier G., Bhairy N., Fenouil J., de Verneil A., Rousselet L., Cyr F., Petrenko A. A., André J.-M., Berline L., d'Ovidio F., Pietri A., Nencioli F., Jullion L., Pinazo C., Yohia C., Marsalaix P.	Mapping the planktonic community across submesoscale physical features: the 2015 OSCAHR cruise in the NW Mediterranean	MOI - Université d'Aix-Marseille	France
17:50	Allen J.	Marine algae are taught the basics of angular momentum	SOCIB	Spain

Friday, May 27th, 2016

Physical-biological interactions - implications for biogeochemistry, productivity, export, diversity and transport				
Chair: Simón Ruiz, Arthur Capet				
09:00	**Keynote: Robert Hetland**	**Instabilities in river plumes**	Texas A&M University	USA
09:30	Thomsen S., Kanzow T., Colas F., Echevin V., Krahmann G., Engel A.	Do submesoscale frontal processes ventilate the oxygen minimum zone off Peru?	GEOMAR Helmholtz Centre for Ocean Research Kiel	Germany
09:50	Martin A., Lévy M., van Gennip S., Pardo S., Srokosz M., Allen J., Painter S., Pidcock R.	Do ecological interactions at the submesoscale matter?	National Oceanography Centre	United Kingdom
10:10	Hemsley V., Martin A., Yu X., Painter S., Frajka-Williams E., Naveira Garabato A., Smyth T.	Meso- and submeso-scale nutrient fluxes and their relationship with primary production	National Oceanography Centre	United Kingdom
10:30	**Coffee break**			
10:50	Song H., Marshall J., Hausmann U.	Mediation of air-sea CO_2 fluxes by mesoscale eddies in the Southern Ocean	Massachusetts Institute of Technology	USA
11:10	Olita A., Capet A., Claret M., Mahadevan A., Ruiz S., Tintoré J., Tovar Sanchez A., Pascual A.	Submesoscale, depth-resolved primary production from glider observations across an intense density front	CNR	Italy
11:30	Smith K.M., Hamlington P. E., Fox-Kemper B.	Submesoscale Tracer Evolution in the Oceanic Mixed Layer	University of Colorado - Boulder	USA
Coastal submesoscale dynamics - interaction with topography and bottom boundary				
Chair: Burkard Baschek, Charles Troupin				
11:50	Baschek B., Benavides I., North R., Smitth G., Miller D.	High-resolution physical and optical observations of submesoscale eddies	Helmholtz-Zentrum Geesthacht	Germany
12:10	**Break**			
14:00	Rogé M., Morrow R., Ubelmann C., Dibarboure G.	Exploring ocean dynamics in the Western Mediterranean Sea, to reconstruct 2D sea surface height from future SWOT data	LEGOS	France
14:20	Kirincich A., Lentz S., Rypina I.	Observations of coastal sub-mesoscale variability and implications for across-shelf exchange.	Woods Hole Oceanographic Institution	USA
14:40	Thyng K.M., Hetland R.D.	The impact of submesoscale eddies on particle transport and dispersion over the Texas-Louisiana shelf	Texas A&M University	USA
15:00	Chu P.	C-Vector to identify Submesoscale Eddies in the Greenland Sea during the Northwind 1984 MIZEX Cruise	Naval Postgraduate School	USA
15:20	**Coffee break**			
15:40	Gula J. , Molemaker M.J. , McWilliams J.C.	Topographic Generation of Submesoscale Centrifugal Instability and Energy Dissipation	Université de Bretagne Occidentale	France
16:00	Mason E., Molemaker J. , McWilliams J.C.	A numerical study of eddy generation at the island of Gran Canaria, Canary Islands	IMEDEA (CSIC-UIB)	Spain
16:20	Delandmeter P., Chen W., Deleersnijder E., Lambrechts J., Legat V., Marmorino G., Wolanski E.	Comparison of a satellite-derived high-resolution current map and numerical modelling of submesoscale eddies in a shallow-water domain	Université catholique de Louvain	Belgium
16:40	Vic C., Gula J. , Roullet G.	Deep submesoscale dynamics near the Mid-Atlantic Ridge	Université de Bretagne	France

Posters

Mixed layer and frontal instabilities - dynamical understanding, Lagrangian view, lateral mixing

Poster display is from Tuesday, May 24th to Wednesday, May 25th. Poster session is the Tuesday, May 24th 14:00 - 16:00

