

Quarter 4 Newsletter 2022

Institute for Coastal and Marine Research (CMR)

As 2022 is nearing a close, we look back on CMR activities and successful events held in the last quarters of the year. We share them in this newsletter, together with progress on CMR projects.

Many new members have joined the CMR in recent months. We welcome all of you and very much look forward to growing interactions and collaborations!

We wish all our members a safe and happy festive season and holiday with your families and loved ones.

All the very best for 2023!



CMR Past Events

CMR Quarter 3 Seminar

Dr Ernita Flynn, CMR Research Associate, presented our Quarter 3 Seminar on the topic *Science-policy links for coastal research: an urban, multi-level governance perspective*. Dr Flynn's presentation offered reflections from two ICLEI scientists, focused on the supply of and demand for science in a complex, multi-level governance policy context. This event took place on 26 September via Zoom (14 attendees) and in-person (15 attendees). Recordings are available on the CMR website:

<https://cmr.mandela.ac.za/News-and-Events/Quarterly-Seminars>.



CMR Past Events

Seminar by Professor Erik Franckx

Professor Franckx was a guest from Prof Patrick Vrancken, invited by the Law Faculty to share with us his experience in seminar entitled *Lawyers and Scientists under the Law of the Sea: Transdisciplinary Ideal and Ensuing Practice*. Professor Franckx's talk closely looked at how the introduction of science in the definition of the continental shelf started a long and tortuous journey for courts and tribunals trying to determine how best to cope with these scientific aspects when deciding the many maritime delimitation cases. This took place in-person (3 attendees) and via Zoom (25 attendees) on 19 September. The recording is available: <https://cmr.mandela.ac.za/News-and-Events/Additional-Seminars>.

CMR Past Events

Heritage Month Seminars

September was celebrated nationally as Heritage Month, and the CMR hosted four separate sessions on Coastal Issues and Cultural Heritages by Professor Rose Boswell's students (Dr Jess Thornton, Dr Zanele Hartmann, Dr Elena Perez-Alvaro, Mr Bayanda Laqwela, Ms Anezia Asse, Ms Noluyolo Gqoza-Qwasha, Ms Rina Siyengwa, Ms Joyleen Sagandira, Ms Sharon Gabie, Mr Athabile Xuba, Ms Jentrix Chochy and Mr Charles Vonza) in celebration of this occasion. These took place online, via Zoom. The themes included:

- *Ports, Mega Ports and Services: 22 September (28 attendees).*
- *Underwater Cultural Heritage, Heritage in Maputo and Heritage in Namibia: 22 September (22 attendees).*
- *The Senses: 23 September (16 attendees).*
- *Capacity Building and Learning in Cultural Heritage Research: 23 September (19 attendees).*



CMR Past Events

UN GESAMP Workshop

The CMR hosted the UN GESAMP workshop *Potential role of atmospheric deposition in driving ocean productivity in the Southwest Indian Ocean*. This workshop took place at the Ocean Sciences Campus from 4 to 7 October, with over 30 participants from local and international institutions. On 4 October a regional capacity building session was held for regional and local students. The rest of the days included presentations and synthesis sessions. On 7 October two panel talks took place with national managers and decision makers.



Oldenburg University Visit

Nelson Mandela University and Oldenburg University celebrated their 25-year partnership in November. The CMR met with the delegation from Oldenburg University to discuss potential expansion and future of the collaboration as well as a roadmap for the next 5 - 10 years which will serve as the implementation plan going forward. The CMR team gave a short presentation, the delegation enjoyed a tour of the Ocean Sciences Campus and a lunch thereafter.

CMR Past Events

CMR Research Symposium

The annual CMR Research symposium took place in person for the first time in 3 years, on the Ocean Sciences Campus, and was very well attended with over 70 people in person and 34 virtual attendees. It took place during the university inaugural Research Week, on 9 November 2022, on the theme of Sustainable Futures. There were six talks that took place by CMR associates, as well as CMR Acting Director, Professor Pichegru and research chair, Professor Vrancken.



Past Events with Member Participation

Birdlife South Africa Webinar

CMR Research Associate Dr Tegan Carpenter-Kling (BirdLife South Africa) presented a talk on *Keeping track of our threatened seabirds* at a webinar hosted by BirdLife South Africa on 18 October 2022.

