



Ali Reda BEL MADANI

36 years
04.06.1979 - Casablanca, Morocco
Finnish / Moroccan – 5 languages

PhD Physical Oceanography / Climate

Université Paul Sabatier
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RESEARCH INTERESTS

ENSO dynamics, climate variability and change. Eastern boundary upwelling systems.
Regional oceanic and atmospheric modelling. Wave dynamics and modelling.
Mesoscale ocean dynamics. Equatorial, coastal, and planetary wave dynamics.

RESEARCH EXPERIENCE

- 2014- Mar 2014 Present ASSISTANT RESEARCHER** Various topics associated with mesoscale processes and ocean variability in the South Pacific Ocean. **IMO/UDEC, CONCEPCION, CHILE** (Millennium Institute of Oceanography)
- 2014- Apr 2014 Present TENURED ASSISTANT PROFESSOR** Various topics associated with North/South Pacific oceanic zonal jets and climate change in the eastern South Pacific Ocean. **DGEO/UDEC, CONCEPCION, CHILE** (Department of Geophysics)
- 2013-14 TENURE-TRACK ASSISTANT PROFESSOR** Same as above. **DGEO/UDEC, CONCEPCION, CHILE**
- 2011-13 RESEARCH AFFILIATE** Study of linear and nonlinear β -plumes driven by localized wind stress curl with a hierarchy of ocean models. **SOEST/U. HAWAII, HONOLULU, USA** (School of Ocean and Earth Science and Technology)
- 2010-12 POSTDOCTORAL FELLOW** Same as above. **IPRC/U. HAWAII, HONOLULU, USA** (International Pacific Research Center)
- 2010 POSTDOCTORAL FELLOW** Assessing what controls future coastal wind scenarios in the Humboldt Current System using high-resolution atmospheric models. **LOCEAN/UPMC, PARIS, FRANCE** (Laboratory of Oceanography and Climate: Experimental and Numerical Approaches)
- 2006 RESEARCH ENGINEER** Development of tools for systematic validation of sea level anomalies issued by Mercator PSY2v2 and PSY3v1 forecasting systems. **MERCATOR-OCEAN, TOULOUSE, FRANCE**
- 2005 RESEARCH ENGINEER** Organization/Management. **IERSET, TOULOUSE, FRANCE** (European Research Institute on Embedded Systems and their Technologies)
- 2003 INTERNSHIP (research project)** Modelling of the wave-current interaction and its impact on sediment dynamics in the South West lagoon of New Caledonia. **IRD, NOUMEA, NEW CALEDONIA** (French Research Institute for Development)

TEACHING EXPERIENCE

- 2013- Mar 2013 Present ASSISTANT PROFESSOR** **DGEO/UDEC, CONCEPCION, CHILE**
Undergraduate courses: Dynamical Physical Oceanography, Waves and Tides, Introductory Geophysics, Oceanography of the Eastern South Pacific, Career Project.
Graduate courses: Waves and Tides.
Undergrad. student mentoring: topical studies of mesoscale eddies off Chile and southern California: Natalia Opazo (2013); Emilio Concha, Marcela Contreras, Carolina Medel (2014); Emilio Concha, Sebastián Cornejo, Rodrigo Ibañez, Piero Mardones (2015).
Grad. student mentoring: topical study of mesoscale eddies off Chile: Osvaldo Artal (2015).
Undergrad. thesis committee: *Climatology of synoptic wind patterns in central Chile, associated anomalies and temporal fluctuations*, Andres Martinez, supervisor Dr. Aldo Montecinos, 2014;
Salinity and oceanic circulation on the Itata shelf using marine HF radars, James Morales, supervisor Dr. Dante Figueroa, 2014;
Impact of mesoscale eddies on interannual sea level variability along the West coast of South America, Marcela Contreras, supervisor Dr. Oscar Pizarro, 2015.
Grad. Summer school: *1st Graduate Summer School of the Department of Geophysics:* Regional Oceanographic Modeling; Observations/Measurements in Geophysics and Analysis of Bio-Oceanographic Data.

- 2015** Qualified for the level of *Maître de Conférences* (MC=Assistant Professor) and MC of the *Muséum National d'Histoire Naturelle*, section 37 (Meteorology, Oceanography, Environmental Physics).
- 2007-08** *Equatorial Waves: Kelvin, Rossby / Coastal-Trapped Waves*: 2-hour oceanography lecture, MS in marine biology.
Regional and Large Scale Models: 2-hour oceanography lecture, MS in hydraulics.

