



## Special Session: Fostering Regional Engagement through Transdisciplinary Research

### 11<sup>th</sup> Western Indian Ocean Marine Science Association (WIOMSA) Symposium

#### Mauritius

05 July 2019

#### Background

The purpose of the meeting was to create further awareness of the Indian Ocean Rim Association (IORA) within the Western Indian Ocean (WIO) academic community, especially among early career scientists. The South African Chapter of the Indian Ocean Rim Association Academic Group (SA IORAG) had hosted a special session at the 10th WIOMSA Symposium in Tanzania in 2017, and therefore used this opportunity to build on this to further promote IORA and encourage greater academic participation within IORA.

The topic of the session was chosen in recognition of the need for research to be undertaken through identified challenges in society. Transdisciplinary research allows for the integration of various stakeholders and disciplines to address society's needs. The need for and benefits of transdisciplinary research was also highlighted in a number of the keynote addresses, as well as various sessions during the WIOMSA Symposium.

This activity formed part of SA's priorities through IORA to strengthen academic, science and technology cooperation within the region. The SA IORAG has promoted IORA at a number of events throughout the past two years, with this being one of the last activities as Chair of IORA. The visibility and momentum that this afforded the academic community within IORA will be taken forward post the SA Chair period.

In collaborating with the WIO Early Career Scientists Network (WIO ECSN) it was hoped that early career researchers would be made aware of the work of IORA and the opportunities presented through engagement with the Association.

#### Summary of the Meeting

The meeting was attended by the representatives from the IORA Secretariat, the SA IORAG and various emerging researchers from African IORA member states.

The meeting was opened by Prof Juliet Hermes, who invited Ms Tania Duba and Ms Marcelina Mushi, both WIO ECSN members, to provide their perspectives on why they saw transdisciplinary research as an important process. Their stories highlighted the importance of new ways of thinking



about science, considering the knowledge of local communities in research and the importance of conducting socially relevant research.

This was followed by a presentation by Prof Hermes on the importance of translating science into policy and some of the challenges and solutions to working within policy development. A good example of a successful science to policy input was the approval of 20 new marine protected areas by the South African Cabinet in late 2018.

Prof Narnia Bohler-Muller then presented on the recent study undertaken by the HSRC, and funded by the UK (an IORA Dialogue Partner), for IORA on the 'Blue Economy and Gender Empowerment'. The research team comprised of individuals from different disciplines and was presented as a case study of conducting transdisciplinary research.

Her Excellency Dr Nomvuyo Nokwe concluded the open remarks with an address which provided a brief background on IORA, the economic potential of the region and the importance of skills development for national and regional development, among other topics.

This was then followed by an open discussion session from participants. This was an interactive session with discussions on how the researchers could engage with IORA, possible capacity building opportunities and funding opportunities. The need for a regional research/capacity building focuses when applying to the Special Fund was highlighted.

## Outcomes/Recommendations

A key concern highlighted by participants was the lack of information nationally on IORA and not knowing who to contact nationally in regards to finding out information on IORA and how to be considered for participation within IORA training opportunities and procedures on applying to the Special Fund.

Considering the IORA Action Plan which lists goals as 'Strengthen the Indian Ocean Rim Academic Group (IORAG)', 'Strengthen cooperation with universities in the Indian Ocean', and 'Deepen collaboration amongst academic, business, government, civil society...', and items in a number of the IORA Blue Economy related declarations, Member States promoting IORA nationally could provide an easy opportunity to realise these goals.

It was suggested that IORA consider establishing a youth forum or network. This is something that was also put forward during one of the 'IORA Trade Modernisation Conference' sessions. With the establishment of the 'IORA Nelson Mandela be the Legacy Internship Programme', this could present an opportunity to promote the internship programme, as well as provide a platform for interns to stay in touch and share their experiences within IORA with their peers. This would help towards building and sustaining institutional knowledge of IORA within Member States.

## Attendance Register

### 11<sup>th</sup> WIOMSA symposium 2019 - University of Mauritius

#### IORA Special Session: Fostering a regional engagement through transdisciplinary research

**05 July 2019**

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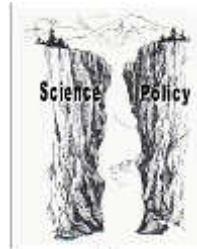


## BRIDGING THE RESEARCH-POLICY INTERFACE



## Why the need to bridge the gap?

- Policy-makers need scientific input in order to make informed political decisions and to address current challenges;
- Researchers have to engage with policy-makers in order to produce the required scientific input.



## What are some of the key issues?

- **Poor comprehension** of policy process and unrealistic recommendations
- **Ineffective communication** of research
- **Lack of incentive** for applicable and policy-oriented research publications



## What are some of the key issues?

- **Inadequate capacity**, as well as inadequate supply of, and access to, relevant information
- **Ignorance** or anti-intellectualism of politicians or bureaucrats; research is deemed unimportant, censored or controlled and some 'ways of knowing' are seen as more valid than others



### What are some of the key issues?

- **Politicisation of research**, using it selectively to legitimise decisions
- **Language that is not always appropriate** for the intended target audience
- **Gaps in understanding** between researchers, policy makers and public
- **Different time-horizons**, time lag between dissemination of research and impact on policy



	Scientist	Policy Maker
<b>Target (3 P's)</b>	<ul style="list-style-type: none"> <li>•Publications</li> <li>•Patents</li> <li>•Professorships</li> </ul>	<ul style="list-style-type: none"> <li>•Policy</li> <li>•Practice</li> <li>•People</li> </ul>
<b>Language</b>	Greek letters, mathematical symbols	Acronyms, which are defined by other acronyms
<b>Time perception</b>	The longer time to research, the better the quality	Answers are always needed instantly

Source: Choi BCK, Pang E, Liu Y, Park J, Sherman S, Goddard M, Ashford HJ, Sambury P, Suchman S, Morrison H, Clancy C. 2005. Can scientists and policy-makers work together? Journal of Epidemiology and Community Health 59: 632-637

### Conversation with a Policymaker

My research tells you what to do. This is an important issue.