Oceans, Justice and Human Rights Conference

The Department of Public Law hosted this conference in collaboration with the SARChI Chair in the Law of the Sea and Development in Africa, the Warwick University Law School and the South African International Maritime Institute. It took place from 3 to 5 November on the Ocean Science Campus. This conference provided an opportunity for interdisciplinary discussions about the relationship between the oceans, justice and human rights, and covered a wide range of issues related to ocean governance, including sustainability, development, climate change, the human rights of people living in close proximity to the ocean and impacted upon by environmental violations, and climate and environmental justice.



Past Events with Member Participation

WIOMSA Symposium

The WIOMSA symposium took place between 10 and 14 October in Gqeberha, with many CMR members attending. The Special Sessions took place on the Ocean Sciences Campus on the 14th and hosted 750 participants, a great way to showcase our campus to the international marine scientific community.



Africa Climate Week

Professor Bernadette Snow presented Hub research findings at two events during Africa Climate Week: *Ocean and Climate Action: Adaptation and Resilience Practices and Tools Clinic* co-organised by Global Ocean Forum, Plymouth Marine Laboratory, and One Ocean Hub on 30 August. *Africa Climate Week Session 6: Harnessing nature for transformative adaptation in Africa*, 31 August, organised by the UNFCCC.



Past Events with Member Participation

Indigenous Peoples, Traditional Knowledge, and Ocean-Climate Action

CMR doctoral student, Ms Mia Strand, was one of the panelists for this event. This took place on 10 November. The panel practiced the art of listening through the stories and experiences of traditional and Indigenous knowledge holders from Namibia, Madagascar, Ghana, and South Africa. The panel encouraged a short discussion on participants' main take-aways, reflections, feelings, and thoughts after listening to the stories and interventions, and reflected on how different project methodologies can bridge the gap between traditional knowledge, intangible ocean heritage, and climate action.

Italy-South Africa bilateral workshop

The CMR hosted the Italy-South Africa bilateral workshop organised by the Italian embassy on 1 and 2 December on the theme of *Green solutions and marine biodiversity for a sustainable blue growth*. This took place in-person (30 attendees) and via Zoom (25 attendees). The recording of the workshop and presentations are posted on the CMR website: <https://cmr.mandela.ac.za/News-and-Events/Workshops>.



Professor Janine Adams - Update

African-German Partners for Ocean Knowledge and the United Nations Decade of Ocean Science for Sustainable Development (2021-2030) announced three winning projects of the 3rd MeerWissen Call for Proposals. Nelson Mandela University is proud to be a partner of the winning project: *"Nature based Solutions for Mitigation of Watershed Pollution: Cross-habitat facilitation by coastal seagrass meadows"* (SOMWAT).

Many members of the Shallow Water Ecosystems research group, including Professor Janine Adams, presented at the WIOMSA 2022 Conference.

Professor Adams recently presented at the Australian Mangrove and Saltmarsh Network (AMSN) Conference. The title of her talk was *Conservation & management of mangroves and salt marshes: Looking back to move forward.*

Dr Chijioke Olisah recently presented at the American Chemical Society (ACS) Fall 2022 National Meeting & Exposition, in Chicago. The title of his presentation was the *"Uptake of organophosphate pesticides by tissues of common reed – Phragmites australis and seagrass – Zostera capensis from polluted watersheds"*.