CNU, PARIS, FRANCE
(French National University Council)

UNMSM, LIMA, PERU
(Universidad Nacional Mayor de San Marcos)

EXPERIENCE IN ADMINISTRATION

- 2013-** ASSISTANT PROFESSOR
 Mar 2013 Present
 Member of the department council.
 Coordinator of the seminars in geophysics.
 Member of the restructuration committee for the formation in geophysics.
 Member of the selection committee for a professor in dynamical meteorology.

DGEO/UDEC

EDUCATION

- 2010 PHD IN PHYSICAL OCEANOGRAPHY** UPS, TOULOUSE, FRANCE
 (Université Paul Sabatier)
Subject: Impact of climate change in the Humboldt Current system simulated by a regional ocean model.
Scholarship: IRD (French Research Institute for Development) and CLS (Collection Localization Satellites).
Geographical Assignments: LEGOS (Toulouse), IMARPE-CIMOBP (Lima, Peru), LOCEAN (Paris).
Summer School: Coastal Dynamics Modelling, CNRS/LSEET, 11-15.09.2006, Toulon, France.
- 2004 MS IN ELECTRICAL ENGINEERING AND AUTOMATICS.** ENSEEIHT, TOULOUSE, FRANCE
 Specialization in Hydraulics and Fluid Mechanics, Option Environmental and Water Sciences.
- 2003 STUDENT EXCHANGE 3RD YR. MARINE SCIENCE.** UNIVERSITY OF SYDNEY, AUSTRALIA
- 1999 PREPARATORY CLASSES MATHS SUP/SPÉ** LYCÉE HOCHÉ, VERSAILLES, FRANCE
- 1997 BAC S** (high school certificate) with very good grades. LYCÉE LYAUTEY, CASABLANCA, MOROCCO

SKILLS

- Scientific** Physical Oceanography, Climate, Numerical Modelling. Project Management.
- Computer Skills** Linux, Windows, Mac. Fortran, html. Matlab, IDL, Ferret. ROMS, LMDz, WaveWatch III. WebEx.
- Languages** **French:** native speaker. **English:** TOEFL (283/300), TOEIC (890/990). **Finnish:** fluent.
Spanish: fluent (studied 3yrs; stayed 2yrs in Peru, in Chile since 03/13). **Arabic:** Classical, Moroccan.

PUBLICATIONS: peer-reviewed

- Oerder, V., F. Colas, V. Echevin, F. Codron, J. Tam, and A. Belmadani, 2015: Peru-Chile upwelling dynamics under climate change. *J. Geophys. Res.*, **120**, 2, 1152-1172, doi: 10.1002/2014JC010299.
- Belmadani, A., V. Echevin, F. Codron, K. Takahashi, and C. Junquas, 2014: What dynamics drive future wind scenarios for coastal upwelling off Peru and Chile? *Clim. Dyn.*, **43**(7-8), 1893-1914, doi:10.1007/s00382-013-2015-2.
- Davis, A., E. Di Lorenzo, H. Luo, A. Belmadani, N. Maximenko, O. Melnichenko, and N. Schneider, 2014: Mechanisms for the emergence of ocean striations in the North Pacific. *Geophys. Res. Lett.*, **41**, 948-953, doi:10.1002/2013GL057956.
- Belmadani, A., N. A. Maximenko, J. P. McCreary, R. Furue, O. V. Melnichenko, N. Schneider, and E. Di Lorenzo, 2013: Linear wind-forced beta plumes with application to the Hawaiian Lee Countercurrent. *J. Phys. Oceanogr.*, **43**, 10, 2073-2097, doi:10.1175/JPO-D-12-0194.1.
- Belmadani, A., V. Echevin, B. Dewitte, and F. Colas, 2012: Equatorially-forced intraseasonal propagations along the Peru-Chile coast and their relation with the nearshore eddy activity in 1992-2000: A modelling study. *J. Geophys. Res.*, **117**, C04025, doi:10.1029/2011JC007848.
- Echevin, V., K. Goubanova, A. Belmadani, and B. Dewitte, 2012: Sensitivity of the Humboldt Current system to global warming: A downscaling experiment of the IPSL-CM4 model. *Clim. Dyn.*, **38**(3-4), 761-774, doi:10.1007/s00382-011-1085-2.
- Belmadani, A., B. Dewitte, and S.-I. An, 2010: ENSO feedbacks and associated time scales of variability in a multimodel ensemble. *J. Clim.*, **23**, 3181-3204.
- Ouillon, S., P. Douillet, J. P. Lefebvre, R. Le Gendre, A. Jouon, P. Bonneton, J. M. Fernandez, C. Chevillon, O. Magand, J. Lefèvre, P. Le Hir, R. Laganier, F. Dumas, P. Marchesiello, A. Belmadani, S. Andréfouët, J. Y. Panché and R. Fichez, 2010: Circulation and suspended sediment transport in a coral reef lagoon: The south-west lagoon of New Caledonia. *Mar. Poll. Bull.*, **61**, 269-296.