I can't understand these data tables and I have about 20 important issues on my plate.

Disappointed mutual expectations.

Researcher

Policymaker



### Solutions



At what point should we consider transdisciplinary to also include stakeholders from the beginning of the research/policy project - engage in co-creation of research, co-production of terms of references

- Needs to be regular and open communication of all sides involved throughout the entire duration of a project – a good stakeholder relations plan
- Training on creating policy relevant outputs
- Training on how to access and utilize scientific evidence (eg ACCESSlabs);



## Solutions



- Knowledge brokering,
- Doing science within government,
- Grant funding requiring dissemination, strategies and policy-relevance,
- Rewards for positions papers as well as standard peer reviewed journals,
- One page policy briefs



## Why do it



<https://www.publicpolicy.cam.ac.uk/pdf/policy-impact-guide>

- Promote the value and usefulness of your research
- Strengthen the case for research funding
- Shape further research needs and priorities
- Showcase yourself and your institute
- Strengthen links with other researchers
- Understand how to make your research more impactful
- Make your role more interesting and challenging



## How to do it



<https://www.publicpolicy.cam.ac.uk/pdf/policy-impact-guide>

- **Target** Identify the policy-makers where your research might be relevant, and learn the basics about what their agendas are and how they use research. And keep this knowledge up-to-date. Agendas can change quickly.
- **Timing** Understand the policy-makers' process, and align the timing of your contribution to it.
- **Tailor** Make your input relevant and digestible. Do not "dumb down" – but assume that you are dealing with a non-technical audience. Help them "join the dots" to see how and why your research is relevant to them.



## Useful Tips:



<https://www.publicpolicy.cam.ac.uk/pdf/policy-impact-guide>

- Try to **understand the motives and objectives of policy makers**
- Think about contributing to a government body (committee, department) as a **specialist adviser**
- Do some background reading in order to **understand the policy process** better
- **Case studies show how varied impact can be**; remain open-minded as to different approaches and processes
- **Develop your networking skills and contacts, as the policy-making system is complex**
- **Talk to other researchers, NGOs and practitioners about your policy issue – be visible and persevere**



## How can you start

## Thank you



### References

- The Interface between Research and Policy-Making in South Africa - Exploring the institutional framework and practice of an uneasy relationship. Grimm et al., 2018
- Bridging the science-policy interface : a new era for South African research and the role of knowledge brokering : research article, Godfrey et al, 2010
- <https://www.publicpolicy.cam.ac.uk/pdf/policy-impact-guide>







## Fostering Regional Engagement through Transdisciplinary Research A CASE STUDY: Lessons Learned

Special Session: WIOMSA 11th Scientific Symposium  
University of Mauritius  
5 July 2019

Professor Narnia Bohler-Muller

## Human Sciences Research Council

*As South Africans we can achieve anything we wish, including putting human and social science research into action, as we put our minds to it and work together with a common purpose to uplift our people beyond inequality and gender differences.*

Our mandate is to inform the effective formulation and monitoring of government policy; to evaluate policy implementation; to stimulate public debate through the effective dissemination of research-based data and fact-based research results; to foster research collaboration; and to help build research capacity and infrastructure for the human sciences. The Council conducts large-scale, policy-relevant, social-scientific research for public sector users, non-governmental organisations and international development agencies. Research activities and structures are closely aligned with South Africa's national development priorities.

The HSRC's integrated research programmes provide single points of entry – complete with a critical mass of researchers – for interdisciplinary, transdisciplinary and problem-orientated research in the following areas:

### Research Programmes

Africa Institute of South Africa  
Centre for Science, Technology and Innovation Indicators  
Democracy, Governance and Service Delivery  
Economic Performance and Development  
Education and Skills Development  
HIV/AIDS, STIs and TB  
Human and Social Development  
Population Health, Health Systems and Innovation



## Transdisciplinary research



## A Blue Economy for Women's Economic Empowerment

PIs: Joleen Steyn Kotze & Narnia Bohler-Muller

Researchers: Dr. Steven Gordon, Dr. Emmanuel Sekyere, Dr. Gavaza Malukele, and Ms. Thobekile Zikhali



## Core research team

### Principal Investigators

Joleen Steyn Kotze : Professor of Political Science  
Narnia Bohler-Muller : Law Professor

### Researchers

Dr. Steven Gordon : Social Science (quantitative)  
Dr. Emmanuel Sekyere : Economics  
Dr. Gavaza Malukele : Philosophy/ Gender Studies  
Ms. Thobekile Zikhali : Political Studies

## Priority areas of IORA

- Six priority areas
- Blue Economy and Women's Economic Empowerment are cross-cutting issues in the six priority issues
- The Blue Economy is the vehicle through which member states look to address mutual development aspirations
  - Includes inclusive growth and sustainable development.



## Outline

	Introduction and Background	Overview of project assignment Methodology
	Unpacking the Blue Economy for Women's Economic Empowerment	
	State of women in the Blue Economy	
	Women's Economic Empowerment in the Blue Economy: A Secondary Data Analysis	
	Advancing women's economic empowerment through the Blue Economy: Elite Stakeholder Interviews	
	Mapping the way forward: Conclusion and Recommendations	