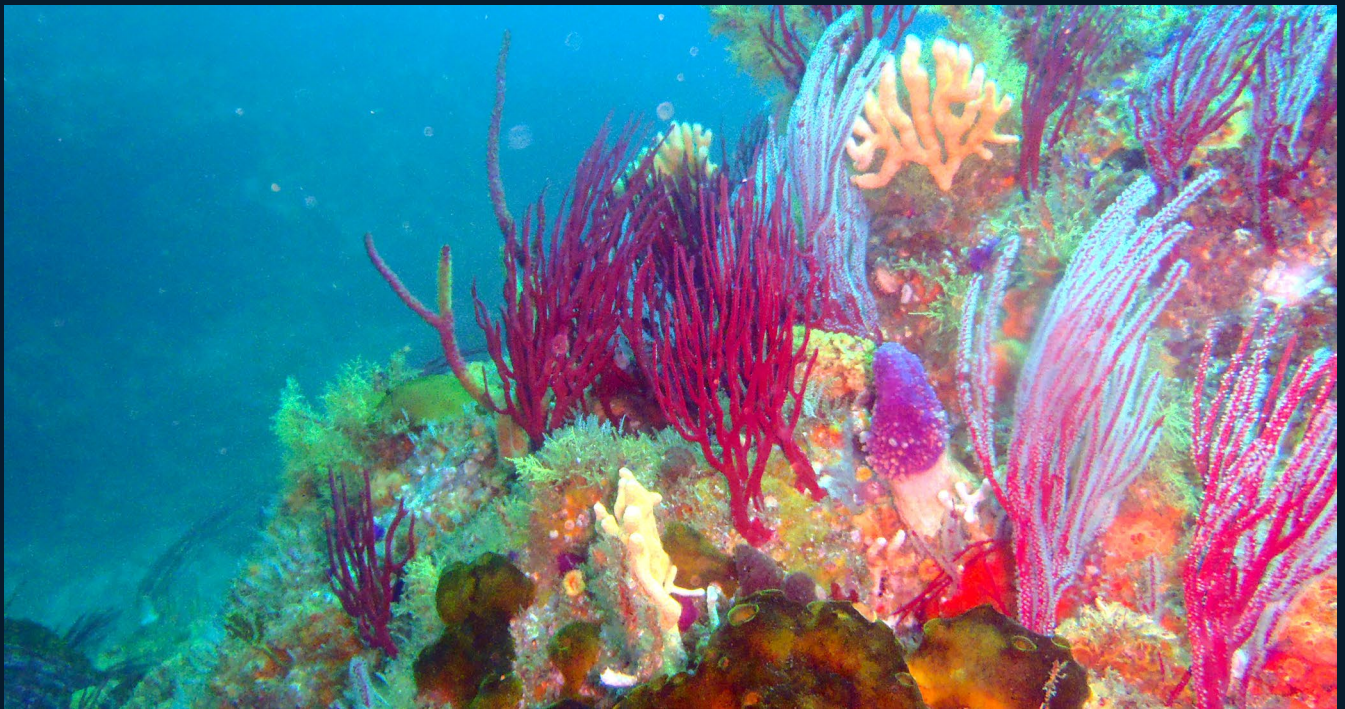
Manuela Amone-Mabuto, who is part of the Shallow Water Ecosystems research team completing her PhD in Mozambique, recently attended the 14th International Seagrass Biology Workshop: Chesapeake Bay. Her talk was on *Seagrass restoration experiments with Oceana serrulata.*



Professor Mike Roberts - Update

After 2 years of preparation, the Research Chair in Ocean Science and Marine Food Security is ready to start new ecosystem functioning research on the Mozambique shelf.

The shelf waters comprise warm subtropical surface water, which apart from the Sofala Bank which is influenced by rivers, are strongly oligotrophic. Consequently, the shelf ecosystems are nutrient constrained and therefore suffer from very limited primary and secondary productivity. This productivity restraint limits the carrying capacity of higher trophic levels — in particular those species supporting artisanal fisheries.



Observational and modelling studies show the shelf waters of the Mozambique to be warming as a result of planetary Global Warming. However, this gloomy future caused by Global Warming might not happen. Recent temperature data collected by the Bazaruto Center for Scientific Studies (BCSS) suggests that a lens of cool bottom water is at times found on the narrow shelf off the Bazaruto Archipelago. This not only 'cools' the benthic environment but also presumably is loaded with nutrients.

In a partnership with the Mozambique Fisheries Research Institute (IIP), the Department for Parks (ANAC) and the Bilateral Chair Ocean Science and Marine Food Security, a major study has been planned to start in February 2023 to test the 'air conditioning' hypothesis. This will be the biggest physics-ecosystem system study to date in Mozambique.

Professor Lorien Pichegru - Update

Professor Lorien Pichegru conducted fieldwork in Algoa Bay where she recorded sound of ship-to-ship bunkering transfers. Professor Pichegru also conducted fieldwork on Malgas Island off the West Coast from 15 November to 3 December. This was her 18th consecutive field season on this island.