PUBLICATIONS: proceedings

- Maximenko, N., O. Melnichenko, E. Di Lorenzo, A. Belmadani, and N. Schneider, 2013: Beta-plumes and origin of striated patterns in the ocean. *Proc. of "20 Years of Progress in Radar Altimetry"*, Venice, Italy, L. Ouwehand [Ed.], ESA SP-710, February 2013.

PUBLICATIONS: book chapters

- Belmadani, A., and B. Dewitte, 2010: ENSO feedbacks in the IPCC-AR4 models. In *Climate variability in the tropical Pacific: Mechanisms, modelling and observations*, Y. duPenhoat and A. Kislov [Eds.], MAKSPRESS, Moscow, Russia, 154-180.

PUBLICATIONS: thesis

- Belmadani, A., 2010: Impact of climate change in the Humboldt Current system simulated by a regional ocean model. *PhD thesis*, Université Paul Sabatier, Toulouse, France, 362pp. Available from: http://thesesups.ups-tlse.fr/777/1/Bel-Madani_Ali.pdf.
- Belmadani, A., 2003: Modélisation du champ de vagues de vent dans le lagon Sud-Ouest de Nouvelle-Calédonie. *MSc thesis*, ENSEEIHT, Toulouse, France, 56pp.

PUBLICATIONS: non-peer-reviewed

- Belmadani, A., 2009: Los modelos globales de estudio del cambio climático: Como elegirlos para estudiar la variabilidad costera frente a Peru? *Bitacora Hidrografica*,