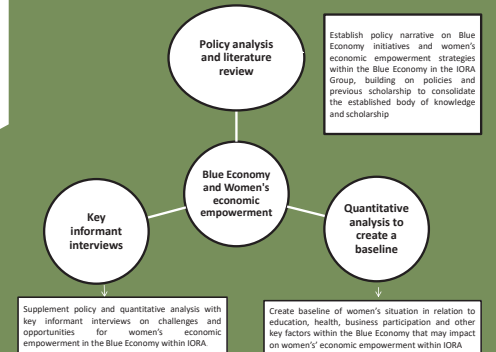
## Sectors of the Blue Economy



## Introduction and Background

Priority Area	Flagship Initiatives		
	Short Term	Medium Term	Long Term
Blue Economy	<p>Establish an IORA Working Group on Blue Economy.</p> <p>Implement the outcomes of the Blue Economy Core Working Group Workshops, as well as Ministerial and High-Level Expert Meetings.</p>	<p>Develop appropriate mechanisms of cooperation for sustainable development of Blue Economy sectors, including training and capacity-building programmes.</p>	<p>Improve livelihoods of coastal communities through capacity-building programmes.</p>
Women's Economic Empowerment	<p>Establish an IORA Working Group on Women's Economic Empowerment.</p> <p>Establish a women's business forum in the Indian Ocean Rim Business Forum.</p>	<p>Establish cooperation with UN Women and relevant organisations for capacity-building and information exchange.</p> <p>Champion initiatives to increase women's economic empowerment such as the Women's Empowerment Principles.</p> <p>Implement training and capacity-building programmes.</p>	<p>Organise activities to strengthen women's economic capacity and participation in businesses.</p>

## Methodology



## Project Assignment

- HSRC of South Africa, a statutory science council, responded to a call for proposals by the the Foreign and Commonwealth Office for technical assistance on the topic "Strengthening women's economic empowerment in the Blue Economy, specifically in the Indian Ocean". Specific objectives of the project were:
  - Delivering an outcome report that contributes to the crosscutting themes of Blue Economy and women's economic empowerment, based on the IORA Action Plan 2017 - 2021.
  - Provide technical advice and support on women's economic empowerment issues in the Indian Ocean's Blue Economy to the IORA Secretariat and Academic Group, acting as subject matter expert.
  - Attend selected meetings and visits to the IORA Secretariat to provide technical input on women's economic empowerment issues in the Indian Ocean's Blue Economy.

## Conceptualising the Blue Economy and Women's Economic Empowerment

### The Blue Economy

- Concept that looks to advance economic development and social inclusion, and to enhance livelihoods while working to ensure the environmental sustainability of the oceans and coastal territories
- Key component is its emphasis on recognising that the ecosystem services provided by the ocean are essential global priorities, and have both intrinsic and fiscal qualities that support well-being and development
- As an alternative model of development, a "paradigm shift, the idea that the Blue Economy may generate employment and facilitate inclusive and sustainable growth dominates international policy discourse



### Lessons Learned (1)

*Professor Joleen Steyn-Kotze, Senior Research Specialist, HSRC*

Questions of gender inequality require a transdisciplinary approach, especially when one engages in research that seeks to advance women's empowerment within the policy realm. The IORA "A Blue Economy for Women's Economic Empowerment" employed a three-pronged approach to facilitate a holistic understanding of issues facing women in the Indian Ocean's Blue Economy and to facilitate recommendations that could speak to relevant policy interventions for women's empowerment in this region. A key first step was to draw on policy study approaches which sought to determine the policy narrative on women's economic empowerment and identify potential gaps that may undermine achieving the goal of a gender equal IORA. To this effect, we also drew on feminist approaches that focus on gender mainstreaming when engaging in policy analysis, most notably the four Rs of Rights, Representation, Resources, and Reality. Employing this technique allowed one to determine which methodologies to use in providing a holistic overview of the state of women in IORA.

This project also engaged in quantitative analysis to assess access to resources, participation in employment and leadership, decision-making ability, education, domestic and unpaid care work, and health. These factors are important as they impact on the ability of women to pursue their life dreams and affect the choices and opportunities available to them. The transdisciplinary methodology we employed provided a solid understanding of the opportunities and challenges women face in accessing opportunities in the Blue Economy for their economic empowerment. Further to this, it allowed us to make relevant recommendations in line with the four Rs of gender mainstreaming to strengthening future policy interventions for women's economic empowerment in the Indian Ocean's Blue Economy.



### Lessons learned (2)

*Dr Emmanuel Sekyere, Chief Research Specialist, HSRC*

The main challenge Blue Economy Research in general faces, beside its multi-dimensional and transdisciplinary outlook is the fact that it is a new area of research. As a result research on other related critical dimensions to the Blue Economy such as issues of gender and women economic empowerment in the context of the blue economy are virtually non-existent. Although significant volumes of literature exists on gender and women empowerment in general, direct applicability to the Blue economy is still absent. This calls for intensified effort to produce knowledge that is blue economy specific to serve as existing precedence on which further research work can be built and developed.

In this regard the absence of relevant data emerges as the most woefully lacking research tool. IORA member countries do not keep "up to date" data on several general women empowerment variables and indicators, let alone data specific to the Blue economy and its related industries and sectors. This is a major setback for blue economy related research that has to be tackled urgently and comprehensively.

## Lessons Learned (3)

**Thobekile Zikhali, Research Specialist, HSRC**

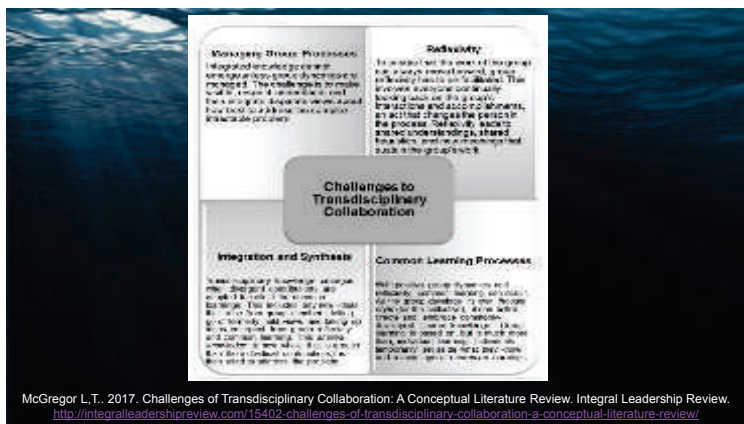
Transdisciplinary research goes beyond interactions between academic disciplines, i.e. natural and social sciences (interdisciplinary) and includes the impeccable interactions between science and diverse societal actors such as citizens, policy players, and industries. This creates room for shared understanding of the problems faced. Mono disciplinary approaches rob the Blue Economy of its essence which often leads to biased or distorted realities. As envisioned in the upcoming ten year United Nations 2021-2030 framework (the UN Decade of Ocean Science for Sustainable Development) "science should go beyond the laboratory to meet the needs and concerns of the diverse actors that make up the ocean community".