Mao M., Xia M.	Understanding the multi-scale circulation in Lake Michigan: a Lagrangian view	University of Maryland Eastern Shore	USA
Mukiibi D., Badin G., Serra N.	Three dimensional Chaotic Advection by Mixed Layer Baroclinic Instabilities	University of Hamburg	Germany
Jouanno J., Ochoa J., Sheinbaum J., Pallaz-Sanz E., Andrade-Canto F., Candela J., Molines J.-M.	Formation of Loop Current Frontal Eddies : the impact of the coastal-trapped waves.	LEGOS - Observatoire Midi-Pyrénées	France
Kokkini Z., Gerin R., Mauri E., Poulain P.-M.	Frontal structures in the North Adriatic as observed by a Slocum glider	OGS	Italy
Steinberg J.M., Eriksen C.C., Pelland N.A.	The Evolution of a California Undercurrent Submesoscale Eddy (Cuddy)	University of Washington	USA
Ramachandran S., Tandon A., MacKinnon J., Waterhouse A., Lucas A., Pinkel R., Nash J., Shroyer E., Mahadevan A.,	Submesoscale stirring in shallow, stratified layers in the Bay of Bengal: Observations during the winter Monsoon.	University of Massachusetts	USA
Rosell-Fieschi M., Isern-Fontanet J., Emelianov M., Saraceno M., Valla D., Salvador J., Pérez F., Pelegrí J.L.	A 3D view of the Brazil-Malvinas frontal system	ICM-CSIC	Spain
Mukherjee S., Ramachandran S., Tandon A., Mahadevan A.	The impact of vertical eddy viscosity parameterizations on forced submesoscale eddy-resolving simulations	University of Massachusetts	USA
Berti S., Lapeyre G.	Lagrangian reconstructions of tracers and three-dimensional flows in a model of surface ocean turbulence	Université Lille 1	France
Nencioli F., Petrenko A., Doglioli A., d'Ovidio F.	Multi-platform synergies for the direct investigation of ocean fronts: a case study in the North-western Mediterranean	Plymouth Marine Laboratory	United Kingdom
Essink S., Lucas A., Hormann V., Centurioni L., Mahadevan A.	Observations of Vorticity and Strain From Drifters in the Ocean	WHOI/ MIT	USA
Giudici A.	An Embedded, Low-Cost, GPS-Enabled Lagrangian Smart Drifter Platform Design for Use in the Nearshore Area of the Gulf of Finland.	Tallinn University of Technology	Estonia
Nash J., Lucas D., Pickering A.	Debasis Sengupta, Instability of thin freshwater layers in the Bay of Bengal	CEOAS, Oregon State University	USA
Garreau P., Garnier V., Pairaud I.	(Sub-)Mesoscale processes in North-western Mediterranean Sea : Observations and Modeling.	IFREMER/LOPS, Ifremer	France
Kassis D., Korres G., Perivoliotis L.	Sub-mesoscale features of the Eastern Ionian Sea as derived from Argo floats operating during 2014-2015	Hellenic Centre for Marine Research Institute of	Greece
Sanchez-Rios A., Shearman K., Klymak J., Lee C., D'Asaro E., Sudermeyer M., Gula J. , Pierce S.	Submesoscale features at the Gulf Stream North Wall and their impact on the heat and salt transport during the LatMix survey winter 2012	CEOAS, Oregon State University	USA
Mironov D., Machulskaya E.	The (So-Called) Stability Functions of Truncated Second-Order Turbulence Closure Models: Cause of Ill Behaviour and Remedial Measures	German Weather Service	Germany
Sentchev A., Forget P., Fraunie P., Korotenko K.	Interpretation of the surface boundary layer dynamics using simultaneous HF radar and ADCP measurements, drifting buoys, and modeling	Université du Littoral - Côte d'Opale	France
Couvelard X., Treguier A.M., Dumas F., Garnier V., Ponte A.	Mixed Layer formation and restratification in presence of mesoscale and submesoscale turbulence	Laboratoire d'Océanographie Physique et Spatiale UMR	France
Zhan P., Subramanian A.C., Yao F., Hoteit I.	The Seasonally Varying Eddy Energy Sources and Sinks in the Red Sea	KAUST	Saudi Arabia