COMMUNICATIONS: oral

- Auger, P.-A., **A. Belmadani**, J. Bento, E. Di Lorenzo, and S. Hormazabal, 2016: Eddy effects on biological productivity in the eastern South Pacific: a 3D physical-biogeochemical modeling and eddy tracking approach. *TOSIAGU/ASLO Ocean Sciences Meeting 2016*, 22-26.02.2016, New Orleans, Louisiana.
- Belmadani, A.**, E. Concha, D. Donoso, A. Chaigneau, F. Colas, N. Maximenko, and E. Di Lorenzo, 2016: Stationary and transient striations as a hint for an organized mesoscale eddy field in the eastern South Pacific. *IPRC discussion*, 05.01.2016, Honolulu, Hawaii.
- Contreras, M., O. Pizarro, and **A. Belmadani**, 2015: Impacto de los remolinos de mesoescala en la variabilidad interanual del nivel del mar en la costa oeste de Sudamérica. *4^o Congreso de Oceanografía Física, Meteorología y Clima del Pacífico Sur-Oriental*, 18.11.2015, Valparaíso, Chile.
- Belmadani, A.**, E. Concha, D. Donoso, A. Chaigneau, N. Maximenko, and E. Di Lorenzo, 2015: Role of mesoscale eddies in the origin and persistence of oceanic striations in the eastern South Pacific off Chile. *11th International Conference on Southern Hemisphere Meteorology and Oceanography*, 05.10.2015, Santiago, Chile.
- Dewitte, B., A. Montecinos, K. Takahashi, O. Pizarro, **A. Belmadani**, and W. Schneider, 2015: A decadal SST mode in the tropical to sub-tropical South Pacific Ocean. *11th International Conference on Southern Hemisphere Meteorology and Oceanography*, 06.10.2015, Santiago, Chile.
- Belmadani, A.**, 2015: Estriaciones y remolinos en el océano frente a Chile: una nueva línea de investigación para la oceanografía nacional. *Outreach at French Lycée Charles De Gaulle highschool*, 09.06.2015, Concepción, Chile.
- Belmadani, A.**, A. Chaigneau, O. Artal, E. Concha, M. Contreras, and C. Medel, 2015: Métodos de detección de remolinos, modulación decadal de EKE. *2015 IMO Workshop on mesoscale processes in the eastern South Pacific*, 08.05.2015, Concepción, Chile.
- Belmadani, A.**, V. Echevin, F. Codron, K. Takahashi, and C. Junquas, 2015: Quels sont les mécanismes qui contrôlent les scénarii futurs du vent favorable à l'upwelling côtier du Pérou et du Chili? *LEGOS public seminar*, 29.01.2015, Toulouse, France.
- Belmadani, A.**, F. Codron, F. Colas, B. Dewitte, V. Echevin, K. Goubanova, C. Junquas, V. Oerder, K. Takahashi, and J. Tam, 2014: Peru-Chile upwelling dynamics and future global warming scenarios. *Workshop "Understanding environmental change, present research for future sustainable resources"*, 05.12.2014, Concepción, Chile.
- Belmadani, A.**, 2014: Estriaciones y remolinos en el océano frente a Chile: una nueva línea de investigación para la oceanografía nacional. *DGEO public seminar*, 17.10.2014, Concepción, Chile.
- Belmadani, A.**, F. Codron, F. Colas, B. Dewitte, V. Echevin, K. Goubanova, C. Junquas, V. Oerder, K. Takahashi, and J. Tam, 2014: Peru-Chile upwelling dynamics and global warming. *Joint IPRC/Oceanography seminar*, 15.07.2014, Honolulu, Hawaii.
- Belmadani, A.**, V. Echevin, F. Codron, K. Takahashi, and C. Junquas, 2014: Qué dinámica controla los escenarios futuros del viento favorable a la surgencia frente a Perú y a Chile? *XXXIV Congreso de Ciencias del Mar*, 28.05.2014, Osorno, Chile.
- Maximenko, N., J. Hafner, O. Melnichenko, and **A. Belmadani**, 2014: Dynamics of Lagrangian tracer in near-surface ocean studied with real and simulated drifters: Diffusion, connectivity, and time scales. *TOSIAGU/ASLO Ocean Sciences Meeting 2014*, 24-28.02.2014, Honolulu, Hawaii.
- Belmadani, A.**, 2014: Diversas mediciones oceánicas para diversos usos: Altimetría costera, boyas derivantes y Argo. *1^{ra} Escuela de Verano de Geofísica, Modulo III: Instrumentación, Observaciones/Mediciones en Geofísica y Análisis de datos Bio-oceanográficos*, 17.01.2014, Concepción, Chile.
- Belmadani, A.**, 2014: Ocean modelling with ROMS: 2 examples. *1^{ra} Escuela de Verano de Geofísica, Modulo I: Regional Oceanographic Modeling*, 10.01.2014, Concepción, Chile.
- Belmadani, A.**, V. Echevin, F. Codron, K. Takahashi, and C. Junquas, 2013: What drives future wind scenarios off the coast of Peru and Chile? *1^{er} Simposio de Geofísica: 7 años de Geofísica en la UdeC*, 21.11.2013, Concepción, Chile.
- Belmadani, A.**, V. Echevin, F. Codron, K. Takahashi, and C. Junquas, 2013: What drives future wind scenarios off the coast of Peru and Chile? *3^{er} Congreso de Oceanografía Física, Meteorología y Clima del Pacífico Sur Oriental*, 16-18.10.2013, Santiago, Chile.
- Belmadani, A.**, N. Maximenko, J. McCreary, R. Furue, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2013: Plumas beta lineales forzadas por el viento: aplicaciones a la Contracorriente Hawaiana. *DGEO public seminar*, 05.07.2013, Concepción, Chile.