Addressing issues such as the marginalisation of women and other vulnerable groups should be nuanced in qualitative research. Conversations with these groups, in their social setting brings flesh to the 'bones' that most quantitative researchers are often accused of creating. For example, understanding the number of women who are unfairly paid or discriminated within the Blue Economy does not dig deeper to the real life challenges faced as well as opportunities available in the industry. In this case, effective participation of all relevant stakeholders and indigenous knowledge would be important in developing and encouraging courageous approaches such as transdisciplinarity.

Thank  
You

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McGregor L.T., 2017. Challenges of Transdisciplinary Collaboration: A Conceptual Literature Review. *Integral Leadership Review*. <http://integralleadershipreview.com/15402-challenges-of-transdisciplinary-collaboration-a-conceptual-literature-review/>

**Special Session: Western Indian Ocean Marine Science Association**

**11<sup>th</sup> Scientific Symposium**

**University of Mauritius**

**5 April 2019**

**IORA: PROMOTING SKILLS DEVELOPMENT AND CAPACITY BUILDING  
IN THE INDIAN OCEAN REGION (IOR)**

**Prof Narnia Bohler-Muller, IORAG Chair**

**Associate Professor Juliet Hermes, South African Academic Group Chair**

**Ms Nicole Du Plessis, Project Coordinator and organiser for this event**

**Ms Tania Duba and Ms Marcelina Mushi, panellists**

**Delegates,**

**Ladies and Gentlemen**

My gratitude goes to the organizers of this Special Session on 'Fostering Regional Engagement through Transdisciplinary Research' being held during the 11<sup>th</sup> Western Indian Ocean Marine Science Association Scientific Symposium which is being organized by the South African Chapter of the Indian Ocean Rim Association Academic Group in collaboration with the Western Indian Ocean Early Career Scientists Network.

I am sure by now you know or are aware that, IORA was established on March 7, 1997 after the vision was pronounced by Tata Nelson Mandela (our intl icon) in Mauritius with an objective to strengthen regional economic cooperation in the Indian Ocean Region (IOR).

- IORA is a group of 22 Member States and 9 Dialogue Partners, and Italy is soon to join if endorsed by our COM this Oct 2019 as our 10<sup>th</sup> Dialogue Partners. IORA is vibrant, dynamic and fastly emerging as an apex body of the Indian Ocean. The growing interest shown by the developed countries of the world to join this organization as a Dialogue Partner this proves that IORA is becoming more strategic in importance.

Let me begin by providing an overview about IORA and the potential of this region. The per capita GDP rank for each of the twenty-two nations that are members of the Indian Ocean Rim Association stands out prominently as there is a huge range in terms of size and development across the region. The Indian Ocean is bordered by states ranging from the 7th highest per capita GDP in the world (Australia) to the 188th (Madagascar). The average ranking is 104, about half-way through the 198 countries for which GDP per capita is available. IORA Member States are at different stages of their level of development – Australia is our most developed economy; India is a fast growing major economy; Mauritius is upper middle income economy, Yemen and Somalia are Least Developed Countries in IORA. The percentage of the IORA's share in the world's GDP in 2019 is 10.14%- the figure has been rising since 2014 which shows the great potential of the Indian Ocean Region.

The population of the IORA region is 2.2 billion, with India accounting for 61% of the region and the three largest countries (India, Indonesia, and Bangladesh) accounting for 80% of the region's population. 30.17% of the world's population in 2019 is found in the member states of the Indian Ocean Rim Association. The population living in the 22 member states of IORA consisting of men, women, youth have different levels of education and living standards and live in areas of economic, social and cultural diversity.

The Indian Ocean is the third largest of the world's oceanic divisions, covering 70,560,000 km<sup>2</sup>. The oceans are a source of economic development includes the large territory created by the Exclusive Economic Zones (EEZ) of the Indian Ocean nations. EEZ's were authorized by the United Nations Convention on the Law of the Sea (UNCLOS), the 1982 agreement establishing the legal structure of the oceans. EEZ's may extend up to 200 nautical miles from the shoreline; within the EEZ the coastal state has exclusive rights to the resources to be found there including fisheries and minerals. The Indian Ocean EEZ's total is 26.7 million square kilometers, or about 38% of the entire Indian Ocean.

Therefore the Blue Economy was recognized as a high priority area at the 14th IORA Ministerial Meeting in Perth, Australia, on October 9, 2014. The following priority sectors have been identified, namely: Fisheries and Aquaculture; Renewable Ocean Energy; Seaports and Shipping; Offshore Hydrocarbons and Seabed Minerals; Marine Biotechnology, Research and Development; Tourism; with Ocean Knowledge Clusters and SIDS & LDC Programmes. In order to develop all these sectors, it is imperative to promote skills development and capacity building in the Indian Ocean Region. Only three nations (India, Indonesia, and Singapore have aquaculture production exceeding capture fisheries, and Indonesia clearly dominates in aquaculture, accounting for 62% of Indian Ocean Rim aquaculture. With 17,000 islands and 266,000 square kilometers devoted top aquaculture, this is not surprising.

