

# nano news

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- NF-POGO Alumni Network for Oceans -

NF-POGO Alumni E-Newsletter – Volume 18, May 2020



Science overseas:  
The international  
experience of  
NF-POGO Alumni

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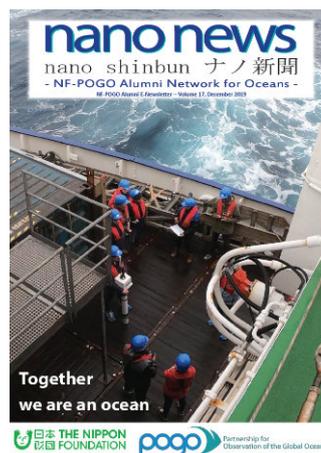
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**Cover photo by Lilian Krug**



**ERRATUM**

The photo on the POGO 20<sup>th</sup> Anniversary announcement depicts Tony Haymet, Charlie Kennel and Michael Douglas and not Roward Roe, Charlie Kennel and Jessie Ausobel as stated in the previous issue, NANO News 17 (page 15).



## *From the Editorial Board*

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Welcome to the 18<sup>th</sup> NANO Newsletter.

This issue comes in sad and critical times. We are now facing the pandemic of COVID-19, which is transforming our planet and our society in an unprecedented way. The world will never again be what it once was. And yet, hopefully we will all be there, trying to figure out how the planet has changed and how to move on. It is in times of crisis that we must remember how we became the people we are today, and how we can use what we learnt to improve our tomorrow as a society.

When remembering our paths, it is impossible not to celebrate the two most important people who accepted us as NF-POGO students: Prof. Dr. Trevor Platt and Prof. Dr. Shubha Sathyendranath. Unfortunately, it is with great sadness that we inform the passing of Trevor Platt, the godfather of all NF-POGO alumni and former Executive Director of POGO. Together with Shubha, Trevor dedicated his life to raising knowledge of ocean optics, ecology, life, to bring this knowledge to all of us in the most remote regions of this world, and to connect us all. This issue's In Memoriam celebrates Trevor Platt's life and legacy, and shows our deepest gratitude.

In this issue, NANO News remembers and celebrates the paths of NF-POGO Alumni, highlighting the preciousness of their experience overseas. It will show how our alumni were affected by different cultures, habits, personalities, and science when attending an NF-POGO course in foreign countries.

The issue includes an inspiring article from A. Hassoun, which is a reminder that, such as the ocean, we must be connected and united for science and education. This issue also brings the experience of alumni, starting with the impressions of alumni of the Centre of Excellence, then reporting some of the most amazing ventures from alumni of shipboard training cruises, learning about where the NF-POGO training experience led some of the alumni and the science they are doing today, and finally showing one example of international collaboration between NF-POGO alumni in a NANO global project.

Our sincere gratitude to all the authors who submitted articles to the 18<sup>th</sup> NANO Newsletter. We hope these articles will inspire you, and give you hope and strength to move forward.

Be strong, be safe, and be united. "We are better together!" (A. Hassoun)

Yours sincerely,

*Priscila Lange*

Editor-in-chief



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**NANO was founded by:**

Shubha Sathyendranath and Trevor Platt - Former Executive Directors of POGO

**NANO and NANO News are supported by:**

Partnership for Observation of the Global Ocean (POGO)

The Nippon Foundation (NF)

**Editorial Board:** Priscila Lange, Forough Fendereski, Nilanthi Priyadarshani, Housseem Smeti, Lilian Krug and Fiona Beckman.

**Editorial editing and layout:** Lilian Krug

### POGOnians year 11 (2019-2020)

Profiles available at <https://nf-pogo-alumni.org/programs/centre-of-excellence/cofe-1920/>

Since 2008, ten young scientists are selected every year to take part in the 10-month NF-POGO Centre of Excellence in Observational Oceanography. The edition 2019-2020 of CofE has its headquarters at the Biological Station of the Alfred Wegener Institute (AWI) located on the North Sea German island of Helgoland. In this setting, the scholars are exposed to a set of core skills and topics which will help to level-up their scientific knowledge and capacity to carry out research the ocean, its ecosystems, processes, and human-related activities. As their final assignment of the course, they conduct independent research projects guided by mentors from the AWI.



#### Dieu Dihn (Vietnam)

Dieu obtained a Bachelor's degree in Natural Resources Management, majoring in water and land resources management, from the University of Science, Vietnam National University (VNU), and the Master's Degree in Water and Coastal Management under the prestigious Erasmus Mundus Scholarship.

Her research interests are focused on water and coastal integrated management in the context of climate change, which led her to pursue higher education. Her Master thesis and latest research referred to use of high temporal and spatial resolution (radar and optical) satellite images to generate maps and analyse spatio-temporal flooding patterns in the Mekong Delta, Vietnam. The study provided spatial explicit information on the core zones of the seasonal flooding processes for the entire delta. The utilisation of floodwater for rice cultivation and the effects of the dike system on flooding were also evaluated. Back to Vietnam, she was working as an assistant of the Master's Programme in Environmental Engineering at VNU, where she took part in projects and research grants.

For Dieu, the CofE programme is a unique opportunity that not only increases her knowledge in integrated, multidisciplinary oceanography on a global scale but also helps her to build up a professional network. She believes the high-level of such training will increase her employability prospects and open many doors. Her goal is to share the knowledge and experiences on oceanography with young Vietnamese generation and contribute to develop Vietnamese research. Moreover, she can exchange culture with other POGOnians as well as explore European landscape and culture.

#### Gabriel Juma (Kenya)

Gabriel is an early career marine scientist with focus on coastal ecosystems (mangroves and seagrass) ecology. He did his Bachelor degree in Environmental Science at Chuka University, Kenya, where he was exposed to various facets of environmental studies including environmental impact assessment, pollution and control, sustainable development, ecology, and climate change, which gave him a good foundation in the subject. His undergraduate research project focused on the role of participatory forest management in forest conservation with insights from

#### Mount Kenya Forest.

Upon completion of his undergraduate studies in 2016, he volunteered at World Vision Kenya, Lambwe Valley Integrated Programme Area, under the Department of Environment and Climate Change. In that position, he assisted local communities to enhance agroforestry, and monitor the school's greening programme. In 2017, he started his internship at the Kenya Marine and Fisheries Research Institute (KMFRI) under the Hydrography and Oceanography Department.