- Belmadani, A.**, N. Maximenko, J. McCreary, R. Furue, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2013: Linear wind-forced β -plumes with application to the Hawaiian Lee Countercurrent. *LOCEAN public seminar*, 25.01.2013, Paris, France.
- Belmadani, A.**, N. Maximenko, J. McCreary, R. Furue, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2013: Linear wind-forced β -plumes with application to the Hawaiian Lee Countercurrent. *LEGOS public seminar*, 24.01.2013, Toulouse, France.
- Oerder, V., V. Echevin, F. Colas, **A. Belmadani**, and F. Codron, 2012: Dynamical downscaling of the atmospheric and oceanic circulation in the Peru upwelling system for IPSL-CM4 climate scenarios. *1st CORDEX-WRF Workshop*, 01-05.10.2012, La Laguna, Tenerife, Spain.
- Maximenko, N., O. Melnichenko, E. Di Lorenzo, **A. Belmadani**, and N. Schneider, 2012: Beta-plumes and origin of striated patterns in the ocean. *ESA/CNES "20 years of progress in radar altimetry" Symposium*, 24-29.09.2012, Venice, Italy.
- Maximenko, N. A., O. Melnichenko, **A. Belmadani**, E. Di Lorenzo, and N. Schneider, 2012: Ocean striations as a crossroad of multiple physics. *TOSIAGU/ASLO Ocean Sciences Meeting 2012*, 20-24.02.2012, Salt Lake City, Utah.
- Di Lorenzo, E., **A. Belmadani**, H. Luo, O. Melnichenko, N. Schneider, and N. A. Maximenko, 2012: The emergence of striations in the North Pacific circulation. *Ocean Sciences Meeting 2012*.
- Belmadani, A.**, N. Maximenko, O. Melnichenko, N. Schneider, E. Di Lorenzo, R. Furue, and J. McCreary, 2012: Wind-forced baroclinic β -plumes, and an application to the Hawaiian Lee Countercurrent. *Joint IPRC/Oceanography seminar*, 02.02.2012, Honolulu, Hawaii.
- Belmadani, A.**, N. Maximenko, O. Melnichenko, N. Schneider, E. Di Lorenzo, R. Furue, and J. McCreary, 2011: Wind-forced baroclinic β -plumes. *AGU Fall Meeting*, 05-09.12.2011, San Francisco, California.
- Belmadani, A.**, N. Maximenko, O. Melnichenko, N. Schneider, E. Di Lorenzo, R. Furue, and J. McCreary, 2011: Wind-induced baroclinic β -plumes and the Hawaiian Lee Counter-Current. *4th OFES International Workshop*, 01-02.12.2011, Honolulu, Hawaii.
- Belmadani, A.**, V. Echevin, and B. Dewitte, 2011: Intraseasonal Kelvin waves and Humboldt Current eddies. *Joint IPRC/Oceanography seminar*, 10.02.2011, Honolulu, Hawaii.
- Dewitte, B., S. Thual, S.-W. Yeh, S.-I. An, and **A. Belmadani**, 2010: ENSO sensitivity to change in stratification in CMIP3. *CLIVAR Workshop "New strategies for evaluating ENSO processes in climate models"*, 17-19.11.2010, Paris, France.
- Belmadani, A.**, V. Echevin, and B. Dewitte, 2010: Impact of intraseasonal equatorial Kelvin waves on eddy activity in an eddy-resolving model of the Humboldt system. *3rd OFES International Workshop*, 04-05.11.2010, Yokohama, Japan.
- Belmadani, A.**, B. Dewitte, and S.-I. An, 2010: ENSO feedbacks and time scale in a multimodel ensemble. *IPRC discussion*, 24.09.2010, Honolulu, Hawaii.
- Belmadani, A.**, B. Dewitte, and S.-I. An, 2010: Rétroactions d'ENSO et échelles de temps associées dans un ensemble multi-modèle. *Colloque Prévisibilité du Climat Tropical*, 01.06.2010, Toulouse, France.
- Cambon, G., B. Dewitte, K. Goubanova, F. Colas, V. Echevin, **A. Belmadani**, C. Hourdin, and T. Brochier, 2010: Interannual to decadal upwelling variability in the Humboldt system: A downscaling experiment with ROMS designed for the period 1958-2005. *2010 ROMS/TOMS User Workshop*, 05-08.04.2010, Honolulu, Hawaii.
- Belmadani, A.**, 2009: Impact of climate change in the Humboldt Current system simulated by a regional ocean model. *PhD defence*, 14.12.2009, Toulouse, France.
- Belmadani, A.**, B. Dewitte, and S.-I. An, 2009: ENSO feedbacks in a multi-model ensemble: Impact on the ENSO characteristics. *French-Russian seminar "Climate variability in the tropical Pacific: mechanisms, modeling and observations"*, 13-15.04.09, Moscow, Russia.
- Belmadani, A.**, 2009: ENSO in the IPCC models and qualification of IPCC ocean models in the eastern South Pacific. *ANR PEPS meeting*, 16-17.03.2009, Lima, Peru.
- Belmadani, A.**, 2009: Los modelos globales de estudio del cambio climático: Como elegirlos para estudiar la variabilidad costera frente a Perú? *DHN seminar*, 23.02.2009, Lima, Peru.
- Belmadani, A.**, B. Dewitte, and S.-I. An, 2008: Time-scale interactions in the Coupled Model Intercomparison Project: From near-annual to interannual variability. *LEGOS public seminar*, 23.05.2008, Toulouse, France.
- Dewitte, B., **A. Belmadani**, and S.-I. An, 2007: Interaction between near-annual and ENSO modes in the Coupled Model Intercomparison Project simulations. *EGU General Assembly*, 15-20.04.2007, Vienna, Austria.