Klymak J., D'Asaro E., Shcherbina A., Shearman K., Özgökmen T.M.	Observations of submesoscale vortices on strong oceanic fronts	University of Victoria	Canada
Perrot X., Speich S., Lapeyre G.	Air-sea interaction in the southwest of Africa: a study of mesoscale process using satellite data	LMD - ENS	France
Remote sensing of submesoscale dynamics - surface topography, ocean temperature and color			
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Yang G., Yu W.	Characteristics, vertical structures and heat/salt transports of mesoscale eddies in the southeastern tropical Indian Ocean	FIO - SOA	China
Tchilibou M., Gourdeau L., Marin F., Morrow R.	Meso and submesoscales in the tropics: observability from altimetric and modelled SSH	LEGOS	France
Laxenaire R., Speich S., Blanke B., Chaigneau A., Pegliasco C.	A new insight on the Indo-Atlantic exchange achieved by Indian Ocean eddies assessed by satellite altimetry and Argo profiling float data.	UMR 8539 - LMD	France
Ienna I., Bashmachnikov I., Dias J., Peliz Á.	Deep Coherent Vortices and Their Sea-Surface Expressions	University of Lisbon	Portugal
Gómez-Navarro L., Mason E., Ascaso P.A.	Investigating SWOT capabilities to detect submesoscale eddies in the Canary Islands: application of the SWOT simulator	Institut Mediterrani d'Estudis Avançats	Illes Balears (Spain)
Delpeche-Ellmann N., Soomere T., Mingelaitė T.	A Lagrangian current perspective to surface drift and lateral mixing during an upwelling event in the Gulf of Finland, Baltic Sea	Tallinn University of Technology	Estonia
Morrow R., Carret A., Birol F., Valladeau G., Boy F., Nino F.	Observability of fine-scale ocean dynamics in the NW Mediterranean Sea	LEGOS / OMP	France
Artana C., Provost C.	Exploring the small cyclones in the Malvinas Current	LOCEAN	France
Dufau C., Orsztynowicz M., Dibarboure G., Morrow R., Le Traon P.-Y.	Mesoscale resolution capability of along-track satellite altimetry: present and future	CLS	France
Duran Moro M., Brankart J.-M., Brasseur P., Verron J.	3D reconstruction of mesoscale flows using observations of satellite high resolution data: twin experiments with a numerical model of the Solomon Sea	LGGE	France
Pietri A., Capet X., d'Ovidio F., Le Sommer J., Molines J.M., Doglioli A.M., Giordani H.	Meso and Submeso-scale Vertical Velocity Estimations in Different Dynamical Regimes in Preparation for the High Resolution Observations of the SWOT Altimetry Mission	LOCEAN-IPSL, Université Pierre et Marie Curie, UPMC	France
Chavanne C., Klein P., Sasaki H.	Diagnosing the Upper Ocean 3D Circulation from High-Resolution Surface Data in a Realistic Simulation of the North Pacific Ocean	Université du Québec à Rimouski	Canada
Karimova S., Gade M.	Satellite observations of submesoscale eddies in the Western Mediterranean	University of Liège, GHER	Belgium
Multiscale interactions - energy cascade, impact of submesoscales on other scales			
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Sung Yong Kim	Energy spectra of submesoscale coastal ocean currents	Korea Advanced Institute of Science and Technology	Korea
Capuano T.A., Speich S., Carton X.	Small scale ocean dynamics in the cape basin, South of Africa, and the impact on the ocean circulation	LPO-UBO	France
Cornejo P., Tandom A., Sepulveda H. H.	Inverse and direct kinetic energy cascades in unforced upper ocean fronts	University of Concepcion	Chile