Capacity building and skills development in Indian Ocean Rim Association is the foundation for the development of the region. The importance of capacity development cannot be understated, and it has to be institutionalised in IORA to foster transformational management, to make practices sufficiently regular to become 'institutions', to strengthen pilot practices into regular/ core business and to conceive a vision which goes beyond an exit strategy. Key measures and structures for capacity development and skills promotion need to be set up through:

- i) Capacity self-assessment framework for sustainable development involving all relevant stakeholders: institution, public, private and societal organisation including academic research and innovation institutions;
- ii) Capacity Development Performance M&E mechanism;
- iii) Regional capacity development strategies framework as a blueprint to promote regional synergies and value added in national capacity building initiatives;
- iv) Strengthening relationships with multilateral agencies like FAO,

We need to focus on the:

- i) Integrated Coastal Zone Management (ICZM) and Environmental and Social Impact Assessment (ESIA) and monitoring.
- ii) Global Sustainability and Multilateral Environmental Agreements: World class expertise in the management and mainstreaming of these covenants in national institutional and policy frameworks; including analysis, interpretation, communication, advocacy, negotiation, awareness building skills.
- iii) Disaster Risks Management: This is to enhance the preparedness and mitigation capabilities of the public and private sector as well as the householders against climate and weather induced disasters, which are increasingly more frequent, unpredictable and harsh in the region.
- iv) Community development: National Sustainable Development is often criticised of being theoretical and locked in a top-down approach. Empowering local administrations and stakeholders to take ownership of sustainability issues and solutions is the essence of Sustainable Development. It is intended to encourage local leadership and social innovations across the key issues of socioeconomic resilience and environmental management. This requires a comprehensive and coordinated policy intervention, with skill-related policies as the cornerstone of this package.

The intervention is purposed to conduct a regional stock taking module that will look at the existing information and data architecture, including technical and human resources so as to promote mutually enriching collaborations. It will capture opportunities for sharing



expertise and experiences in the setting up of modern information architectures such as the System of Environment and Economic Accounting (SEEA). The purpose of training is to expose relevant stakeholders to strategic fund raising, new financial mechanisms and grant proposal development techniques to enable them to source funding and technical partners. It will also emphasise the knowledge and skills needed to write project proposals for specific donor agencies and to muster the funding procedures of wide range of multilateral and bilateral development and donor agencies.

IORA has been focusing on training programs in order to ensure skills development and capacity building across the region. These programmes are being organised by the member states of IORA in which the participants are invited from the other member states to apprise themselves with the latest developments in the field of six priority areas and two cross cutting focus areas of IORA from time to time. During the recent past, IORA has organised training programs namely

- Strategic Planning for Ports Singapore, 29 Jan-02 Feb 2018,
- 'IORA Workshop on Improving Knowledge for Research on Blue Carbon in the Western Indian Ocean: Focus on Seagrass and Mangrove Ecosystems', Toliara, Madagascar, 29 April- 4 May 2019,
- 'IORA Training on Sustainable Development for Ports and Shipping in the Indian Ocean for Maritime Connectivity, Maritime Institute Malaysia (MIMA), Malaysia, 22-26 April 2019.

Further, I need not forget to add or may be point out that Digitalisation has a greater role to play in future for transforming the IORA economy as it is contributing and changing the profile of job market around the globe. The accelerated technological change is bound to make some workers redundant as well as creating new opportunities and jobs. In this context, some of the Member States of IORA namely Singapore, India, South Africa, Australia and Dialogue Partners: US, China, Korea, Germany can play a big role in providing opportunities for capacity building in these areas which are crucial for achieving higher and faster, sustainable and inclusive growth in the region. Reaping the full benefits of digitalisation will ultimately depend on the ability of each of IORA Member States to develop a set of policies that help workers adapt to these changes and develop relevant skills to thrive in digital world.

IORA's Member States are facing many training challenges, especially Least Developed Countries (LDCs) and Small Island Developing States (SIDS) and some of the developing economies. Training policies need to be framed to facilitate the transitions of workers whose jobs are at high risk of being automated into new and better-quality jobs. The governments in IORA need to find the right balance between policies that foster flexibility and labour mobility and policies that ensure job stability.

The universities/research institutions and academic group(s) in IORA can play a big role in bridging emerging skills gaps. It is also imperative to increase more investment in education and training programs; as well as providing more funds because of relative increase in training costs in recent years which varies from country to country in IORA. In my view, a regional, academic and research policy needs to be formulated by the Member States to meet the future growing challenges of skill-building and capacity building in the Indian Ocean Region (IOR).

Education is important to create a quality workforce; supporting business and industry; carrying out research and promoting technologies- leading to create a “knowledge Hub”- necessary for Sustainable Development in IOR. Fostering innovations necessary for Blue Economy; Trade and Investment linking technologies with society’s needs focusing on: Sustainability principles; Environment; Climate Change; Gender equality and Inclusivity. IORA needs to work on the future of education and formulate skills project keeping in view the Agenda 2030 and successfully implementing the Blue Economy in the region. Here, the important issues are: What knowledge, skills, attitudes and values will today’s students need to thrive and share their world; and how can instructional systems develop their knowledge, skills and attitudes and values effectively in order to make them prepared for the future which they want.

In addition to this, we need to undertake steps for strengthening the capacity building base of the Indian Ocean Region which may include: Making initial education forward-looking; Enhancing the ICT Infrastructure in schools; Improving teachers’ ability to use appropriate and innovative pedagogical tools by organizing training programs/workshops from time to time; focusing on Life-long learning for all; Coordinating Policy efforts and to promote Multidimensional skills; and training youth to gain the skills required to succeed in the emerging sectors of the future. It will also be appropriate to enhance the duration of the training programs from at least three to six months for the short term; and one year for medium term and three years for long term objectives to be achieved, although, it may enhance the direct and indirect costs of organizing such training programmes. But in my opinion, it is imperative to meet the newly emerging challenges of climate change, ocean acidification, plastic pollution to keep the health of the oceans in productive state as well as for the fulfilment of Sustainable Development Goals (SDGs) by 2030 in the Indian Ocean Region which comprises of Small Island Developing States (SIDS), Least Developed Countries (LDCs), emerging economies, developing economies and developed economies.

It is my understanding that in order to find the answers to the above questions, the universities/research questions and the academicians in IORA need to can play a big role. Therefore, I do appreciate of the South African Academic Group in organizing a special session on “Fostering regional engagements through transdisciplinary research.’ I am confident that South African IORAG will come up with useful and practical recommendations to promote transdisciplinary research in the region as well as related with

skill building and capacity building in the Indian Ocean Region (IOR). In this context, the initiative undertaken by the Chair in Indian Ocean Studies (CIOS) for having a MoU with Virtual Educa which focuses on innovative projects in the fields of education and training for human development and social inclusion. I hope that this MoU will be soon materialized after receiving the feedbacks from the Member States of IORA and its approval by the CSO.

