



Belem All-Atlantic Research Forum

Salvador – Bahia – Brazil

23 – 24 July 2018

Monday, 23 July 2018

Video - Promoting the values of the Atlantic Ocean

Welcome speeches

Rodrigo Hita, Secretary for Science, Technology and Innovation of the State of Bahia

Mr Rodrigo Hita presented aspects from the State of Bahia and highlighted the importance in to discuss the implementation of the Belem Declaration of the State that aims at the sustainable development on a coastline with maritime potential, strategic and economic potential to make the most of the maritime economy. He pointed out that the state of Bahia has included in the actions of the Secretariat of Science, Technology and Innovation the traditional sectors of navigation, shipbuilding, fishing, fish processing and tourism, as well as more recent fields of wave and tidal energy, wind farm offshore, marine science and research.

Jailson de Andrade, President of the Bahia Science Academy

Professor Jailson de Andrade presented the Kirimurê Program, proposal coordinated by the Federal University of Bahia, that it is a multidisciplinary project in execution in the Bay of All Saints with the objective of monitoring the area with a view to sustainability, involving physical and human aspects.

The results were systematized in publications on oceanographic and human aspects, in the years of 2009 and 2011 respectively. In addition to these, the volume that refers to advances in long-term studies, which brings together some of the main research results conducted between 2013 and 2018, in the Bay of All Saints and its environs is in the final edition phase. He pointed out that such publications are important tools for decision makers.

Opening remarks

John Bell, Director of Bioeconomy, Directorate-General for Research and Innovation, European Commission, Belgium

Thomas Auf der Heyde, Deputy Director-General, Department of Science and Technology, South Africa

Andrei Polejack, General Coordinator for Oceans, Geosciences and Antarctica, Ministry of Science, Technology, Innovation and Communications, Brazil

The representatives of European Commission, South Africa and Brazil welcomed the participants by emphasizing the objective of the Forum: to continue the discussions on implementation of the Declaration of Belem. They highlighted the importance of deepening this science-based

cooperation by expanding the boundaries of the Atlantic Ocean - from the South to the North, from the East to the West - is the safest way to promote its sustainable use. The establishment of this Forum and its regular meetings is a key contribution to this macro-level ambition.

In this way, it is innovative the way to seek the integration of the observation systems of the South and North Atlantic oceans, allowing a global view of the Atlantic Basin. They also emphasized that in order to build a true and concrete research alliance across the Atlantic, mutual research interests must be aligned, which will enable the joint development of technology, the building of new knowledge and the development of capacities.

The Belem All-Atlantic Research Forum advanced the implementation of the Belem Statement and deepened the partnership of the three signatories by:

- Reflecting on existing and planned cooperative research and innovation activities within the framework of the Belem Partnership to demonstrate its scope;
- Discussing the socio-economic and political impact of Atlantic Ocean research initiatives, emphasizing the imperative for the Belem Partnership to demonstrate material impact, in addition to generating excellence in science;
- Deliberating on specifically focused interventions where the Partnership should consider and prioritize within the framework established by the Belem Statement.

THEMATIC SESSION #1

Demonstrating the scope of the Belem Partnership: an overview of existing and planned cooperative research and innovation activities

Moderator: *Mauricio Mata, FURG (BR)*

Rapporteur: *John Hanus, JPI Oceans (EU)*

In the First thematic session was presented general approaches to existing and planned cooperative research and innovation activities within the framework of the Declaration of Belem, in order to demonstrate its scope.

Atlantic International Research Centre (AIR Centre)

Mr Antonio Sarmiento presented the proposal of the AIR Centre (Atlantic International Research Centre), as a new long-term Platform for Cooperation across and along the Atlantic. Affirmed that the AIR Centre is a Network for Cooperation along and across the Atlantic that involved five keywords come out: space, oceans, climate change, energy and data Science, and continued, the relevance is not in each of these keywords but on their integration. Also informed that the implementation of the AIR Centre results from the Atlantic Interactions' process and is aligned with the Galway Statement, the Belem Statement and the South-to-South Framework for S&T Cooperation between Brazil and South Africa. The AIR Centre ambition is also to work in close cooperation with potential funding bodies and have its work plan well aligned with them: the national and regional S&T funding agencies for R&D driven projects and the multilateral banks, the EIB, Africa Development Bank, the IDB and the World Bank for projects more focused in economic development. The AIR Center wants also to work with the European Commission and private S&T funding bodies and companies.