Orue-Echevarria D., Emelianov M., Isern-Fontanet J., Ramírez S., Gasser M., Rosell-Fieschi M., Benítez-Barrios V., Pelegrí J.L.	Coexistence of multiscale processes in the Brazil-Malvinas Confluence region	Physical Oceanography,Institut de Ciències del Mar, CSIC	Spain
Pirro A., Wijesekera H.W., Jensen T.G., Centurioni L.R., Teague W.J., Fernando H.J.S.	The Structure of Southwest Monsoon Current past Southern Sri Lanka	University of Notre Dame	USA
Chu P.C.	Multifractal characteristics of submesoscale eddies in the southwestern GIN Sea upper layer	Naval Postgraduate School	USA
Nadiga B.T.	The interior submesoscale route to dissipation of balanced mesoscale energy	LANL	USA
Lucas A.J. , Tandon A., Nash J., Shroyer E., Mahadevan A., MacKinnon J., Sengupta D., Ravichandran M., D'Asaro E., Pinkel R.	Observations of mesoscale frontogensis and submesoscale restratification from a multi-platform survey in the Bay of Bengal	University of Massachusetts	USA
Drushka K.	Global variability in submesoscale density variability from historical thermosalinograph data	University of Washington	USA
Lips U., Liblik T., Lips I., Kikas V., Rünk N.	Multi-platform in-situ observations to resolve the sub-mesoscale in stratified estuaries (sub-basins of the Baltic Sea).	Tallinn University of Technology	Estonia
Thompson A., Callies J., Klein P., Martin A.	Estimates of submesoscale turbulence: Structure functions from ocean gliders	California Institute of Technology	USA
Dilmahamod F.	Investigating the termination regime of the East Madagascar Current and the influence of Southern Indian Ocean's westward-propagating eddies on the local currents.	University of Cape Town	South Africa
Väli G., Zhurbas V., Lips U., Laanemets J.	Submesoscale structures related to the series of upwelling events in the Gulf of Finland, numerical experiments	Tallinn University of Technology	Estonia
Sudre J., Yahia H., Pont O., Garçon V.	How to obtain ocean turbulent dynamics at super resolution from optimal multiresolution analysis and multiplicative cascade?	LEGOS/CNRS	France
Tippenhauer S., Kanzow T.	Vertical mixing in a deep ocean channel in the central valley of the Mid-Atlantic Ridge	Alfred Wegener Institute	Germany
Internal waves, and Wave-front/eddy interactions			
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Biescas B., Ruddick B., Nedimovic M., Sallares V., Bornstein G., Mojica J.	Thermohaline intrusions observation using acoustic reflectivity	Marine Sciences Institute (ICM-CSIC)	Spain
Chouksey M., Brüggemann N., Eden C.	Gravity Wave Generation by Baroclinic Instability	Universität Hamburg	Germany
Fine E., MacKinnon J., Alford M., Mickett J., Hamann M., Marques O., Voet G., Wagner G., Alberty M., Peterson A.	Microstructure observations of turbulent heat fluxes around a warm-core eddy in the Beaufort Gyre	Scripps Institution of Oceanography	USA
Guo D., Xie J., Zhan P., Hoteit I.	Numerical study on the shoaling process of internal solitary waves in the southern Red Sea	KAUST	Saudi Arabia
Vladoiu A., Bouruet-Aubertot P., Cuypers Y., Ferron B., Schroeder K., Borghini M., Leizour S., Bryden H., Ben Ismail S.	Turbulence in the Strait of Sicily from microstructure measurements	LOCEAN-IPSL, Université Pierre et Marie Curie, UPMC	France
Cuypers Y., Bouruet-Aubertot P., Jérôme Vialard	Focusing of Internal Tides by Near Inertial Waves	LOCEAN	France