He started his M.Sc. in Environmental Science at Chuka University in 2017, with support from KMFRI under PUNGUZA Project. Gabriel successfully finished his Master's project entitled "Assessment of Distribution, Abundance and Carbon Stocks in Seagrass Meadows within the Mangrove Fringed Creeks of Gazi Bay." The findings of this study provided baseline information for conservation and establishing a carbon offsetting scheme in seagrass for long-term benefits to the community, climate change mitigation, and ecosystem functionality. In addition to his Master's project, Gabriel participated in other research activities at KMFRI, such as assisting the Mangrove Carbon Stocks Assessment along the Kenyan coastline to enhance conservation and incorporation into the Nationally Determined Contribution (NDCs) for Kenya.

His experience during the CofE has been fabulous and has immensely contributed towards the achievement of his goals of becoming a good marine researcher and academician. The courses on modelling, GIS, Ocean Data Management, and the research expedition, among other courses in oceanography, have greatly improved his understanding and expertise in marine science.



The scholars ready to board RV Heincke

Additionally, using state-of-the-art equipment and resources available at AWI and networking with professional marine scientists and lecturers have improved his career development. He intends to share the knowledge with other young researchers and to start a Ph.D. as he proceeds seeking knowledge for overall social and ecological sustainability.



**Manfred Nyetem (Cameroon)**

Manfred Bonga holds a Master’s degree in physical oceanography and applications from the University of Toulouse III-Paul Sabatier-France (2017). His Master’s work at the Laboratory of Oceanography and Climate of the Pierre and Marie Curie University (France) focused on CO<sub>2</sub> anomalies in the North Tropical Atlantic using *in situ* and Mercator’s physical model data between France and Brazil. With a B.Sc. in Engineering from the University of Douala (Cameroon, 2015), he worked for three years as a junior scientist within the JEAI-RELIFOME project (Response of the Cameroonian coast to multi-scale forcing). The JEAI-RELIFOME project was funded by the French Research Institute with four main themes including: i) saline intrusion into the Central Africa estuaries using modelling techniques; ii) coastal traffic in the inner Gulf of Guinea, in particular the Cameroon estuary, taking into account anthropogenic activities and urbanisation; iii) erosion of coastal areas and beaches; iv) river contributions and links to the seasonal dynamics of phytoplankton in coastal zones.

Between 2017 and 2019, Manfred worked as a research assistant at the Oceanography Department of the University of Douala, where he took part in several projects and published a manuscript. During that period, he worked as a manager at the NGO Nakupenda e.V. with the mission of identifying innovative projects which could lead to the creation of new businesses in Africa. With the vision of giving another aspect of research and development in African countries, he realised through challenges and his professional experience the need to have a better mastery to support research in his country.

By joining the CofE, Manfred discovered “an experience beyond his imagination”. He affirms he is acquiring a strong knowledge in various aspects of science in the marine environment through the practical and multidisciplinary courses. Furthermore, his interactions with experienced marine professionals and colleagues of diverse backgrounds is improving his scientific understanding and expertise in marine science. Manfred believes the experience acquired during the CofE will equip him with a new unique experience which can be disseminated back in his country as well as allow him to fill the missing gap and contribute to research and development in Africa.

**Sharloth Fernández (Ecuador)**

Sharloth is a navy researcher officer specialised in Hydrography (2018) with research interests focused on studying the biological, chemical and physical components of the sea, and particularly the influences of *El Niño* in the Ecuadorian coast. She started her career as an undergraduate in Naval



Sciences at the Ecuadorian Navy Academy. Then, she started her development as a navy officer working at the warships and improving her navigation capabilities. Afterwards, she completed her postgraduate studies in Hydrography from the International Hydrographic Organisation becoming a technical hydrographer and a navy researcher officer. For her graduation project, she worked on the creation of a Nautical Chart (Esmeraldas Bay, Ecuador) using the CARIS S-57 software. Sharloth did the data collection from scratch, including acquisition of bathymetry, coastline and tidal observations. Sediment, water, currents and wind data were also sampled and analysed. Thanks to this project, Sharloth discovered that the oceanographic component was her area of interest. Therefore, after graduating, she started working at the Ecuadorian National Oceanographic Institute.

Sharloth believes hydrography benefits all stakeholders in the global maritime community in pursuit of safe, clean and sustainable navigation. Her goal is to become a competent researcher and contribute to the maritime development of her country and to the protection of the environment. Being part of this programme has contributed to her professional career, being able to increase her knowledge through the experience of professors, researchers and “POGOnian” colleagues. But above all, this experience has contributed to her personal life: sharing the day to day with people from 9 different countries has made her grow as a person, strengthening her values while learning from their cultures and customs. Without a doubt, the best experience she has had so far.



CofE scholars on board RV Heincke

**Andréa Mesquita (Brazil)**

Andréa has a Bachelor’s degree in biology from São Paulo State University (2016) and a Master’s degree in Biological Oceanography from the Federal University of Rio Grande (2017). For her Master’s project, she studied movement behaviour and ecology of whales in their feeding grounds using satellite telemetry data from humpback whales tagged in the Antarctic Peninsula and environmental variables derived from remote sensing products. She believes being selected for the CofE programme has given the opportunity to broaden her



knowledge in oceanography, experience different cultures and a different way of living in a country different from hers, which translated into her personal and professional growth. For Andréa, one of the highlights was the expedition on-board the RV Heincke in the German Bight, an experience that the group was looking forward to.

Before working with oceanography, Andréa conducted her undergraduate project on disease ecology focusing on the chytridiomycosis in tropical anurans. Outside academic life, she worked as a technician in the quality department of a hospital and taught English in her hometown for a few years. During her Master studies, Andrea also engaged in regional outreach projects directed at children to raise awareness on the protection of turtles and marine mammals in southeastern Brazil, including the main characteristics of their biology and major threats posed by human activities.

In the future, she expects to become an expert in distribution and habitat use of cetaceans in polar regions and continue using satellite telemetry, remote sensing data and modelling approach. One of her main goals is to reach a position where she can add to the decision-making process for the conservation of species while working to improve the outreach of scientific findings to her fellow citizens.



#### **Pedro de La Cruz (Peru)**

Pedro is the first CofE scholar from Peru. He started his career in Biology, with a specialisation in fisheries at the Pedro Ruiz Gallo National University of Lambayeque, Peru. His Bachelor's thesis focused on population dynamics of an artisanal bivalve fishery in Talara, Peru. The results

helped the regional government to better understand the biology of the species and the dynamics of the natural bank.