EU Partnership Instrument: Cooperation on Marine Protected Areas with Northern and Southern Transatlantic Dimension

Alejandro ZURITA showed that the EU Partnership Instrument towards a transatlantic partnership of Marine Protected Areas, with the proposals: i. to promote cooperation between managers of Marine Protected Areas (MPAs) in countries and territories around the Atlantic Ocean; ii. designed to stimulate exchange and the sharing of best practice to improve the effective management of MPAs in coastal and offshore areas of the Atlantic; and iii. as part of long-term EU strategy to support sustainable and inclusive cooperation between local and international authorities and stakeholders. Highlighted that a new concept of Atlanticism, including Africa, Europe, North and South America has happened. The EU is committed to furthering this broader approach to transatlantic dialogue, and the MPAs as a focus to pilot this new policy initiative.

Benguela Current Commission

Mr Ashley Naidoo showed how can the Benguela Current Commission (BCC) support the South-South framework for scientific and technical cooperation in the South and Tropical Atlantic and Southern Oceans, increasing the collaborative efforts in the Atlantic Ocean; increasing research operational efficiencies – sharing of observation and data infrastructure; promoting capacity development & scientific exchange; provide a platform for scientific and technical cooperation resulting in joint activities; and, encourage new models of cooperation on a coordinated and partnership-based approach.

EU Earth Observation and Monitoring Programme – Copernicus

In the presentation on Copernicus Programme, *Dr Fabrice Hernandez* explained that offers opportunity to liaise with international partners; gathers user needs and support building capacity; is a potential science partnership. The Copernicus programme provides from observation to information and service; an integrated and science based approach to describe and prevent the ocean.

South-South Atlantic cooperation

About the South-South Atlantic cooperation, *Mr Mariano Jórdan; Dr Thulani Makalahanye and Dr Eduardo Manta* have manifested and informed on the insertion of the countries in actions in the context of international cooperation in marine research and the relevance of their policies and actions in South-South cooperation.

Round table discussions

Moderator: *Mauricio Mata (BR)*

Rapporteur: *John Hanus, JPI Oceans (EU)*

Sigi Gruber, European Commission – Support from the Horizon 2020 Programme

Moacyr Araujo, Universidade Federal de Pernambuco, Brazil

Sandy Thomalla, CSIR, South Africa

In the First thematic session 1 were discussed the main key components for a true All Atlantic cooperation, such a data sharing, good science and capacity building and the importance of understanding and studying the ocean.

Some opportunities and advantages for collaboration in partnership with the Belem Agreement were highlighted, the main ones: lower cost for a regional science infrastructure; joint experiments (Ocean, Antarctica, Atmosphere) lower the cost for individual countries; shared large scale (ship and bases) and scientific (robotics, data, communications) infrastructure; leverage the individual contributions through shared data and data products; standardization of methods and protocols; among other aspects.

THEMATIC SESSION #2

Demonstrating the need for the Belem Partnership: expected socio-economic and policy impacts

Moderator: *Sigi Gruber (EU)*

Rapporteur: *Thato Mtshali (SA)*

In the Second thematic session, presentations on the socioeconomic and political impact of the Atlantic Ocean research initiatives were the subject of the discussions, emphasizing the need for the activities of the Declaration of Belem to demonstrate social impact, as well as the generation of excellence in science.

Socio economic and policy impacts from cooperative projects

In the various presentations were identified and discussed topics that involves these issues, in the topic related to *Socio economic and policy impacts from cooperative projects* – exposed by *Dr Sandy Thomalla; Dr Paulo Nobre; Dr Sabrina Speich; and Dr Tarron Lamont* these issues addressed the following aspects: i. Need to link basic science to society like key driver of Innovation; ii. to improve international collaboration in the design, implementation and benefit sharing of ocean observing; iii. to promote engagement and innovation in all aspects of ocean observing; and, iv. to facilitate free and open access to ocean data and information.