Impact of atmospheric surface forcing, sea ice, river plumes and waves on mixed layer and submesoscale turbulence			
Poster display is from Thursday, May 26th to Friday, May 27th. Poster session is the Thursday, May 26th 14:00 - 16:00			
Fallmann J., Lewis H., Castillo J., Pearson D., Harris C., Saulter A., Bricheno L., Blyth E., Martinez de la Torre A.	UK Environmental Prediction – integration and evaluation at the convective scale	Met Office	United Kingdom
Alberty M., MacKinnon J., Sprintall J.	Observations of submesoscale features in the Canada Basin	University of California	USA
Vallaeys V., Kärnä T., Baptista A.M., Deleersnijder E., Hanert E.	Finite-element baroclinic multiscale model of the Columbia River plume	Université catholique de Louvain - IMMC	Belgium
Spiro Jaeger G., Mahadevan A.	Sub-mesoscale freshwater stratification influencing air-sea heat fluxes	MIT / WHOI Joint Program	USA
Ragoasha N., Herbette S., Cambon G., Roy C., Reason C., Lett C.	The effect of high frequency atmospheric variability on Lagrangian transport in the southern Benguela	Université de Bretagne Occidentale	France
Vaz N., Rodrigues J.G., Mateus M., Franz G., Campuzano F., Neves R., Dias J.M.	Subtidal variability of river plumes off central Portugal in winter 2013: event scale simulation	University of Aveiro	Portugal
Durski S.M., Kurapov A.L.	Modeling meso- and submeso-scale dynamics in the marginal ice zone of the Bering Sea shelf.	Oregon State University	USA
Swart S., du Plessis M., Thomalla S.J., Monteiro P.M.S.	Characterising the meridional gradient in surface forcing on upper ocean submesoscales and its impacts on phytoplankton biomass in the Southern Ocean	SOCCO - CSIR	South Africa
Kondrin A.	Synoptic timescale sea level fluctuations in the White Sea according to observations in 2007 – 2014	Lomonosov Moscow State University	Russian Federation
Joo Jang C., Kang H.-W., So J.K., Yoo S.	Spring chlorophyll changes in relation with mixed layer variability in the East Sea (Japan Sea)	Korea Institute of Ocean Science & Technology	Republic of Korea
Jensen T.G., Wijesekera H.W., Teague W. J., Jarosz E.	Submesoscale interaction of fronts and internal tides in a high-resolution coupled atmosphere-ocean-wave model of the Bay of Bengal	Naval Research Laboratory, Oceanography Division, Stennis Space Center	USA
Kolodziejczyk N., Maes C.	Spatial and seasonal change of meso- to submesoscale surface thermohaline variability in Indian Ocean	UBO-IUEM	France
Li Q., Webb A., Fox-Kemper B., Arbetter T., Craig A., Danabasoglu G., William G.	Large, Mariana Vertenstein, A statistical modeling of the Langmuir mixing effects on global climate	Brown University	USA
Physical-biological interactions - implications for biogeochemistry, productivity, export, diversity and transport			
Poster display is from Thursday, May 26th to Friday, May 27th. Poster session is the Thursday, May 26th 14:00 - 16:00			
Jae Hak Lee, Chang-Su Hong, Hyoun-Woo Kang, Jae Kwi So	Turbulent mixing and Chlorophyll maximum layer in the East China Sea	Korea Institute of Ocean Science and Technology	Korea
Roughan M., Cetina Heredia P., Griffin D., Keating S., Rocha C., Schaeffer A., Suthers I.	A tale of two eddies: The bio-physical characteristics of two contrasting cyclonic eddies in the Tasman Sea	University of New South Wales	Australia
Samuelsen A.	The role of mesoscale eddies along the ice edgefor primary production in the Fram Strait	Nansen Environmental and Remote Sensing Center	Norway
Kovac Z., Sepic J., Beg Paklar G.	Estimating contribution of coastal-trapped internal waves to primary production: a case study of Lastovo Island (Adriatic Sea)	Institute of Oceanography and Fisheries	Croatia
Jose Y., Dietze H., Oschlies A.	Source of nutrients within mesoscale eddies in the upwelling system off Peru	GEOMAR Helmholtz Centre for Ocean Research	Germany

Cyr F., Goutx M., Bairhy N., Tedetti M., Besson F., Mery M., Doglioli A. A., Petrenko A.	Submesoscale dynamics of dissolved organic matter across the Northern Mediterranean Current revealed from a new glider-mounted optical sensor.	MIO - Aix-Marseille University	France
von Appen W.-J., Wulff T., Bauerfeind E.	Observations of physical and ecological processes at the sea-ice edge and the meltwater front	Alfred Wegener Institute	Germany
Rosso I., Hogg A. McC., Matear R., Strutton P.G.	Sub-mesoscale impact on iron fluxes in the Southern Ocean	SIO, University of California San Diego	USA
Claret M., Ruiz S., Pascual A., Mahadevan A., Tintoré J., Mourre B., Olita A., Tovar-Sánchez A.	Submesoscale vertical transport at the Eastern Alboran Front	McGill University	Canada
Horwitz R., Thomas H., Hay A.	Daily to seasonal CO2 variation in the Bay of Fundy	Dalhousie University	Canada
Chen H., Mckinley G.A.	Physical drivers of biogeochemical cycles in the North Atlantic Subtropical Gyre	Princeton University	USA
Oguz T., Mourre B., Tintoré J.	Upstream control of the frontal jet regulating plankton production in the Alboran Sea (Western Mediterranean)	ICTS SOCIB	Spain
Sciascia R., Magaldi M.G.	Connectivity pathways to Marine Protected Areas in the Western Mediterranean Sea	ISMAR-CNR	Italy
de Verneil A., Doglioli A., Petrenko A., Bouruet-Aubertot P., Rougier G., Bonnet S., Moutin T.	Mesoscale to Submesoscale variability during the OUTPACE cruise: Contrasting Biological and Physical regimes in the oligotrophic SW Pacific	CNRS MOI - Aix-Marseille Université	France
Thomalla S., Racault M.-F., Swart S., Monteiro P.	High-resolution view of the spring bloom initiation and net community production in the Subantarctic Southern Ocean using glider data	SOCCO - CSIR	South Africa
Vergara O., Dewitte B., Montes I., Garçon V., Ramos M., Paulmier A., Pizarro O.	Seasonal Variability of the Oxygen Minimum Zone off Peru in a high-resolution regional coupled model	LEGOS	France
Collin J., Herbette S., Gula J. , Monteiro P., Reason C., Colin De Verdière A.	Impact of large scale topography on vertical fluxes of passive tracers in the Southern Ocean	Université de Bretagne Occidentale	France
Omand M.M., Wang J., D'Asaro E., Lee C., Perry M.J., Briggs N., Cetinic I., Mahadevan A.	Lagrangian studies of particle source cones following the North Atlantic spring bloom.	University of Washington	USA
Lemay J., Thomas H., Craig S., Greenan B.J.W., Fennel K.	Hurricane Arthur and its effect on the short term variation of pCO_2 on the Scotian Shelf, NW Atlantic	Dalhousie University	Canada
Echevin V., Colas F., Correa D., Gutierrez D., Pous S., Aumont O., Espinoza D., Testor P., Fuda J-L, Benabdelmoumene H., Bachelier C., Ortlieb L., Sifeddine A.	The coastal impact of the 2015-2016 El Niño off Peru : preliminary results from a glider cruise and regional modelling experiments	LOCEAN UPMC	France
Hyoun-Woo Kang, Ok Hee Seo, Jae Kwi So, Chan Joo Jang	On the summer distributions of N-P-Z-D in an anticyclonic eddy in the East Sea simulated using a physical-biogeochemical coupled model	Korea Institute of Ocean Science and Technology	Republic of Korea
Zhao C., Wirtz K.	Characterizing the subsurface chlorophyll a maximum in the German Bight	Helmholtz-Zentrum Geesthacht	Germany
Kobashi D., Wu H., Marta-Almeida M., Hetland R.	Dynamics of sub-mesoscale frontal eddies over a broad shelf and their implications for mixing and bottom oxygen variability	Texas A&M University	USA
Puillat, Taupier-Letage, fuda	Time variability on hydrology and biogeochemistry induced by mesoscale eddies in the Algerian Basin: a one year high resolution and multiplatform experiment.	Ifremer centre de brest	France