In 2018, Pedro obtained a Master's degree in Marine and Lacustrine Science and Management from the Belgian universities Vrije University Brussels, Ghent University, and University of Antwerp. His Master's research focused on the fascinating field of marine environmental modelling. Working at the NIOZ Institute of Netherlands, he developed a 1-D ecosystem model of the Oosterschelde estuary. His interest in the world of modelling guided him to an internship at the Royal Belgian Museum of Natural Sciences in Brussels, where he worked with the hydrodynamic model "COHERENS" from the North Sea.

Pedro has worked for the Peruvian government, in both the marine research sector at the National Institute for Sea Research and the policy-reinforcement sector at the Environmental Enforcement Agency of Peru. The work with the government gave him the opportunity to implement ecosystem and statistical models to study lotic and marine ecosystems, and to spread the knowledge he obtained while studying and conducting research in Europe.

Pedro believes his participation at CofE is improving his understanding of global ocean processes, and his skills in aquatic ecosystem modelling and time-series analysis. He is proud of being part of the NANO community and he looks forward to new challenges and research collaboration within NANO and POGO.

#### **Antonella de Cian (Argentina)**

Antonella holds a Licenciatura degree in Biological Sciences from the Universidad Nacional de la Patagonia San Juan Bosco in Puerto Madryn (Argentina). She joined the multidisciplinary Biological Oceanography Laboratory (LOBio) in the Centro para el Estudio de Sistemas Marinos of the Centro Nacional Patagónico (National Council of Scientific and Technical Research, CCT CONICET-CENPAT) where she took part in different traineeships. At LOBio, Antonella described dust storms in Patagonia using satellite data and started to study their effect on phytoplankton communities by carrying out experiments on phytoplankton monocultures and natural communities on board the R/V Puerto Deseado. After her graduation, Antonella was awarded a fellowship from the CCT CONICET-CENPAT for her postgraduate studies. She is currently enrolled in the Ph.D. programme, analysing the response of coastal phytoplankton communities to the addition of land-derived aeolian particles ('dust'). As an initiative from the LOBio and part of her Ph.D. goals, a coastal seasonal sampling is conducted to generate a long-term database of oceanographic variables in a fixed station in the Nuevo Gulf (Patagonia, Argentina). The objective of the station is to study seasonal and inter-annual variations of different oceanographic parameters (e.g., temperature, salinity, and nutrients concentration), plankton dynamics, and atmospheric variables (e.g., wind and atmospheric dust) in the region. Additionally, she studies the effect of atmospheric dust on phytoplankton communities in microcosms systems and phytoplankton monocultures.



The experience of studying abroad, as a trainee of the NF-POGO CofE, is giving her the opportunity to learn about oceanography from a multidisciplinary and global perspective. Antonella is acquiring new skills related to data sampling and analysis, scientific writing, and science communication, among others. It is a wonderful chance to share different cultural backgrounds and learn about the struggle scientists face in different parts of the world. By participating in the programme, she believes her career has improved in a significant way. She expects to spread her knowledge in Argentina and continue her research career.



#### **Adreeja Chatterjee (India)**

Adreeja was always enthusiastic about wildlife and nature, which led her to do a Bachelor's in Zoology. Having lived all her life in the hills, she had always been fascinated by the marine realm, and joined the Master's course in Marine Biology at Pondicherry University. The programme gave her the opportunity to spend two years at Andaman Islands, where she volunteered to work on elasmobranchs and marine mammals. For her dissertation, she studied the associated fauna in marine sponges.

After her Master's, she worked at the National Institute of Oceanography, Goa, India, mainly on sponges and the associated fauna, and partly on general benthic macro and meiofauna. Having worked on elasmobranchs before, she had already developed a keen interest for the field and also

realised the urgent need for more research in Indian waters. Therefore, she independently applied for a grant to conduct a preliminary survey at the Andaman archipelago to determine the threats to guitarfish (*Glaucostegus* sp.) from commercial and artisanal fisheries.

The programme is helping her to learn a lot about the technical aspects of oceanography which she never had the opportunity to learn before. She is very pleased to have met and interacted with professionals from different fields in oceanography. The shipboard training aboard RV Heincke has been especially exciting and new for her. It has also been a wonderful opportunity for her to find her new, very jaunty, international family! Every day with her Pogonian colleagues was an adventure for Adreeja and she considers herself very lucky for having been a part of the programme.

### Jeffrey Munar – Philippines



Jeffrey worked as a researcher in various research projects in the Marine Science Institute of the University of the Philippines. Currently, he is a graduate student from the National Institute of Geological Sciences where he also obtained a Bachelor's degree in Geology. His interests are the application

of geophysical and sedimentological methods in providing clues on the evolution of coastal and reef island environments. His thesis research focuses on how past sea levels are imprinted in the geomorphology of reefs in the Philippine archipelago. This involves the use of sonar images and bathymetry to investigate features that were formed due to fluctuating sea levels in the past 22,000 years. Jeffrey is also involved in collaborative projects in assessing blue carbon ecosystems. Particularly, he studies the nature of sedimentation in coastal greenbelts and its potential to store blue carbon. This work involves mapping the coast and sedimentary basins using geophysics and geochemical analysis of sediments below ground.

The NF-POGO Centre of Excellence is a great opportunity to broaden his perspectives in research. Prior to CofE, his experience in oceanography was related to local work and collaborations, so this programme is a unique way to learn other aspects of oceanography. There are not many experts in oceanography in the Philippines, yet there's an untapped potential for various research that he can now expand with the help of CofE colleagues and teachers. Furthermore, the programme gives him a wider cultural perspective in science and with people. Finding new friends in NF-POGO CofE and staying several months together is a once in a lifetime experience.