Skills are crucial to thrive in a world of work and society. Skills help bridge social divides in the access and use of digital devices. A growing number of everyday activities can be performed online. People should be able to build the skills they need to join the digital world. A good level of literacy, numeracy, and problem-solving skills in technology-rich environments is the key that allows people to unlock all the benefits of Internet use and use of Internet in diversified and complex ways rather than just for information and communication. But the countries are unequally prepared to seize the benefits of digital transformation and new emerging sectors and developments in the region. Developing a comprehensive policy package with skills-related policies may help to transform the IORA economies which may bring many opportunities for new learning and newly emerging employment potentials.

Wishing for the fruitful discussions and very productive outcomes which may be helpful in fostering regional engagement through transdisciplinary research in the Indian Ocean Region.

Thank you.



# Fostering Regional Engagement through Transdisciplinary Research

Special Session  
Western Indian Ocean Marine Science Association  
11th Scientific Symposium  
Mauritius  
University of Mauritius  
05 July 2019  
11:00-13:00

*South African Chapter of the Indian Ocean Rim Association Academic Group in  
collaboration with the Western Indian Ocean Early Career Scientists Network*



science  
& technology

Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA



SAEON  
South African Environmental  
Observation Network

# FOSTERING REGIONAL ENGAGEMENT THROUGH TRANSDISCIPLINARY RESEARCH

South Africa assumed the Chair of the Indian Ocean Rim Association (IORA) in October 2017 and will be Chair until October 2019. For the same period, South Africa will also be chairing the IORA Academic Group (IORAG) and has established a South African Chapter of the IORAG (SA IORAG), along with national working groups which focus on research themes in the IORA priority areas of: Maritime Safety and Security; Trade and Investment Facilitation; Fisheries Management; Disaster and Risk Management; Academic Cooperation, Science and Technology; Tourism and Cultural Exchanges; Transformation and Gender Equality (cross-cutting theme); and Blue Economy (cross-cutting theme).

South Africa seeks to engage with other African Member States to create partnerships within IORA, focusing on topics relevant to African Member States - human capacity development and youth engagement are priorities within many of the member countries. The SA IORAG has engaged with the Western Indian Ocean Early Career Scientist Network (WIO-ECSN) to develop a session around a topic of interest to young researchers - Transdisciplinary Research. This special session is being undertaken through the SA IORAG focus group for Academic Cooperation, Science and Technology.

Transdisciplinary Research is defined as 'research efforts conducted by investigators from different disciplines working jointly to create new conceptual, theoretical, methodological, and translational innovations that integrate and move beyond discipline-specific approaches to address a common problem'. Transdisciplinarity is envisioned as a complement to ongoing discipline-based scientific inquiry that might lead to a different, higher, plane of inquiry, and enable different questions to be asked.

The SA IORAG hosted a special session at the 10th WIOMSA Symposium in Tanzania in 2017, and is excited to build on this, and other initiatives, to further promote IORA and encourage greater academic participation under the umbrella of the Association.





# Program

RAPPORTEUR - MS NICOLE DU PLESSIS

**WELCOME**

MS NICOLE DU PLESSIS

**BRIDGING THE RESEARCH-POLICY  
INTERFACE**

PROF JULIET HERMES

**GRAPPLING WITH TRANSDISCIPLINARY  
RESEARCH AS A YOUNG RESEARCHER**

MS TANIA DUBA

**TRANSDISCIPLINARY RESEARCH CASE  
STUDY: BLUE ECONOMY AND WOMEN'S  
ECONOMIC EMPOWERMENT - BENEFITS  
AND CHALLENGES**

PROF NARNIA BOHLER-MULLER

**IORA: PROMOTING SKILLS  
DEVELOPMENT AND CAPACITY BUILDING  
IN THE INDIAN OCEAN REGION**

HER EXCELLENCY DR NOMVUYO NOKWE

**PANEL DISCUSSION & QUESTIONS FROM  
THE AUDIENCE**

MS TANIA DUBA, MS MARCELINA MUSHI,  
PROF NARNIA BOHLER-MULLER, HER  
EXCELLENCY DR NOMVUYO NOKWE -  
MODERATOR, PROF JULIET HERMES

**CLOSING**

MS NICOLE DU PLESSIS

# Her Excellency Dr Nomvuyo Nokwe

IORA  
SECRETARY GENERAL



H.E. Dr Nomvuyo Nokwe is a dynamic and client-focused diplomat with broad experience and substantial success in driving economic diplomacy and engaging with governments and communities.

She has previously served as the South African High Commissioner to Mauritius and Seychelles from 2011-2016 and Consul General in Milan, Italy from 2006-2011.

Earlier, Dr Nokwe was a medical doctor (MBCHB) and completed her studies at the Martin Luther University of Halle-Wittenberg, Germany. She worked in several locations in Germany, Ghana and Zambia, including as a Military Senior Medical Officer (Anaesthetist) in Accra (1990-1999), and in the South African Liberation Community (1985-6 and 1977-80).

She is fluent in English, German, Xhosa and intermediate French.

She assumed the role of IORA Secretary General on January 31, 2018.

# Prof Narnia Bohler-Muller

IORAG CHAIR



Professor Narnia Bohler-Muller holds the degrees of BJuris LLB LLM (UPE) LLD (UP). Previously she was Professor of Law at Vista University and Nelson Mandela Metropolitan University (NMMU) before joining Africa Institute of South Africa (AISA) as research director of social sciences in February 2011. Currently she is Executive Director of the Democracy Governance and Service Delivery research programme at the Human Sciences Research Council, an adjunct Professor of the Nelson R Mandela School of Law at the University of Fort Hare and a Research Fellow with the Centre for Gender and Africa Studies, University of Free State.