Socioeconomic and political impacts were recognized: i. strengthening of the governance of the oceans; ii. new big-data linked ocean services sectors built on long-term and real-time data, these data services and products that are needed to support policy and industry; iii. new high tech manufacturing like robotics and sensors; iv. lower cost of long term data; v. strengthens the documents of cooperation – Belem and Galway Statements on Atlantic Ocean Cooperation; vi. strengthen regional political links through long term shared commitments to observations and shared infrastructure; and, vii. to provide tangible results that impact peoples' life quality and economies. The main difficulty in advancing the issue concerns innovation financing.

The programs presented in execution and which pointed out the issues were: Southern Ocean Carbon & Climate Observatory – SOCCO; Prediction and Research Moored Array in the Tropical Atlantic – PIRATA; Optimizing and Enhancing the Integrated Atlantic Ocean Observing System – AtlantOS; and South Atlantic Meridional Overturning Circulation – SAMOC

Talking to citizens

On the topic about *Talking to citizens* the presenters were *Dr Ana Noronha; Dr Kogi Govender; Dr Danilo Calazans; and Mr Sveinn Margeirsson*. Discussions were mainly based on how to involve citizens in marine science and activities already under development in different countries. The main objective is to promote our citizens' understanding of the value of the Atlantic by promoting oceans literacy. As a proposal of this discussion the improvement of scientific literacy in the oceans, which will result in better behavior patterns among the beneficiaries of the science program citizens and their immediate communities. The way is work together and identify key stakeholders. The most important, to know where to go.

Food from the Atlantic Ocean

About *Food from the Atlantic Ocean*, *Dr Mafaniso Hara; Dr Andre Frainer; Dr Wagner Valenti; and Dr Isabel Sousa Pinto* showed the current scenarios in each study region and the main highlights converge to challenges and generic situations for all the regions.

Key species in each region was reported, as well as their socio-environmental and economic importance. Variações de dinâmicas de populações chave para as regioes e as implicações de segurança alimentar e socioeconômicas para as comunidades foram também elencadas. Cenários atuais de produção e programas em desenvolvimento na área de aquicultura foram

listados, como ClimeFish. For the aquaculture is need systems that produce food, using low amount of natural resources and energy, recycle wastes and generate ecosystem services at the same time, this is a challenge. The other discussion line was GENetic diversity exploitation for Innovative macroALGal biorefineries, the project shows other possibility for cooperation in the aquaculture.

Coastal zone management

Dr Diego Oliveira; Dr Martin Zimmer with Dr Werner Ekau; and Dr Arnaud Bertrand presented on *coastal zone management* and the highlights were mainly the need for an ongoing coastline conservation program, as in the example of Brazil - currently under development called PROCOSTA, which aims to monitor and manage coastline conservation. The group emphasized the importance of understanding a coastal resurgence system and the regulation of its ecosystemic effects on fisheries, especially. Thus, it is possible to understand on a large scale the functioning of ecosystem processes under climate change conditions.

Most countries share the same ecological, social and economic issues; in this scope, genuine multidisciplinary approaches at regional and local level should be included in international Atlantic networks.

The Atlantic Ocean encompasses a diversity of ecosystems from upwelling to oligotrophic areas by sharing/interacting we open the opportunity to detangle key processes in changing and threatened Oceans.

Round table discussions

Moderator: *Sigi Gruber (EU)*

Rapporteur: *Thato Mtshali (SA)*

Ashley Naidoo, DEA (SA)

Janice Trotte, DGDNTM (BR)

Gilles Lericolais, IFREMER (FR)

Thomas Schröder, Embassy of the Federal Republic of Germany

The socio-economic context in which we have to frame what we are doing must be hard-wired into this action from the beginning. We have the responsibility to give to the younger generation the tools to design the solutions of the future. Belem Partnership will be the protagonist to demonstrate how to act to fill major gaps in our knowledge of the ocean and ability to sustainable manage its resources and therefore be an important actor for the Decade for Ocean Science.

Wrap up day 1

Rapporteurs to present outcomes

Brief discussions

Reported in previous items

Tuesday, 24 July 2018

THEMATIC SESSION #3

Building the Belem Partnership: a reflection on the way forward, intervention activities, priorities, and most pressing needs.