### Hadeer Ismail (Egypt)

Hadeer is an Egyptian marine biologist. She got her Bachelor's degree in Oceanography/ Marine Science from the Faculty of Science, Port Said University, Port Said, Egypt, in 2013. Her Bachelor's programme covered many fields including Marine Biology and Ecology, marine pollution, fisheries, coastal zone management, marine protected areas, and mangrove, seagrass, and coral reef ecosystems. After completing her



Bachelor's programme, she received the financial support to start her Master's at the Environmental Protection and Education Association (EPEA). After 6 years, she was given the responsibility of being the project manager of this organization. She took part in environmental education programmes of this organization, conducting field training, environmental awareness lectures, and practical experiments for young Egyptian students. In 2017, she graduated from her Master's with her thesis entitled "Ecological and molecular studies on the resilience of soft corals along the Egyptian coast of the Red Sea". Her study focused on enhancing the molecular identification of zooxanthellae hosted by soft corals. Subsequently, she became the first person to genetically identify these microscopic organisms in the Egyptian Red Sea. Because she is very interested in investigating the effect of climate change on marine organisms and their responses to climate change-driven stressors, Hadeer also studied the thermal tolerance of soft corals to global warming which depends on their symbiotic relationship with zooxanthellae in her Master's. Hadeer has a diving license (advanced open water) from PADI, which allowed her to collect samples and do the ecological survey on soft corals for her Master's research in the Red Sea by herself. She published her first paper, entitled "Distribution of Soft Corals in the Egyptian Coasts of the Red Sea and Gulf of Aqaba", in 2017.

Hadeer wants to continue her way in scientific research and start a Ph.D. in the field of marine sciences to explore these unique marine organisms and how they can adapt to different environmental changes. She thinks that there are a lot of ocean mysteries that have not been discovered yet. She attended the NF-POGO CofE programme because she believed that the program could give her the necessary experience that she needed to continue her scientific research in oceanography. In this training, she received a high amount of experience, especially in the field of marine science and observational oceanography. During the programme, she discovered herself and learned different topics that she has never assessed in her research life such as remote sensing, modelling, data management, mathematical biology. In addition, the Heincke expedition increased her field experience. The skills Hadeer gained during this programme supported her Ph.D. work and the continuation of her scientific research in the future.



The 2019-2020 CofE scholars

# NF-POGO Visiting Fellowship for Shipboard Training

## AMT29 cruise, Falkland island to Southampton (UK)

NF-POGO-PML Atlantic Meridional Transect Shipboard training fellowship on board the *RRS Discovery* (12 September to 21 December 2019)



*RRS Discovery*



**Anakha Mohan**

Alumnus profile: <https://nf-pogo-alumni.org/profile/Anakha+Mohan/>

I'm extremely happy to share my experience at the AMT29 as an NF-POGO alumnus. I am currently working as an Assistant Professor in Climate Change Adaptation at the Academy of Climate Change Education and Research (ACCER), Kerala, India. I have completed my integrated B.Sc.-M.Sc. degree in Climate Change Adaptation from ACCER under the Kerala Agricultural University. My M.Sc. thesis was entitled "Climate Envelope Modelling of Hard corals in the Northern Indian Ocean", with the research focused on Climate change, Oceanography, Remote sensing, and Modelling.

The NF-POGO shipboard training gave me one of the most rewarding experiences of my life. The training helped me to acquire immense knowledge and skills on cruise preparation, conducting scientific experiments on-board, and post-cruise data analysis and interpretation. These skills gave me an overall perception on how an oceanographic research is performed. During the cruise, I was part of the phytoplankton team and involved in collecting and analysing size-fractionated and total chlorophyll-a and phytoplankton absorption coefficients along the transect. I was also trained in FastOcean measurements, data processing, and statistical methods. The project I tackled with POGO and Plymouth Marine Laboratory (PML) was incredibly stimulating both professionally and personally. The collegial atmosphere and quality of thought throughout the whole PML can't be beaten. NF-POGO AMT shipboard training would be a wonderful programme at any stage of your career. This was a fellowship in the best and fullest sense of the word. I particularly enjoyed exploring the resources at PML on the intersection of science and technology that were relevant to my research project. I emerged from my fellowship with new interests, friends, and contacts, and a continuing association with both PML and POGO. I owe a debt of gratitude towards everyone who stood by me during the whole tenure.

***It was an amazing forty-five days experience on-board RRS Discovery that inspired me to continue my career as a marine researcher. It was a thrill to be part of the stimulating and supportive community of AMT29 and POGO officials. Overall, I highly recommend this programme to graduate students who are looking for the most amazing and enriching experience of their lives. I can confidently say it will be worthwhile to join the NF-POGO Ocean Training Partnership.***



# NF-POGO Visiting Fellowship for Shipboard Training

## M159 cruise, Recife (BR) to Mindelo (CV)

NF-POGO-GEOMAR training fellowship on board the *RV METEOR* (29 October to 20 November 2019)



*RV Meteor*

### Juan Cruz Carbajal

Alumnus profile: <https://nf-pogo-alumni.org/profile/jccarbajal/>



I am a final year Ph.D. student in physical oceanography at the University of Buenos Aires. The focus of my study is on mesoscale/submesoscale processes that govern the water column characteristics in the Gulf of San Jorge on the Patagonian Shelf. My main research interests are understanding the link between physical processes and ocean biogeochemistry and plankton ecosystems, and studying water exchange processes between the Gulf and the Argentinian Continental Shelf.

The expedition M159 on board the R/V Meteor was an astounding opportunity to meet peers and interact with scientists from different institutes. It provided me with vast knowledge on techniques, equipment, and skills to work in the deep ocean. I am very grateful that my host supervisor was Prof. Dr. Martin Visbeck, an expert in observational oceanography.

## British Antarctic Survey (BAS) cruise

NF-POGO-BAS training fellowship on board the *RRS James Clark Ross* (14 October 2019 to 20 January 2020)



*RRS James Clark Ross*

### Rodrigo Moresino

Alumnus profile: <https://nf-pogo-alumni.org/profile/RodrigoHM/>



I am a marine biologist interested in the dynamics of coastal and oceanic areas, with a particular focus on zooplankton communities. Currently, I am investigating how bottom currents modulate the dispersion/accumulation of sediments and other materials, from natural organic products to anthropogenic synthetic ones, such as microplastics.

My NF-POGO fellowship consisted of a training in acoustics at the British Antarctic Survey in Cambridge (United Kingdom) and on board the Royal Research Ship James Clark Ross in the South Atlantic. During my training, I participated in several activities, such as running and calibrating echosounders, processing and analysing acoustic data, assembling, deploying, and recovering nets, classifying plankton samples, image identification of the Antarctic krill using semi-automatic techniques, and helping in cargo jobs when visiting the Antarctic scientific bases.