Her MSc student, Praxedes Vimbai Rukuni, co-supervised by CMR associate Dr Shaun Deyzel, was awarded her MSc entitled "Evaluation of the mesozooplankton functional diversity indices in Algoa Bay as proxies to assess the stability of the food chain leading to the African penguin (*Spheniscus demersus*). Her former PhD student Katharina Reusch got her first paper "*Health status indices of Kelp Gull populations in South Africa*" published in *Emu*.

Dr Shaun Welman and Professor Pichegru published a paper titled "*Nest microclimate and heat stress in African penguins breeding on Bird Island, South Africa*".

CMR Research Associate, Dr Andréa Thiebault, attended (in person) the 3rd African Bioacoustics Community Conference in Skukuza from 2 to 7 October 2022. She presented on work her, and Professor Pichegru collaborated on "*Acoustic foraging network in African penguins*". Professor Pichegru also presented (online), her talk was on "*Has increased marine traffic driven the recent catastrophic decline of African Penguins at their largest global colony?*"

CMR Projects Update

One Ocean Hub

The project aims to transform our response to the urgent challenges facing our ocean. Its research seeks to bridge current disconnections in law, science, and policy, and integrate governance frameworks to balance multiple ocean uses with conservation. It will carry out innovative research and integrated knowledge translation towards its vision to enable integrated ocean governance for equitable and inclusive sustainability. This project is funded by the United Kingdom Research and Innovation (UKRI) programme. Numerous CMR researchers are involved in this project. The Nelson Mandela University team, is busy completing articles and reports, arranging workshops and photo exhibitions, working on models, image databases, maps and spatial layers and contributing to book publications. A research cruise will take place in February 2023, which will assist in building research capacity in deep-sea knowledge, tools and techniques to enable more ecologically just ocean governance, now and in the future.

CICLICO

This project explores and plans, with decision-makers and society in Algoa Bay and the city of Gqeberha, how diverse and often uncoordinated objectives of coastal and marine planning can be implemented to enable better adaptation to climate change using climate services for city planning tools. It is funded by the WIOMSA.

This project has now come to an end. Two backgrounds reports, a policy brief, interim reports, blog post and three papers (in prep) form the main outputs of the project. In terms of project sustainability, a close out meeting with the municipality is being planned for early 2023. The meeting will present a tool (tutorial video) using a business canvas model, to guide decision makers as to the type of climate change information required for climate change adaptation. Relationships established with stakeholders and lessons learnt during the project will contribute to the wider Algoa Bay Project and ongoing research.



CMR Projects Update

MARISCO

This project aims to develop, merge and synthesise interdisciplinary, global knowledge for understanding the consequences of human actions for coastal and ocean sustainability, and produce strategies and tools for effective management.

Despite different start dates of the various organisation's deliverables are on track for completion by February 2024. To date two papers have been published meeting five deliverables of the project. Seven papers are in preparation and a further two are pending. The core project team met in Dublin in September to discuss progress and deliverables. Ongoing deliverables include reporting to the BELMONT Forum and public information sharing through blogposts and articles.

CoP: Algoa Bay Marine Spatial Plan

This project aims to co-develop a marine spatial plan for Algoa Bay with stakeholders, and to mainstream systems thinking into marine spatial planning methods and processes. Phase 1 (2017-2019) collected data on and modelled the biophysical and governmental systems in Algoa Bay. Phase 2 (2020-2022) aims to address the socio-economic system and will tie all three systems together to develop an overall model that can inform marine spatial planning decisions in Algoa Bay. The project is funded by the National Research Foundation (NRF). It is run by the Research Chair for Marine Spatial Planning (Professor Mandy Lombard) and the Rhodes University Research Chair for Marine Natural Products (Professor Rosy Dorrington). The CMR provides administrative support.

A virtual meeting took place in November drawing a close to the research funded by the grant and provided an opportunity to discuss the publication of the Algoa Bay book of the research achieved in Phase 1 and Phase 2.