Moderator: *Thomas Auf der Heyde (SA)*

Rapporteur: *Leticia Cotrim (BR)*

In the Third thematic session, at the second day of work in the Forum, the research community across the Atlantic presented and discussed possible specific interventions focused on which aspects of cooperation should be considered and prioritized considering the structure established by the Declaration of Belem

Horizon 2020 project proposals from the 2018 calls for an All Atlantic Ocean Research Alliance Flagship

Horizon 2020 Project Proposals invited to 2nd stage

Under the Horizon 2020 Program by the Blue Growth Call for Proposals 08 (BG8), the DG-RTD launched a research support front for the South Atlantic, and the selected proposals were presented. *Dr Murray Roberts, Dr Noel Keenlyside, Dr Daniele Iudicone, and Dr André Frainer* presented their proposals and goals for the contribution. The projects involve: to improve the observation system; improved climate prediction; increased understanding of functioning of the marine ecosystem; insights for management and policy; to strength the Atlantic researcher network; to form young researchers, among others.

Coordination and Support Action Project Proposal

Dr Sofia Cordeiro showed how *All Atlantic Ocean Research Alliance Flagship* can happen through coordination and support action project proposal, called AANChOR. All Atlantic Cooperation for Ocean Research and innovation – AANChOR is a project supported by EU H2020 call: BG-08-2018-2019 – All Atlantic Ocean Research Alliance Flagship, Topic A – “Coordination of marine and maritime research and innovation activities in the Atlantic Ocean, by launching a multi-stakeholder platform addressing key points”.

The consortium comprises mainly Ministries, funding agencies and other governmental bodies that are crucial to the strong commitment needed to implement the project activities. In addition, the consortium includes a European independent, scientific, nongovernmental organization to develop information exchange and information products in the field of marine sciences (EurOcean) and an intergovernmental European joint programming initiative on healthy and productive seas and oceans (JPIO). It also includes a consulting company with extensive contacts within the Brazilian research and innovation area. As the main objective, to support the framework established by the Belem Statement and its associated projects.

Sharing of infrastructure and technology

About the Data; some important questions were raised such as how we are going to work together with open data, open science and open knowledge. Infrastructures in particular being a central part of the discussion.

The theme was presented by the *Dr Janice Trotte; Dr Juanjo Dañobeitia; Dr João Sousa; and Dr Tommy Bornman*. They listed issues to better manage and share infrastructure and data. The main points highlighted were: sharing infrastructure makes it possible to produce quality science and building; the simultaneous acquisition of atmospheric and oceanic data from different places provides highly valuable information about processes at the ocean-atmosphere interface and for understanding, modelling, predicting variability in Atlantic climate; establish principles for the development of new partnerships and access to the needed infrastructure; and, ocean research infrastructure provides the foundation on which basic and applied marine research activities are carried out. They also provided examples of programs in development that provide integration and operation that it will increase visibility, capacity and research, offering

integrated services to a broad range of users like EMSO – European Multidisciplinary Seafloor and Water-column Observatory.

Training, mobility and human capacity building initiatives

About the training, mobility and capacity building initiatives, *Dr Marco Borra; Dr Juliet Hermes; Dr Priscila Lelis Cagni; and Dr Laura Recuero Virto* showed the developing actions and experiences from some programs. The main points highlighted were: i. to educate the next generation of research scientists through exposure and training on excellent infrastructures and services, as well as advanced technology; train researchers, also from the private sector, to utilize advanced technologies; to enhance the managerial competence and technical skills of the RI personnel; ii. provision of education and training services should be a point of inclusion in all Atlantic proposals; and, iii. it's important attract young researchers to the oceans thematic and retain them by exciting their interest in aspects of global change; while developing their capacity and professional skills in the relevant fields of investigation.

One of the ways of supporting these initiatives is facilitating the human capital development through public calls and to establish partnerships among countries focused on the international mobility focused on marine science with universities and funding agencies.

Student showcase next generation in ocean sciences

When it comes to disseminating and securing future generations of sustainability information, we have a responsibility to give the new generation the tools to design solutions for the future. This session discussed this issue and the students - *Daniele Miranda; Raíza Lopes Andrade; and Ricardo Miranda* - showcased the next generation in ocean sciences by presenting their research topics. The principal question for reflection was “What do you hope and most want from the Government to support you in a cooperation for the whole Atlantic?”.