This training allowed me to acquire several skills that will be useful in my future research activities, not only in the field of acoustics, but also planning field works, having broader knowledge on how to deploy and recover different equipment, and interacting with colleagues working in different topics. Furthermore, the acoustic set of tools proved to be an invaluable method to infer qualitative biological information in the water column, enhancing my future research.

# NANO RESEARCH PROJECTS

## NANO Global Project (NANO-DOAP)

### A global study of deoxygenation, productivity and acidification

Housseem Smeti, Lilian Krug and participants

#### NANO-DOAP Project Coordinator

Alumnus profile: <https://nf-pogo-alumni.org/profile/hsmati/>

#### POGO Scientific Coordinator

Alumnus profile: <https://nf-pogo-alumni.org/profile/Lica%20Krug/>

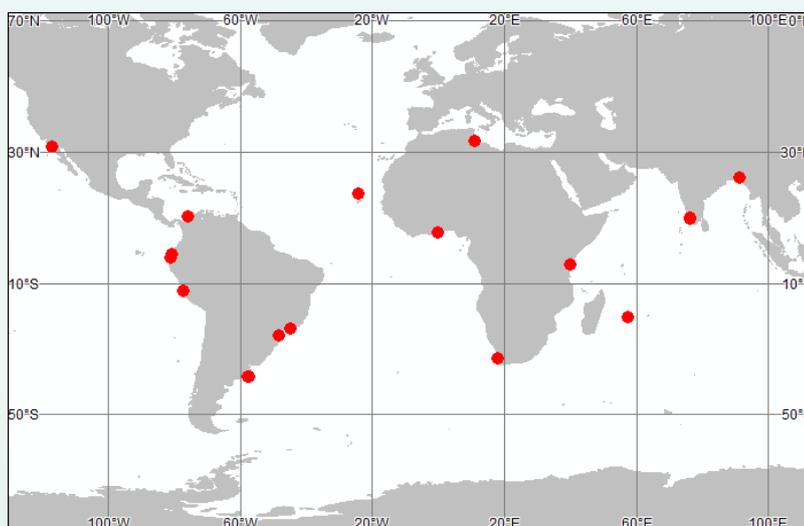


#### Rationale of the NANO Global Project: A global study of deoxygenation, productivity and acidification (NANO-DOAP)

In order to contribute to the global effort of monitoring the levels of ocean acidification and deoxygenation, NANO-DOAP aims to: 1) promote in-situ and remotely-sensed observations of the ocean at selected coastal sites; 2) provide opportunities to the project participants to strengthen their efforts to monitor essential ocean variables; and 3) organise activities where members can share experience and best practices, as well as compare regional data, producing global results.

#### Study sites

Currently, NANO-DOAP includes 15 study sites in 13 countries: Argentina, Bangladesh, Brazil, Cape Verde, Colombia, Ecuador, Mexico, Peru, Ghana, Kenya, India, Mauritius and Tunisia. Six countries in Latin-America, seven in Africa and adjacent islands and two in the Indian subcontinent. Two NANO Friends are enrolled as mentor participants of NANO-DOAP: Dr Milton Kampel in Brazil and Dr Grant Pitcher in South Africa. Two NANO members joined the 2020-2021 phase of the project and will represent monitoring stations in Cape Verde (Cape Verde Ocean Observatory) and Kenya (Wasini island).



NANO-DOAP study sites and mentor participant locations.

#### Preliminary results

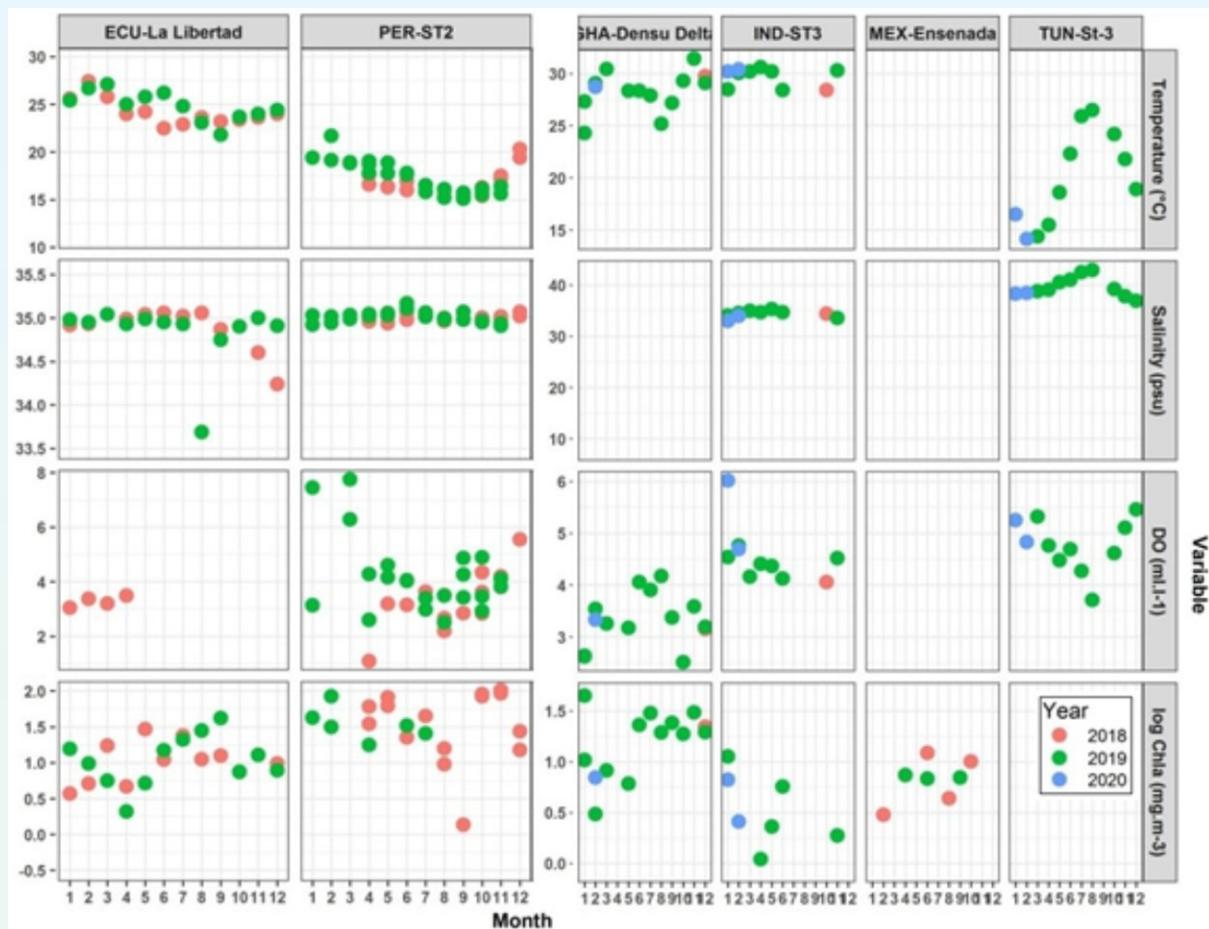
Monthly or bimonthly sampling was carried at most of the participating stations, where essential ocean variables were sampled (temperature, salinity, chlorophyll-a concentration, pH, dissolved oxygen, among others). Data collected in 2018, 2019 and 2020 were controlled and preliminary analyses were performed. An example of the results obtained from six NANO-DOAP stations is presented in the next page. Chlorophyll-a concentration at the Peruvian station exhibited the highest value ( $32.68 \text{ mg/m}^3$ ) when compared to the other stations, reflecting the highly productive waters of the Peruvian (and northern Chilean) coast which are supplied with cold nutrient-rich waters by the Humboldt Current.