Freilich M., Mahadevan A.	Lagrangian exploration of submesoscale vertical transport	MIT	USA
González-García C., Lubián L.M., García-Muñoz C., Forja J.	Contribution of pico and nanophytoplanktonic organisms to the total phytoplanktonic production in the Gulf of Cádiz	ICMAN-CSIC	Spain
Jae-Kwi So, Hyoun-Woo Kang, Ok-Hee Seo, Chan Joo Jang	Tidal effects on the Yellow Sea circulation and ecosystem	Korea Institute of Ocean	Republic of
Yao F., Hoteit I.	Summer Surface Chlorophyll Blooms in the Gulf of Aden Induced by Thermocline Shoaling and Eddies	KAUST	Saudi Arabia
Coastal submesoscale dynamics - interaction with topography and bottom boundary			
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Salas C., Vasquez S., Sepúlveda A., Núñez S., Inzunza S., de la Torre B., Cornejo S.	Hydrodynamic Model for the Arauco Gulf and Chiloé Inland Sea (Chile)	Fisheries Research Institute	Chile
Rotermund M., Badin G., Sharples J.	Tracer Spectra at Submesoscale in the Shelf Seas	University of Hamburg	Germany
Nazirova K., Lavrova O.	Coastal dynamics process in the Northeastern part of the Black sea	Space Research Institute Russia	Russia
Delandmeter P., Lewis S.E., Lambrechts J., Legat V., Deleersnijder E., Wolanski E.	The transport and fate of riverine fine sediment exported to a semi-open system	Université catholique de Louvain	Belgium
Djoumna G., Holland D. M.	Internal waves and mixing in northern Baffin Bay from moored hydrographic observations, 2003-2006	New York University Abu Dhabi	United Arab Emirates
Kurapov A.	Modeling variability in the slope flows along the US West Coast	Oregon State University	USA
Alenius P., Siiriä S., Tuomi L., Westerlund A., Tikka K.	Measuring and modelling a shallow coastal sea area	Finnish Meteorological	Finland
Alvera-Azcarate A., Barth A., Norro A., Djenidi S., Lacroix G., Karimova S., Lejeune P., Leduc M., Gobert S.	Water circulation inside the Bay of Calvi (Corsica, France): historical review and future perspectives	University of Liège, GHER	Belgium
Liblik T., Skudra M., Lips U.	On the subsurface salinity maxima in the Gulf of Riga	Tallinn University of	Estonia