Prof Bohler-Muller has over 100 peer reviewed journal publications and book chapters, and has co-edited five books. She is an admitted Advocate of the High Court of the Republic of South Africa and served as presiding officer for the Private Security Industry Regulatory Authority (PSIRA) in Port Elizabeth for 7 years. Amongst others she has completed research consultancy work for the Department of Justice and Constitutional Development on HIV/AIDS, human rights and access to justice; and the Institute for Child Witness Research and Training on gender-based violence.

She has completed research fellowships at Griffith University's law faculty in Brisbane, Australia; Birkbeck School of Law in London, UK; and the BRICS Policy Centre in Rio de Janeiro, Brazil.

Prof Bohler-Muller has represented South Africa in multilateral fora such as BRICS (Brazil, Russia, India, China, South Africa) and is Chair of the Academic Group of IORA (Indian Ocean Rim Association). She has represented South Africa in the last two W20 Dialogues in Argentina and Japan. Her recent books include Bohler-Muller, N., Cosser, M., and Pienaar, G. (2018) *Making the Road by Walking: The Evolution of the South African Constitution* Pretoria University Law Press and Attri, V.N., and Bohler-Muller, N. (2018) *The Blue Economy Handbook of the Indian Ocean Region Africa* Institute of South Africa Press.

Her research interests include international and constitutional law, human rights, democracy, governance and social justice. In 2016 she was shortlisted as one of 14 candidates for the position of Public Protector.



# Associate Prof Juliet Hermes

SA IORAG CHAIR



Associate Professor Juliet Hermes is the node manager and principle oceanographer at the South African Environmental Observation Network (SAEON) Egagasini Node.

Juliet's responsibilities include developing and maintaining the science plan, observation and modeling programs and carrying out research, writing project proposals, supervising students and interns, providing leadership (both scientific and business) to permanent staff and contract positions, Professional Development positions and Postdocs, managing the budget and data, networking, sitting on various national and international advisory boards and committees, education outreach, capacity building, reporting to the South African National Research Foundation, as well as researching climate variability using long term observations and models.

Her main research interests are investigating the Agulhas Current and the South West Indian Ocean through modelling and observations but she loves anything to do with research involving the oceans surrounding South Africa.

Juliet really enjoys lecturing and supervising students and explaining theories in a way that can be applied and understood and is passionate about capacity development and transformation of marine science in South Africa and globally, as well as facilitating collaborations, networks and opportunities that enhance people's growth within marine science. When she's not studying the ocean Juliet is surfing it!

Juliet is the Chair of the South African Chapter of the Indian Ocean Rim Association Academic Group (SA IORAG).

# Ms Nicole du Plessis

SA IORAG  
PROJECT COORDINATOR



Nicole du Plessis is a honours graduate in oceanography from the University of Cape Town. Her previous experiences includes marine mammal conservation and coastal management. She is currently a masters candidate at the Cape Peninsula University of Technology (CPUT), with her thesis focusing on the development of oceans economies in the Western Indian Ocean.

Nicole is the Project Coordinator for the South African Chapter of the Indian Ocean Rim Academic Group (SA IORAG). She coordinates the daily operations of the academic group as well as representing the SA IORAG at various national and international fora. She has co-authored a chapter in the recently published '*The Blue Economy Handbook of the Indian Ocean Region*'.

# Ms Tania Duba

PANELIST



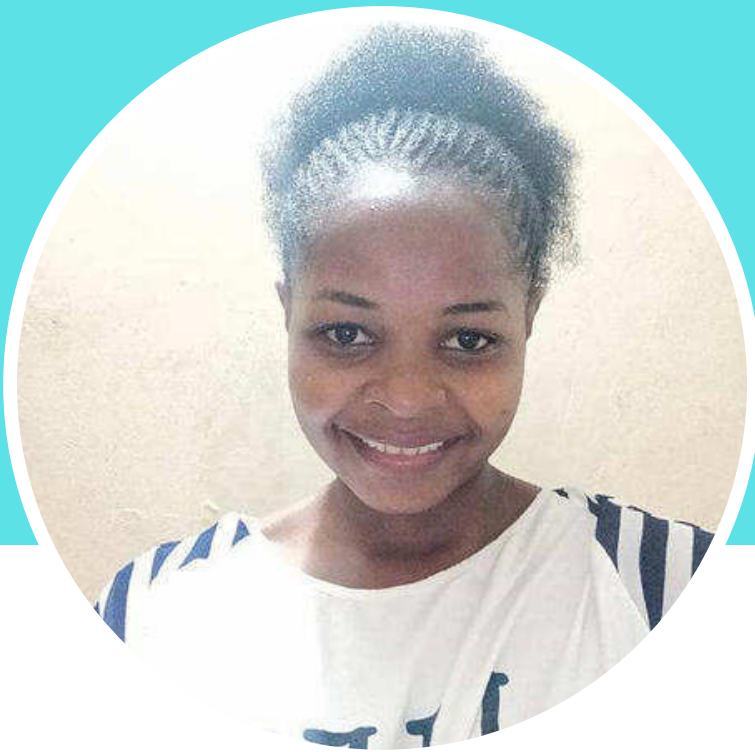
Tania is a honors graduate in oceanography from the University of Cape Town (UCT) and is in the process of completing her MSc at UCT titled *Climate and environmental change along the east coast of South Africa: perspectives from local marine resource dependent community and scientific efforts*. She is currently the climate change intern working with Assoc. Prof. Juliet Hermes at SAEON.

She is passionate about the relations between science and society. Her primary project at SAEON is on "People and Climate" with the aim of showing the relevance of climate research in society as well as bringing up the climate issues faced by the society as priority areas for research. The central focus is to expose scientific researchers to the difficulties that society may face to engage with scientific research in a meaningful way and to decentralize research skills for the inclusion of the broader society to scientific research.

Tania is the Country Coordinator for South Africa within the WIO-ECSN.