#### NANO-DOAP outreach activities

Outreach activities were conducted between 2018 and 2019 by participants in Argentina, India and Tunisia. The Argentinean participant institution (INIDEP) also develops a Citizen Science project involving recreational scuba divers assisting in the sampling in one of its study sites. Details on outreach activities conducted by the participants within NANO-DOAP scope can be found at NANO-DOAP 2018-2019 Final Report. The Argentinean Citizen Science project will be featured in NANO Newsletter 19 (due to 2020 second semester).



Scenes of outreach activities conducted by NANO-DOAP participants in (clockwise) Argentina, Tunisia and India.



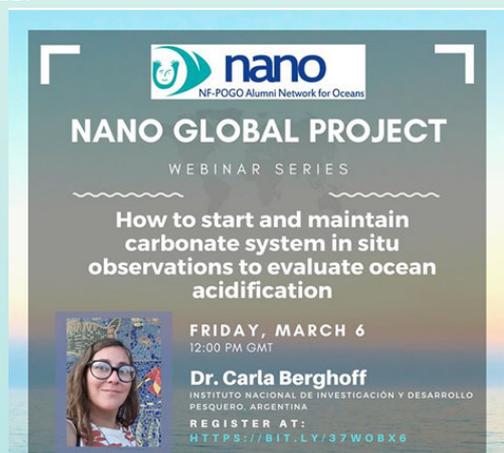
Some results from data collected in 2018 (pink dot), 2019 (green dot) and 2020 (blue dot) at the NANO-DOAP study sites La Libertad (Ecuador), Station-2 (Peru), Densu Delta (Ghana), Station-3 (India) Ensenada (Mexico) and Station-3 (Tunisia).

### NANO Global Project Webinar Series

Between September 2019 and March 2020, a series of five webinars was held by NANO-DOAP with themes related to the scope of the project. The webinars were open to the public and very well received. NANO members can access copies of the presentations and webinar recordings at the [project's website](#), and recordings of the presentations are also available at [POGO's YouTube channel](#). The NANO Global Project Webinar Series for the year 2019-2020 was successful and per request of NANO members and other scientists and students, will be continued for the next year of 2020-2021.

### NANO-DOAP members

Country (Station)	Participant Institute	Representative	Status
Argentina (El Veril)	National Institute for Fisheries Development	Carla Berghoff	Study site
Argentina (EPEA)	National Institute for Fisheries Development	Carla Berghoff	Study site
Bangladesh (MRE)	Shahjalal University of Science and Technology	Subrata Sarker	Study site
Brazil (Pontal do Sul)	Centre for Marine Studies	Maurício Noernberg	Study site
Brazil (Ubatuba)	National Institute for Space Research	Milton Kampel	Mentor
Cape Verde (CVOO)	Ocean Science Centre Mindelo	Pericles Silva	Study site
Colombia (Cartagena)	Ministry of Defense; General Maritime Directorate	Stella Betancur	Study site
Ecuador (La Libertad)	Instituto Oceanográfico de la Armada	Maria Tapia	Study site
Ecuador (Manta)	Instituto Oceanográfico de la Armada	Maria Tapia	Study site
Ghana (Densu Delta River)	University of Ghana	Edem Mahu	Study site
Kenya (Wasini Island)	Kenya Marine and Fisheries Research Institute	Mohamed Ahmed	Study site
India (Cochin)	Nansen Environmental Research Centre	Nandini Menon	Study site
Mauritius (Albion)	Mauritius Oceanography Institute	Arnaud Nicolas	Study site
Mexico (Ensenada)	Autonomous University of Baja California	Adriana Gonzalez	Study site
Peru (IMARPE)	Marine Institute of Peru	Luís Escudero	Study site
South Africa (St Helena Bay)	Department of Fisheries	Grant Pitcher	Mentor
Tunisia (Boughrara lagoon)	Mediterranean Institute of Oceanography, France	Housseem Smeti	Study site



NANO Global Project Webinar Series, 5<sup>th</sup> webinar presented by Dr Carla Berghoff, NANO-DOAP participant.

### 21<sup>st</sup> POGO Annual Meeting: An experience full of knowledge

Sazlina Salleh

Center for Policy Research and International Studies, Universiti Sains Malaysia, Malaysia

Alumnus profile: <https://nf-pogo-alumni.org/profile/smdsall/>



I'm Sazlina Salleh, a lecturer in Marine Biology at the Center for Policy Studies and International Studies, Universiti Sains Malaysia. I became a NANO member in 2014 after participating at the Regional Training Programme on Harmful Algal Blooms in Philippines. I am very thankful to NANO for providing giving me the opportunity to attend the 21<sup>st</sup> POGO Annual Meeting hosted by the First Institute of Oceanography (FIO) in Qingdao, China. The meeting was truly very beneficial as this was my first time at such a global multidisciplinary meeting attended by world class scientists and Directors of major oceanographic institutes! Apart from presenting my current work, I was also able to share and gain so much knowledge on data sharing/collection pertaining to climate change in marine ecosystems from renowned experts. This included adaption for humans and marine ecosystems in general, what is important and why such data are needed. During the meeting I gained a lot of knowledge mainly on ocean observations and sharing best practises in ocean data collection. On that note, the meeting also discussed how developing nations could access data and create similar data collection systems. This is to ensure validity of the data and can be translated to a better policy or governance. The whole experience was very much beneficial to my studies and also to my country (Malaysia), a maritime nation. Finally, I did also meet new friends and other NANO alumni from around the globe and hope this friendship remains. Thank you, POGO! It is awesome to be part of the network. Terima kasih!