CMR Projects Update

CoP: Ocean Accounts Framework

This project aims to develop novel accounts towards an ocean accounting framework for the Western Indian Ocean. Phase 1 was initiated from January 2020 to December 2021. During 2021, NRF allowed the Grant duration to be extended until December 2022. Phase 1 aims to develop novel accounts towards an ocean accounting framework for the Western Indian Ocean. The categories that will be essentially explored are the ocean governance accounts, risks and vulnerabilities accounts, coastal ecosystem and condition accounts, gender, cultural and social aspects in the ocean space.

The NRF report was finalised at the end of October. Phase 1 is coming to an end and the team is finishing up their deliverables. 9 academic papers and 9 technical papers and policy briefs have been published, and 9 technical and training presentations and 7 conference presentations have been presented. The application and appeals/requests process for Phase 2 still needs to commence and be reviewed should further funding be approved. Phase 2 will be executed from 2023-2024. and will expand on Phase 1 objectives in the greater WIO region.

Please have a look at the dedicated Algoa Bay Project website for more complete project details: <https://www.algoabayproject.com/>.



CMR Projects Update

SANOCEAN

This project works on benchmarking knowledge-based adaptive management of estuarine fisheries in South Africa for sustainable development. It aims to produce high-quality, multidisciplinary policy-relevant. The CMR collaborates with SAIAB on this project. Dr Nina Rivers, Department for Development Studies Post-Doctoral Research Fellow, is the principal CMR member involved in this research, with Professor Bernadette Snow as a collaborator.

The core project team met in Norway in June for a writing workshop where they worked on the final outputs and publications from the work packages. The project is coming to a close at the end of this year. The team is currently working on a close out report that draws on findings across all 4 work packages. The fifth work package draws everything together into knowledge based adaptive management recommendations for estuaries in South Africa.

EPStromNet

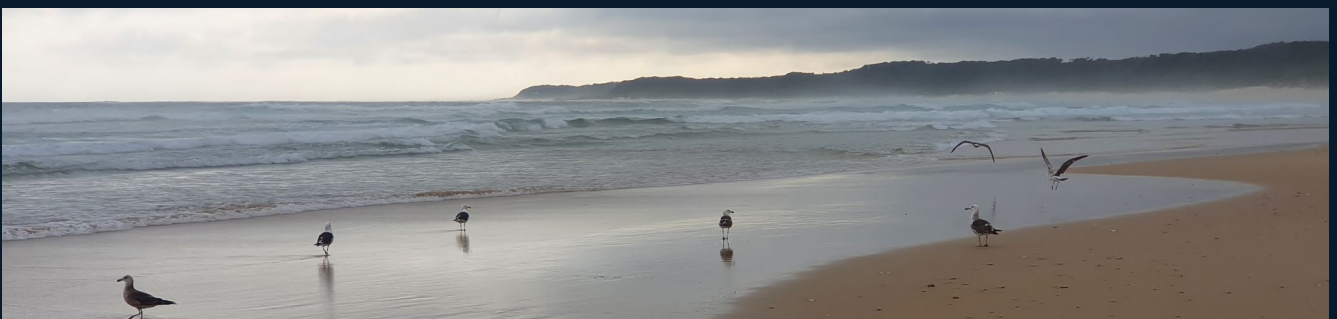
This project will develop a new collaboration of leading international researchers from three continents. It will address key scientific questions that underpin the fundamental nature of these microbial-geological systems.

The South African leg of field sampling occurred in March, and the UK/Ireland field sampling campaign took place successfully in July. The next campaign will take place in November in southwestern Australia. The project duration has been extended until 31 July 2023. Funding for EPStromNet-2 will be pursued next year.

iAtlantic

This project is a multidisciplinary research programme that seeks to assess the health of deep-sea and open-ocean ecosystems across the full span of the Atlantic Ocean. It entails an integrated assessment of Atlantic marine ecosystems in space and time. Professor Kerry Sink leads a component of this project's research under the CMR.

Dr Linda Harris has been appointed as the systematic conservation planner to assist with work package 5 deliverables.



CMR Projects Update

CoastWise

This project aims to improve knowledge for the integrated management of the land-sea interface in South Africa. It will enhance the available knowledge base for informed decision-making, filling important knowledge gaps that can be used in spatial management and building capacity within South Africa. This research will raise awareness of the value of coastal and marine habitats among coastal communities and decision makers. Professor Kerry Sink leads this project under the CMR.