COMMUNICATIONS: poster

- A. Belmadani**, A. Montecinos, P. A. Auger, and M. Contreras, 2015: Modulación a baja frecuencia de la actividad de mesoescala oceánica en el Pacífico Sur-Oriental. *4^o Congreso de Oceanografía Física, Meteorología y Clima del Pacífico Sur-Oriental*, 18-20.11.2015, Valparaíso, Chile.
- Concha, E., **A. Belmadani**, D. Donoso, A. Chaigneau, N. Maximenko, and E. Di Lorenzo, 2015: Relación entre remolinos de mesoescala y estriaciones oceánicas en el Pacífico Sur-oriental frente a Chile. *4^o Congreso de Oceanografía Física, Meteorología y Clima del Pacífico Sur-Oriental*, 18-20.11.2015, Valparaíso, Chile.
- O. Artal, and **A. Belmadani**, 2015: Detección y seguimiento de remolinos de mesoescala en el Pacífico Sur-Oriental usando un método geométrico. *4^o Congreso de*

Oceanografía Física, Meteorología y Clima del Pacífico Sur-Oriental, 18-20.11.2015, Valparaíso, Chile.

- Auger, P. A., **A. Belmadani**, A. Montecinos, and S. Hormazabal, 2015: Interannual variability of ocean biological productivity in the Coastal Transition Zone (CTZ) off Peru (10-17°S) and Chile (24-37°S). *3^{er} Foro de Percepción Remota y SIG*, 22.10.2015, Concepción, Chile.
- Concha, E., **A. Belmadani**, D. Donoso, A. Chaigneau, N. Maximenko, and E. Di Lorenzo, 2015: Relación entre remolinos de mesoescala y estriaciones oceánicas en el Pacífico Sur-oriental frente a Chile. *XXXV Congreso de Ciencias del Mar*, 26.05.2015, Coquimbo, Chile.
- Davis, A., E. Di Lorenzo, H. Luo, **A. Belmadani**, N. Maximenko, O. Melnichenko, N. Schneider, and D. Donoso, 2014: Mecanismos de desarrollo de estriaciones oceánicas en el Pacífico Nor-Oriental. *3^{er} Encuentro Estudiantil de Ciencias Naturales y Oceanográficas*, 04.09.2014, Concepción, Chile.
- Davis, A., E. Di Lorenzo, H. Luo, **A. Belmadani**, N. Maximenko, O. Melnichenko, N. Schneider, and D. Donoso, 2014: Mecanismos de desarrollo de estriaciones oceánicas en el Pacífico Nor-Oriental. *XXXIV Congreso de Ciencias del Mar*, 27.05.2014, Osorno, Chile.
- Belmadani**, A., N. Maximenko, J. McCreary, R. Furue, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2012: Linear wind-forced beta-plumes with application to the Hawaiian Lee Countercurrent. *AGU Fall Meeting*, 03-07.12.2012, San Francisco, California.
- Belmadani**, A., N. Maximenko, J. McCreary, R. Furue, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2012: Linear wind-forced beta-plumes with application to the Hawaiian Lee Countercurrent. *12th IPRC Annual Symposium*, 19.11.2012, Honolulu, Hawaii.
- Maximenko, N., O. Melnichenko, E. Di Lorenzo, **A. Belmadani**, and N. Schneider, 2012: Beta-plumes and origin of striated patterns in the ocean. *Ocean Surface Topography Science Team Meeting 2012*, 22-29.09.2012, Venice, Italy.
- Belmadani**, A., N. Maximenko, J. McCreary, O. Melnichenko, R. Furue, N. Schneider, and E. Di Lorenzo, 2012: Wind-forced baroclinic β -plumes and the Hawaiian Lee Countercurrent. *2nd US/Japan Joint Symposium on Ocean, Coastal, and Atmospheric Sciences*, 13-15.06.2012, Honolulu, Hawaii.
- Belmadani**, A., N. Maximenko, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2011: Wind-induced baroclinic beta-plumes and the Hawaiian Lee Counter-Current. *Ocean Surface Topography Science Team Meeting 2011*, 19-21.10.2011, San Diego, California.
- Belmadani**, A., N. Maximenko, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2011: Wind-induced baroclinic beta-plumes: Application to the Hawaiian Lee Counter-Current. *11th IPRC Annual Symposium*, 07.09.2011, Honolulu, Hawaii.
- Belmadani**, A., A. Chaigneau, V. Echevin, B. Dewitte, and D. Correa, 2008: Variability of the coastal Peru-Chile UnderCurrent during El Niño 1997-98: connection with the equatorial Kelvin wave. *AGU Fall Meeting*, 15-19.12.2008, San Francisco, California.
- Belmadani**, A., B. Dewitte, and S.-I. An, 2008: ENSO feedbacks in a multi-model ensemble: role of the near-annual mode. *AGU Fall Meeting 2008*.
- Belmadani**, A., A. Chaigneau, V. Echevin, B. Dewitte, and D. Correa, 2008: Connection between mesoscale activity in the Peru-Chile Current System and the equatorial Kelvin wave in ROMS (1/6°): 1992-2000. *Eastern boundary upwelling ecosystems symposium: integrative and comparative approaches*, 02-06.06.2008, Las Palmas, Gran Canaria, Spain.
- Goubanova, K., V. Echevin, **A. Belmadani**, B. Dewitte, A. Chaigneau, and P. Terray, 2008: Using statistical and dynamical downscaling to assess climate change impacts on the Peru-Chile Upwelling System. *Eastern boundary upwelling ecosystems symposium*.
- Hernandez, F., **A. Belmadani**, L. Crosnier, M. Drevillon, and E. Dombrowsky, 2007: Validation in operational oceanography at the global scale in the GODAE and Mersea framework: Overview of the Mercator global operational system assessment. *Ocean Surface Topography Science Team Meeting 2007*, 12-15.03.2007, Hobart, Australia.
- Crosnier, L., M. Drevillon, **A. Belmadani**, and F. Hernandez, 2006: Using Metrics for model validation and skill assessments (WP5). *Mersea IP Annual Meeting*, 06-07.03.2006, London, UK.
- Douillet, P., S. Ouillon, A. Jouon, **A. Belmadani**, and L. Schmied, 2004: Comparison between Numerical Simulation of Wind-Wave Distribution and Wavemeter Gauge Measurements in a Semi-enclosed Lagoon. *10th International Coral Reef Symposium*, 28.06-02.07.2004, Okinawa, Japan.