THEMATIC SESSION #4

Supporting the Belem Partnership: dialogue with funders, marine institutes, networks and industry

Moderator: *Andrew Kaniki (NRF, SA)*

Rapporteur: *Laura McDonagh (EU)*

The Forth and last thematic session presented possibilities of support for the implementation of the Belem Declaration of foundations, research networks and private sector. *Dr Yonah Seleti; Dr Isabel Sousa Pinto; Dr Elisa Natola; Dr Anders Brudevoll and Dr John Hanus; Dr Sheila Heymans; Dr Roberto Marcondes; Dr André Abreu; Dr Alexandre Barragat; Dr Patrick Lavens; and Dr Flavio Andrade* were responsible for lectures on the subject. The foundations presented the actions developed regionally and possibilities of cooperation.

The main lines of action pointed out by the speakers are converging points in order to organize and structure the existing networks. The proposals listed in this respect were about: to integrate ocean governance and protection; to use good examples of the networks to promote integrated and multidisciplinary methods to address global challenges in the marine environment; how to promote stronger cooperation between research and innovation based on mutual benefit through collaborative projects, coordinated calls and twinning of projects; and to provide a

strategic platform for long-term alignment and cooperation in marine and maritime research and innovation, including funding to increase impact of investments.

Regarding aquaculture specifically, the listed actions were: establish a stronger relationship between the aquaculture industry and the consumer; assure a sustainable aquaculture sector; and, consolidate the role and importance of aquaculture in society.

Wrap up day 2

Rapporteurs to present outcomes

Brief discussions

Reported in previous items

Key messages and concluding remarks:

John Bell, Director of Bioeconomy, Directorate-General for Research and Innovation, European Commission

Thomas Auf der Heyde, Deputy Director-General, Department of Science and Technology, South Africa

Andrei Polejack, General Coordinator for Oceans, Geosciences and Antarctica, Ministry of Science, Technology, Innovation and Communications, Brazil

Overall the Forum was very constructive, with good energy, good discussions and perspectives for the future of our All Atlantic Ocean Research cooperation.

With over 150 stakeholders participating in the Forum from Europe, Brazil, South Africa, Cape Verde, Namibia, Angola, Argentina, Uruguay, and the United States, it was suggested that an All-Atlantic Forum be organized in Brussels next year.

It was clear that we have the partnerships, the capacities, the motivation and new ideas for implementing the Belem Statement however, a few **challenges** remain:

1. Impact – How can we maximize impact of research?

At the heart of all of this is research with a purpose. It is not only about excellent science (sine qua non), but also about demonstrating the socio-economic impact. Across initiatives there are needs to be a balance between focus on science and the focus on impact.

2. Innovation can be a key to increase impact of research. How can we ensure and incentivize innovation in all its forms (technological, organizational, etc.?)

John Bell and Sigi Gruber called to move away from a linear process for innovation, instead have co-creation process where users are involved from the start in the research design. Public engagement will be the key, but also dialogue with industry.

3. Measuring and defining success

What does success look like? How can we define concrete targets and indicators to measure our success and progress (e.g. SDG indicators)? We need to keep the sense of

urgency, we need to keep the motivation amongst all actors involved and that is why it is important to put clear milestones with concrete indicators in place.

Creating long term solutions through research and development which will last for generations, for example the creation of **long-term observations** was suggested to be the most important legacy we can leave for our next generation.

4. Communication and Outreach

How will we keep track and make sure that for example all the presentations are made available to the all Atlantic research community? Especially if we have over 1000 research teams working in and across the Atlantic Ocean by 2020.

Questions were raised such as who needs to be part of conversation? Which networks, partners, organizations? Linked to this is also the challenge of organizing and mapping all the ongoing initiatives/projects etc.

5. Other mechanisms that can support the implementation of the Belem Statement

How can we ensure that we use all instruments at our disposal? KICs, other departments? Private sector and industry? Development Banks?

6. Capacity Building and Training

The importance of capacity building, the access to education and training at all levels was evident, with summer schools, fellowships, Universities of the Sea, simplify exchange of personnel, etc., discussed.

7. Ensuring gender equality

Although the message was quite clear: just do it!! It's 2018 after all!