The project has been extended to March 2023. The work is on track, some deliverables have been completed, others are in progress, and some are due to be completed only later in the project.

Marine Waste and Plastics Research

This project aims to quantify litter issue accumulation and assess waste origin, in order to advise appropriate policies to reduce marine waste in the country.

A workshop was organised in May by the Sustainable Seas Trust to report to WIOMSA on the Marine Litter Monitoring Programme across 7 Western Indian Ocean countries and to plan further publications. Professor Lorien Pichegru went on the Marion Dufresne with Professor Peter Ryan on the Resilience research cruise, to investigate the distribution of plastic at sea in relation with oceanographic patterns. Dr Maelle Connan was successful as a partner on a Darwin project 2022 – 2024 (*Turning the tide on plastic pollution: Ascension and St Helena*) headed by Fiona Llewellyn.

CMR Audio Project

This project introduced CMR members, the University community, national and international stakeholders, and the public to key players of the CMR and various aspects of CMR research, through audio recordings of interviews. This project came to an end in April 2022 with no further recordings released.



CMR Projects Update

Restoration of Estuaries using a Socio-Ecological Systems Framework

This project aims to investigate innovative methods for estuary water quality improvement, restoration of salt pans and salt marshes at the Swarkops Estuary. The research provides input to the Estuary Management Plan that is being revised by the Province of the Eastern Cape, Economic Development, Environmental Affairs & Tourism; a requirement of the National Environmental Management: Integrated Coastal Management Act (Act No. 24 of 2008).

ACEP Smart Zone MPA

This project uses the new uThukela MPA as a case study, this multi-disciplinary project uses rare time-sensitive opportunities to gain a socio-ecological baseline essential for future assessments of the achievement of MPA objectives.

This project started in 2021 and will run until 2025. Funding has been received and field work has commenced. It is funded by the National Research Foundation and led by Professor Mandy Lombard.

Avian Scavengers as Indicators of Recovery of an Island Biota

This project stems from the proposed mouse eradication initiative at Marion Island. It focuses on the three poorly known avian scavengers Brown Skua, Kelp Gull and Black-faced Sheathbill, and burrowing seabird species which are prey species for the avian scavengers. The project will run from 2021-2023 and funding has been received. This project is led by Dr Maëlle Connan and is administered by the CMR.

Dr Connan returned from Marion Island in June where field assistant Eleanor Weideman collected data from April 2021 to May 2022. Lucy Smyth is the field assistant for April 2022 to May 2023. The second year of sampling is underway at Marion Island with field assistant Lucy Smyth. The first results were presented on a poster at SAMSS (*Seasonal attendance patterns and habitat use of three avian scavengers at sub-Antarctic Marion Island*).



CMR Projects Update

BCLME-EBSA

This project supports the Benguela Current Convention (BCC), its three member states (South Africa, Namibia and Angola) and other key stakeholders in the marine management sector to reach the objectives of the Benguela Current Convention regarding enhanced sustainable management and governance of the BCLME's marine biodiversity and natural resources. Dr Stephen Holness is the principle investigator for this project, and Dr Linda Harris is the senior scientist.

Work is progressing well under the extended agreement signed during April 2022. The current project is extended to February 2023.

New Projects

SeaMap

This is an NRF/DSI-funded project awarded to SAEON for which Dr Zoleka Filander and Dr Linda Harris will be receiving funding.

SoundSeas

A crowdsourced-funding project that Dr Linda Harris is trying to get off the ground in collaboration with Wilderness Foundation Africa and SANBI. A meeting was held with Wilderness Foundation Africa to brainstorm ideas for fundraising. They will be approaching some international philanthropists, there is a fundraiser that's open where people can donate money, money from some of the Evolution Products' sales are being contributed to the fund, and they are thinking of hosting a fundraising concert in Kirstenbosch.

Deutsche Forschungsgemeinschaft (DFG) Proposal

This project will investigate the hydrological and geobiological drivers of modern supratidal microbialite connectivity and formation. Dr Gavin Rishworth leads this project under the CMR.