# Ms Marcelina Mushi

## PANELIST



Marcelina Felix Mushi is a masters graduate in Marine Sciences from the Institute of Marine Sciences, University of Dar es Salaam. She calls herself an young Interdisciplinary scientist who has gained knowledge from different perspectives through being involved in different research disciplines such as oceanography ,e.g. she has taken part in the South Africa cruise though IIOE-2; the Nansen programme; participation in SOLSTICE project activities; and is currently working on a Seagrass Protection Project as a PhD student.

She has conducted social science research titled: Social Values and Traditional Governance of Mangroves in Moa and Mahandakini Communities of Tanga, Tanzania. She is also knowledgeable on the use of GIS and Remote Sensing tools, SPSS and other software to analyse oceanographic and coastal data.

She is the Country Coordinator for Tanzania within the WIO-ECSN. As the coordinator she promotes coastal and ocean related opportunities to her members so as to accelerate capacity building and builds networks which has been noticed as essential ways of promoting new knowledge and development initiatives for early career scientists looking for capacity building opportunities.

Heartfully, her happiness is to see more women involved in and getting equal opportunities when engaging in marine and coastal research and opportunities in coastal and marine research being filled by young early researchers through networking and capacity building. As a young Scientist she is looking forward to working with different stakeholders to build and strengthen her capacity In coastal and marine science disciplines.

Her passion is communicating scientific knowledge to local communities, especially oceanographic and coastal outputs. As a woman she is proud to of work within the marine and coastal environment - "Any woman out there please join me so as to increase the number of women in Marine sciences".

"SHE CAN, YOU CAN. THEY CAN, WE CAN. LET'S MAKE A DIFFERENCE"

# SAIORAG EVENTS

## ACADEMIC ENGAGEMENT



## **Indian Ocean Rim Association**

The Indian Ocean Rim Association is an inter-governmental organisation which was established on 7 March 1997 (then known as the Indian Ocean Rim Association for Regional Cooperation or IOR-ARC). The IORA Secretariat is based in Mauritius.

The vision for IORA originated during a visit by late President Nelson Mandela of South Africa to India in 1995, where he said, 'the natural urge of the facts of history and geography should broaden itself to include the concept of an Indian Ocean Rim for socio-economic cooperation...!'

IORA's apex body is the Council of Foreign Ministers (COM) which meets annually. A Committee of Senior Officials (CSO) meets twice a year to progress IORA's agenda and consider recommendations by Working Groups and forums of officials, business and academics to implement policies and projects to improve the lives of people within the Indian Ocean Member States.

The IORA Charter was amended in 2018 to reflect the new Member State and Dialogue Partners as well as the new functional bodies.

### **FUNCTIONAL BODIES**

- Indian Ocean Rim Academic Group (IORAG)
- Indian Ocean Rim Business Forum (IORBF)
- Working Group on Trade and Investment (WGTI)
- Working Group on Women's Economic Empowerment (WGWEE)
- Working Group on Maritime Safety and Security (WGMSS)
- Working Group on the Blue Economy (WGBE)
- Core Group on Tourism (CGT)
- The Indian Ocean Dialogue (IOD)

# Indian Ocean Rim Association

## LIST OF MEMBER STATES, DIALOGUE PARTNERS, AND OBSERVERS OF THE INDIAN OCEAN RIM ASSOCIATION

### **Member States:**

Commonwealth of Australia  
People's Republic of Bangladesh  
Union of the Comoros  
Republic of India  
Republic of Indonesia  
Islamic Republic of Iran  
Republic of Kenya  
Republic of Madagascar  
Malaysia  
Republic of Maldives  
Republic of Mauritius  
Republic of Mozambique  
Sultanate of Oman  
Republic of Seychelles  
Republic of Singapore  
Federal Republic of Somalia  
Republic of South Africa  
Democratic Socialist Republic of Sri Lanka  
United Republic of Tanzania  
Kingdom of Thailand  
United Arab Emirates  
Republic of Yemen

### **Dialogue Partners:**

People's Republic of China  
Arab Republic of Egypt  
Republic of France  
Federal Republic of Germany  
Japan  
Republic of Korea  
Republic of Turkey  
United Kingdom of Great Britain and Northern Ireland  
United States of America

### **Observers:**

Indian Ocean Research Group

## Indian Ocean Rim Association

The objectives of IORA are,

- (a) to promote the sustained growth and balanced development of the region and of the Member States, and to create common ground for regional economic co-operation;
- (b) to focus on those areas of economic co-operation that provide maximum opportunities to develop shared interests and reap mutual benefits. Towards this end, to formulate and implement projects for economic co-operation relating to trade facilitation and liberalization, promotion of foreign investment, scientific and technological exchanges, tourism, movement of natural persons and service providers on a non-discriminatory basis; and the development of infrastructure and human resources inter-alia poverty alleviation, promotion of maritime transport and related matters, cooperation in the fields of fisheries trade, research and management, aquaculture, education and training, energy, IT, health, protection of the environment, agriculture, disaster management;
- (c) to explore all possibilities and avenues for trade liberalisation, to remove impediments to, and lower barriers towards, freer and enhanced flow of goods, services, investment, and technology within the region;
- (d) to encourage close interaction of trade and industry, academic institutions, scholars and the peoples of the Member States without any discrimination among Member States and without prejudice to obligations under other regional economic and trade co-operation arrangements;
- (e) to strengthen co-operation and dialogue among Member States in international fora on global economic issues, and where desirable to develop shared strategies and take common positions in the international fora on issues of mutual interest;
- (f) to promote co-operation in development of human resources, particularly through closer linkages among training institutions, universities and other specialised institutions of the Member States; and
- (g) to seek to reinvigorate the Association by progressing the prioritised agenda decided upon at the Council of Ministers' meeting in Bengaluru in November 2011. That meeting gave a focused direction towards formulation of a dynamic road map of cooperation, in line with the growing global emphasis on the unique geo-strategic primacy of the Indian Ocean Rim.





**Document compiled by:** Nicole du Plessis

**Contributions:** Thank you to all participants appearing in the booklet for the contributions of their professional profiles.

**For additional information contact the SA IORAG Secretariat:**

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