PUBLICATIONS: other

- Belmadani**, A., N. Maximenko, O. Melnichenko, N. Schneider, and E. Di Lorenzo, 2011: Wind-forced baroclinic beta-plumes and the Hawaiian Lee Counter-Current. *Fall 2011 IPRC Quarterly Report to NASA*, <http://iprc.soest.hawaii.edu/research/research.php>.

REFERENCES

Prof. Emanuele DI LORENZO: co-author and collaborator.
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OTHER INFORMATION

- Grants** *Dynamics of striations and eddies off central Chile*, CONICYT/Fondecyt, PI, 11/2013-10/2016.
Millennium Institute of Oceanography, MINECON, young researcher, 01/2014-12/2023.
- Award** AMS Editor's Award 2014 for the Journal of Physical Oceanography, *for careful attention to equations in manuscripts, and suggestions to improve presentations and add physical insight*.
- Scholarships** IPRC Fellowship (SOEST, U. Hawaii, 2010-12), Bourse de Soutien de Thèse de Doctorat (IRD/CLS, France, 2006-09), Bourse Eiffel (Egide, France, 2000), and Bourse du Gouvernement Français (CROUS, France, 1997-99).
Parent institution supervisor (UdeC), 2015 POGO-SCOR fellowship for David Donoso, 3-month stay with Dr. E. Di Lorenzo, GeorgiaTech, Atlanta, USA.
- Impact** 140 citations, h index 5, i10 index 5 (Google Scholar), ResearchGate score 16.89, tot. impact 30.69.
- Sea Cruises** VOCALS-Rex Peru 2008 (CTD/radiosondes), IRD-Nouméa coastal cruises 2003 (CTD).
- Reviewer** *Bulletin of the American Meteorological Society* (1), *Climate Dynamics* (1), *Continental Shelf Research* (1), *Geophysical Research Letters* (1), *Journal of Atmospheric and Oceanic Technology* (1), *Journal of Climate* (1), *Journal of Geophysical Research* (2), *Journal of Physical Oceanography* (1), *National Commission for Scientific and Technological Research - CONICYT, Chile* (3), *National Science Foundation* (1), *Nature Geoscience* (1), *Ocean Science* (1).
- Member** American Geophysical Union (AGU).
- Convener/Chair** *Beta-plane Dynamics: Jets, Eddies, Waves, and Plumes*, 2011 AGU Fall Meeting, San Francisco, CA.
Mesoscale Ocean Processes, 2012 AGU Fall Meeting, San Francisco, CA.
Mesoscale Ocean Processes and their Representation in Earth System Models, 2014 Ocean Sciences

