



# PIRATA 22 SUMMER SCHOOL

FORTALEZA - BRAZIL

3 - 6 NOVEMBER, 2017

## TROPICAL ATLANTIC OCEAN VIEW AND DATA ANALYSIS

In the frame of the Copernicus Marine Environment Monitoring Service (CMEMS)



### SUMMER SCHOOL PROGRAM

#### DAY 1 – Friday (03/11/2017)

TIME	TOPIC	LECTURER
08:30 – 09:00	Opening ceremony	
09:00 – 10:00	<b>Theoretical Part:</b> SAMOC, Interhemispheric Circulation	Edmo Campos – IOUSP/LABOMAR
10:00 – 10:30	Coffee break	
10:30 – 11:30	<b>Theoretical Part:</b> Surface Dynamics, Drifters	Rick Lumpkin - NOAA
11:30 – 12:00	<b>Theoretical Part:</b> General Overview of Operational oceanography and CMEMS	Fabrice Hernandez - IRD
12:00 – 14:00	Lunch	
14:00 – 15:30	<b>Practical Part:</b> How to download / handle CMEMS product	Fabrice Hernandez – IRD & CMEMS Lecturer
15:30 – 16:00	<b>Practical Part:</b> CMEMS Training With Reanalysis: Regional and Global, for Scientific Analysis	Fabrice Hernandez – IRD & CMEMS Lecturer
16:00 – 16:30	Coffee break	
16:30 – 18:00	<b>Practical Part (cont):</b> CMEMS Training With Reanalysis: Regional and Global, for Scientific Analysis	Fabrice Hernandez – IRD & CMEMS Lecturer

#### DAY 2 – Saturday (04/11/2017)

TIME	TOPIC	LECTURER
08:00 – 08:45	<b>Theoretical Part:</b> Tropical dynamics, ENSO	Mike McPhaden - NOAA
08:45 – 09:30	<b>Theoretical Part:</b> GLODAP and Carbon in the Tropical Atlantic	Leticia Cotrim – UERJ
09:30 – 10:15	<b>Theoretical Part:</b> Scientific Results on Equatorial Upwelling, Kelvin Wave Dynamics, and Equatorial Undercurrent Variability	David Halpern – NASA <b>TO BE CONFIRMED</b>
10:15 – 10:45	Coffee break	
10:45 – 12:30	<b>Practical Part:</b> CMEMS Training with Forecast / Hindcast Near the Surface, Impact of Surface Forcing	Fabrice Hernandez – IRD & CMEMS Lecturer
12:30 – 14:00	Lunch	
14:00 – 16:30	<b>Practical Part (cont):</b> CMEMS Training with Forecast / Hindcast Near the Surface, Impact of Surface Forcing	Fabrice Hernandez – IRD & CMEMS Lecturer

**DAY 3 – Sunday (05/11/2017)**

TIME	TOPIC
08:00 – 09:30	Visit at Vital de Oliveira Brazilian Ship or LABOMAR's 'Argo Equatorial' Ship <b>To Be Confirmed</b>
<b>Free Time – Excursion to the Beach</b>	

**DAY 4 – Monday (06/11/2017)**

TIME	TOPIC	LECTURER
08:00 – 08:30	<b>Theoretical Part:</b> Ocean Technology and innovation	Janice Trotte Duhá - DHN
08:30 – 10:00	<b>Practical Part:</b> CMEMS Training with Data Assimilation and Observing Network impact	Fabrice Hernandez – IRD & CMEMS Lecturer
10:00 – 10:30	Coffee break	
10:30 – 12:30	<b>Practical Part (cont):</b> CMEMS Training with Data Assimilation and Observing Network impact	Fabrice Hernandez - IRD & CMEMS Lecturer

CMEMS – Copernicus – Marine environment monitoring service

IOUSP - Instituto Oceanográfico da Universidade de São Paula - BRAZIL

DHN – Diretoria de Hidrografia e Navegação - Marinha do Brasil

IRD – Institut de Recherche pour le Développement

LABOMAR – Instituto de Ciências do Mar

NASA – National Aeronautics and Space Administration

NOAA – National Oceanic and Atmospheric Administration

UERJ – Universidade do Estado do Rio de Janeiro

**HIGHLIGHTS**

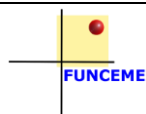
The European Union, Brazil and South Africa have signed in Lisbon on July 13th a cooperation agreement for research and innovation in the Atlantic Ocean.

The Belém Statement underlines the fundamental role of the oceans in the development of national and regional economies in the achievement of the Sustainable Development Goals And combating climate change.

A few weeks after the signature of the agreement, a first CMEMS training opportunity in Brazil was proposed, in the frame of the PIRATA SUMMER SCHOOL which will occur from 3 – 6 November 2017 in Fortaleza, Ceara, Brazil.

Contributing to GOOS (Global Ocean Observing System), the PIRATA program is the multinational moored array observing network, established to improve our knowledge and understanding of ocean-atmosphere variability in the tropical Atlantic. It is a joint observing effort of Brazil, France and the United States of America that reach its 20 years. The next PIRATA 22 scientific meeting will also host the European Union FP7 PREFACE project meeting.

The CMEMS training will be part of the PIRATA SUMMER SCHOOL, aimed to highlight and introduce main aspects of the tropical Atlantic variability issues (see agenda above). This school is free of charge. Applicants with a background in ocean, or atmosphere, or climate sciences are welcomed (typically a graduate level).



*Host Institutions*



## Prediction and Research Moored Array in the Tropical Atlantic (PIRATA-22)

PIRATA Research Project 20 Years Conference:

*Contributing to the understanding and prediction of the Tropical Atlantic Climates*

**05 - 10 November 2017, Fortaleza, Brazil**

<http://www.funceme.br/pirata22/>