Sazlina presenting her poster to Prof Nick Owens, POGO Chair (left) and the NANO members present at the meeting with Dr Sophie Seeyave, POGO CEO (right).

## POGO 20<sup>th</sup> Anniversary

December 2019 marked the 20<sup>th</sup> anniversary of the first POGO Annual meeting, held at Scripps Institution of Oceanography, USA from 1-3 December 1999.

Over 2020, we will be sharing stories of POGO's achievements and successes. Please follow the hashtag #20YearsofPOGO on social media to read our stories. We would particularly love to share stories from our Alumni! Please get in touch if you have an inspiring tale of your time as a POGO scholar, or would like to share how a POGO fellowship has had an

impact on your career. Did you made professional and personal contacts that resulted in research collaborations? Were you able to share the knowledge gained from your training with colleagues at your home institute? Perhaps your training sowed the seeds of an idea for a new project? Whatever your story, we'd love to hear it!

Please send your stories to Fiona Beckman, POGO Communications Officer ([fbe@pml.ac.uk](mailto:fbe@pml.ac.uk)).

### Research justice: We are better together!

Abed El Rahman Hassoun

National Center for Marine Sciences, National Council for Scientific Research, Lebanon

Alumnus profile: <https://nf-pogo-alumni.org/profile/abedhassoun/>



I have always loved the sea and its creatures, and appreciated the land and its humans! This is why social networking means a lot to me and has helped me so much to evolve professionally as well as personally. Before starting my Ph.D. in late 2011, I confess I had so many stereotypes about many aspects of life but my mindset started to change since I began studying, collaborating and working with people from various scientific backgrounds/nationalities/ethnicities/religions, etc.. Each of the 20+ summer schools/trainings/workshops/conferences I attended was an opportunity to meet new people, to widen my knowledge about new cultures, and to learn new professional things that I can apply in my own research back home. During every event, spontaneous discussions have emerged about traditions, politics, religions, poverty, and of course, environment and climate change, and I would not be able to understand many complicated topics the way I do now without involving myself into some intense controversial, multi-cultural “hot-topics” in different parts of the world (China, USA, South Africa, Europe, etc.). I enjoyed the fact that I can speak up for an under-represented category, Arab and Middle-Eastern researchers, in many prestigious and well-known scientific events, trying to shed light on our potentials, problems and the importance of including us in big activities/proposals/projects as an efficient way to better understand and ultimately tackle any global environmental topic. I enjoyed breaking generalisations about the area I came from and encouraging colleagues who are well-known in their research careers to include more students and researchers from under-represented areas in their labs and research systems. Why? Because we need to work together if we really care about better understanding of global and regional environmental phenomena and if we are searching for solutions that could help our planet to overwhelm the anthropogenic pressure. Everyone should be a part of the solution, otherwise any solution will be useless!

As a Lebanese-Mediterranean researcher, I always felt wrathful because major Mediterranean oceanographic cruises are mainly conducted by researchers from Northern Mediterranean European countries. I always wondered why research projects’ chiefs/Pis would not consider including researchers from the southern parts of the Mediterranean Sea in many important and critical research topics!? Wouldn’t it be easy to e-mail few researchers from those neighbouring countries and invite them to join aboard? Would it be too difficult to make a connection with researchers from the South to discuss sampling methodologies and to create sustainable research interlinks? Wouldn’t it be scientifically-exciting to take new and good data from the entire Mediterranean to fill the gaps of

knowledge in our shared semi-enclosed sea TOGETHER? In this context, I immensely appreciate organisations and funding bodies who are taking this issue very seriously and trying to support scientists from under-represented areas, such as the [Ocean Acidification International Coordination Centre](#) of the International Atomic Energy Agency, the Pier2Peer programme of the Global Ocean Acidification Observation Network ([GOA-ON](#)) funded by The Ocean Foundation and, of course, the NF-POGO Shipboard Fellowship which has been promoting training and capacity building in ocean sciences for early career researchers from developing countries since 2001. I personally was one of the NF-POGO Shipboard Fellowship awardees in 2018 during the [MSM 72 cruise](#). In addition to my time during the cruise, the pre- and post-cruise periods spent at the Spanish Institute of Oceanography in La Coruña (Spain) and at the GEOMAR Helmholtz Centre for Ocean Research in Kiel (Germany) respectively, were also very rich at both professional and personal levels. Professionally, this experience gave me the opportunity to be integrated in international research teams with great multi-disciplinary and multi-national scientists from various marine institutions with whom I built a nice network that could be very useful for future collaborations. This is to say that I am lucky enough to work at the [Lebanese National Council for Scientific Research](#), a well-known research institution that encourages its researchers to be involved in international projects and activities. I have been lucky to interact with great people, with whom I could get involved in many international collaborations and scientific committees. Nevertheless, I am fully aware that there is still huge work to be done in order to improve the inclusion of researchers from under-represented areas/institutions in such significant activities.

In fact, there are numerous great opportunities for training and capacity building summer schools. However, this is not enough to guarantee the inclusivity of researchers from under-represented areas to major marine research centres and community’s “hot” events! We need more North-South, East-West collaborations. We need to encourage multi-cultural/multi-national/multi-continental collaborations between professional researchers from developed countries who have special attention and researchers from ignored or under-represented countries with willingness to be a significant part in the marine scientific community, whether in research cruises and experiments, proposals, projects, and articles.

We need more research justice because we are better together!