Meeting, Honolulu, HI.

Ocean Mesoscale Processes, 2014 AGU Fall Meeting, San Francisco, CA.

Southern Hemisphere Oceans in a Changing Climate, 2015 ICSHMO Meeting, Santiago, Chile.

Meteorología e Interacción Océano-Atmósfera, 4^{to} Congreso de Oceanografía Física, Meteorología y Clima del Pacífico Sur-Oriental, Valparaiso, Chile.

Coordinator

Seminars in Geophysics, DGEO, Universidad de Concepcion, Chile.

Organizer

1st Graduate Summer School of the Department of Geophysics: regional oceanographic modeling, regional physical-biogeochemical coupled models, observations/measurements in geophysics and analysis of bio-oceanographic data, Universidad de Concepción, 06-21/01/2014, Concepción, Chile.

Support

Hydrodynamics of Marine Debris, 5th Int'l Marine Debris Conference, march 2011, Honolulu, USA.

Mitigating the Impact of Tsunami Debris on Coastlines, IPRC, november 2011, Honolulu, USA.

Invited

10th Session of the CLIVAR (Climate and Ocean - Variability, Predictability, and Change) Pacific Panel, 10-11/10/15, Santiago, Chile.

Media

- *Le vrai visage de Honolulu*, Echappées Belles, France 5 television, broadcasted Sat. 03/11/2012 at 8:35pm and Sun. 11/11/2012 at 10:25am. <http://www.france5.fr/echappees-belles/emission/hawai/>.

- *Oceanografía física se fortalece en la UdeC*, El Sur daily paper (Concepcion, Chile), 03/04/2013.

- *Seminarios de Geofísica*, Diario Concepcion daily paper (Concepcion, Chile), 03/04/2013.

- *Científicos vuelven a las aulas en la UdeC*, El Sur daily paper (Concepcion, Chile), 02/09/2013.

- *Academico de Geofísica recibio reconocimiento internacional*, Panorama UdeC, Universidad de Concepcion, n°708, newsletter (Concepcion, Chile), 21/11/2013.

- *Geofísica UdeC lanza proyecto de Oceanografía Física*, Panorama UdeC, Universidad de Concepcion, 21/10/2014, <http://www.udec.cl/panoramaweb2/2014/10/geofisica-udec-lanza-proyecto-de-oceanografia-fisica/>.

- *Se lanzo proyecto de Oceanografía Física en la UdeC*, Explora CONICYT region del Biobio, Chile, 22/10/2014, <http://www.explora.cl/biobio/noticias-biobio/3048-proyecto-oceanografia-udec>.

- *Científico investiga fenómeno que afecta las costas chilenas*, El Sur daily paper (Concepcion, Chile), 22/10/2014.

- *Científico UdeC investiga fenómeno que afecta las costas de Chile*, I+D+i UdeC, Universidad de Concepcion, n°31, magazine (Concepcion, Chile), 12/2014.

- *Investigador joven del IMO difunde su investigación en Lycée Charles De Gaulle de Concepción*, Millennium Institute of Oceanography (IMO), Chile, 15/06/2015, <http://imo-chile.cl/investigador-imo-difunde-su-investigacion-en-lycee-charles-de-gaulle-de-concepcion/>.

- *IMO participa en la I Feria Investiga + Comparte UdeC*, Millennium Institute of Oceanography (IMO), Chile, 17/06/2015, <http://imo-chile.cl/imo-participa-en-la-i-feria-investiga-comparte-udec/>.

Travel

Australia, Bolivia, Brazil, Chile, Ecuador, Europe, Hong Kong, India, Indonesia, Japan, Morocco, New Caledonia, New Zealand, Peru, Russia, USA.