Preliminary sampling began in October. Dr Silke Laakmann (HIFMB, Oldenburg) visited in November (project co-I). Dr Laakmann, Professor Gudrun Massmann (HIFMB), and Professor Peter Teske (UJ) will be in Gqeberha in March 2023 to commence the full sampling campaign. A PhD advertisement has been circulated for eDNA component.

GIZ (Meerwissen) Project

GIZ (Meerwissen) is funding a collaboration project with HIFMB and University of Oldenburg on seagrass as pollutant filters with Professor Janine Adams and Dr Lucienne Human as co-investigators.

Congratulations

Vice-Chancellor's Excellence Awards

We would like to **congratulate** the following CMR members for receiving vice-chancellor's excellence awards:

- **Professor Pierre Pistorius** - Research Excellence Award
- **Professor Janine Adams** - Faculty Researcher of the Year Award
- **Professor Russel Phillips** - Innovation Excellence Award

Mr and Mrs Raza

We would like to congratulate our CMR office member, Ammaarah, on her recent nuptials. We wish you and Awais all the best, and a lifetime of love and happiness.



Housekeeping

Affiliation & Branding

We kindly request that CMR members use the full Institute for Coastal and Marine Research title in all affiliations and addresses. This is particularly important for academic publications and representation at formal occasions.

A friendly reminder to CMR members to please make use of the CMR's updated and rebranded logos. These logos, as well as various branded templates, are available from the Membership Information page on the CMR's website: <https://cmr.mandela.ac.za/Membership-Information>.

CMR Booklet of Expertise

Please note that the CMR's Booklet of Expertise has recently been updated and is available for download from the CMR Teams & Expertise page on the CMR website: <https://cmr.mandela.ac.za/cmr-team-expertise>

This booklet provides details on the CMR's most active research members and collaborators. The details captured in this booklet should facilitate the identification of possible research capacity and expertise for developing CMR research and collaborations. This booklet is updated as new research members are added to the CMR research team.

CMR Glossy Report

Please note that the 2021 CMR Glossy Report has recently been made available for download from the Glossy Reports and Booklets page on the CMR website: <https://cmr.mandela.ac.za/Glossy-Reports-and-Booklets>

Social Media & Website

For news on projects, activities and general updates, keep an eye on the CMR's social media platforms and website (<https://cmr.mandela.ac.za/>)! Please feel free to share any of our posts, and let us know at cmr@mandela.ac.za if you have anything that you want us to share here.



Institute for Coastal
and Marine
Research - CMR



@CMR_MandelaUni



@cmr_mandelauni



CMR_MandelaUni

Housekeeping

New Team Members

Our two new team members, Mr Landile Mondile and Mrs Moefeda Mahadev are settling in well. We are so glad to have them be part of our team.



Mr Landile Mondile

Working at the CMR as the Research Chairs Manager has been an honour and an amazing journey. The team welcomed me with warmth on our CMR WhatsApp group before we met in person. I felt the love and being part of the CMR even more when we met in person. To my colleagues, I am so grateful to have you as my colleagues, your support remains invaluable on any given day at work. Thank for your constant support. I remain humble to learn more and give my best to every task given.



Mrs Moefeda Mahadev

Since I started working at the CMR as the Finance Officer on 1 October, I feel very much part of the team with the help I'm getting from my teammates. By having the opportunity to attend the CMR research week seminar, I was very intrigued on the talk of the coastal and marine environment as I like to widen my knowledge with regards to the ocean. My favourite place I love to go when on holiday is the beach.

Housekeeping

New CMR Office Space

The CMR has finally moved into our brand-new offices in October. We love our new home!



All messages to the CMR should now be directed to the CMR's dedicated cmr@mandela.ac.za e-mail address. All CMR-registered Research Associates and Professors who require admin support should also direct their queries to cmr@mandela.ac.za.

Acting Director: Professor Lorien Pichegru:

Lorien.Pichegru@mandela.ac.za

Office and Projects Manager: Mrs Tara Bonnesse:

Tara.Bonnesse@mandela.ac.za

Institute for Coastal and Marine Research (CMR)

Ocean Sciences Campus • Nelson Mandela University