Team photo (left) and Abed (right) during the MSM 72 cruise conducted in the Mediterranean Sea in 2018

### First Mauritian trainee at the 2015 NoSoAT floating summer school: 5 years later!

Pavane Angelee Annasawmy

Postdoctoral Research Associate, University of Washington, Seattle, USA

Alumnus profile: <https://nf-pogo-alumni.org/profile/pannasa/>



NoSoAT 2015 African trainees (left to right) Amy Rossenrode (nee Wright), Edem Mahu, Ngozi Oguguah, Ngwako Mohale, Mohammed Kajee, Pavane Annasawmy and Zo Rasoloarijao

I am grateful to NF-POGO and the Alfred Wegener Institute (AWI) for choosing me to take part in the first floating summer school along the North-South Atlantic Transect (NoSoAT) from Bremerhaven (Germany) to Cape Town (South Africa) in November-December 2015. We were 32 students from 19 countries, who have been selected by AWI from more than 490 applicants. I feel very proud to be one of the seven African and the only Mauritian trainee taking part at this wonderful opportunity. I feel immense pride and satisfaction to put Mauritius on the map for so many people on board the R/V POLARSTERN who heard for the first time of such small island nation. I also feel honoured to have paved the way for other Mauritian students, who have later been selected by AWI to board the R/V POLARSTERN.

The R/V POLARSTERN is a very impressive 118-m length double-hulled icebreaker with more than 6 storeys, spacious cabins and big working spaces and laboratories. During the five weeks at sea, we were trained in oceanographic data collection and analyses. The 32 students were divided into five groups and worked on CTD data collection and water filtration, phytoplankton taxonomic identification, zooplankton collection and identification, and remote sensing. The scholars were encouraged to develop and master other skills such as time and project management, and scientific and ethical practices. It was a great opportunity to get hands-on experience doing marine research at sea and to understand how a research vessel operates. The cruise organisers and lecturers gave us short courses on satellite, physical and biological oceanography and taught us how to use specific software such as Beam Visat and Ocean Data View for data visualisation. The students also shared and instructed the use of new software among ourselves and supported each other in the learning process.

I took the opportunity to write a scientific article using the physical and biological data collected at Ampère seamount. The manuscript will soon be submitted to a scientific journal for publication. The training on-board the R/V POLARSTERN prepared me for my Ph.D. studies which I started shortly after. I went on three research cruises in 2016 on the R/V ANTEA organised by the Institut de Recherche pour le Développement (IRD, France) to collect oceanographic and biological data for my thesis. The cruise felt less daunting for me since I already had gained experience at the NoSoAT.

Five years after my participation at the NoSoAT floating summer school, I can say that I have become a fully-fledged oceanographer who is now more confident in doing research work on board, and can write peer-reviewed scientific articles, successful research project proposals and grant applications. I am also capable of delivering scientific presentations to a broader audience around the world. This experience has made me come out of my shell and taught me to network with people from all over the world. I have also made life-time friends and I am still in contact with some of the fellow grantees. Throughout these five years, we have been following each other's personal lives and research work. We have been supporting, encouraging, and helping each other and sharing ideas on data collection and processing.

The floating summer school experience also allowed me to join NANO. NANO has provided me with a platform to express ideas and opinions as well as to share mine and other people's research work. In 2018, I was the editor-in-chief of [NANO News 15<sup>th</sup> issue](#) and wrote an article on my concerns about plastic pollution. NANO allows me to follow what other members have been working on and to discuss methodologies, data collection and processing with researchers globally.

Being the single Mauritian candidate selected among 490 applicants from all over the world gave me confidence that I can do great things and can reach for opportunities worldwide. Following my PhD degree with IRD, the first postdoctoral research proposal I wrote, investigating the trace element analyses in mesopelagic fish from the Indian Ocean, was approved for funding. I have also been awarded a highly competitive Joint Institute for the Study of the Atmosphere and Ocean (JISAO) fellowship for a two-year postdoc on Antarctic Krill at the University of Washington (UW) in the United States, which is ranked the 14<sup>th</sup> best university in the world. I started this new position at UW in January and I am looking forward to doing more research work in the Indian Ocean in the near future.

The NoSoAT floating summer school has made me grow in so many ways and has paved my way for a successful scientific career. I cannot be thankful enough to AWI, NF, POGO, NANO, the sponsors and all the fellow scholars for this wonderful experience which has had life lasting impacts for me.



Scenes of Pavane and colleagues during the NoSoAT 2015 Floating Summer School.

## Strengthening the French-South African scientific collaboration

Pavane Angelee Annasawmy

Postdoctoral Research Associate, University of Washington, Seattle, USA

Alumnus profile: <https://nf-pogo-alumni.org/profile/pannasa/>



Following my joint Master's degree from the University of Cape Town (UCT, South Africa), the University of Montpellier (UM, France) and the Institut de Recherche pour le Développement (IRD, France), I was offered a PhD project. I was the first student selected for the first collaboration between UCT and UM and fully funded by the *Allocations de recherche pour une thèse au Sud* (ARTS) scholarship from IRD (Albergel, 2016). I had the opportunity to write my own research proposal, which aimed to investigate the distribution, assemblages and trophic relationships of micronekton at two shallow seamounts in southwestern Indian Ocean. For my PhD studies I've spent six months in France and six months in South Africa during each academic year. Working in two laboratories in opposite hemispheres proved to be challenging in terms of paperwork and logistics, but also a great opportunity to help strengthen the partnership between the two research institutions. Furthermore, I benefited from the research experience, skills and expertise of researchers in both places. I shared the scientific knowledge acquired in France with the student community at UCT and knowledge acquired at UCT to IRD researchers by giving regular presentations at organised events and weekly seminars.

During my doctoral studies, I presented my work at international scientific conferences such as the WIOMSA at Tanzania and WGFASST in the United States (with financial support from the UM and the International Centre for Education, Marine and Atmospheric Sciences over Africa - ICEMASA). In addition, I organised a taxonomy workshop for graduate students at UCT with the prestigious presence of experts Yves Cherel (CNRS, France) and Evgeny Romanov (NEXA, Reunion Island). At the workshop, Dr Cherel and Dr Romanov held an open session where they identified all the micronekton sampled during La Pérouse (DOI: 10.17600/16004500) and MAD-Ridge cruises (DOI: 10.17600/16004800 and 10.17600/16004900). By participating in such international, multidisciplinary events I was exposed to a wide range of ideas and opinions and received feedback from researchers from various study fields, ultimately have improving my critical thinking. Also during my PhD, I had the chance to assist an Honour

student (Ukarapo T. Mungunda) in a project that resulted in her work, which depicted samples collected at the Indian ocean seamounts, being displayed at the John Day building in the UCT campus.

As an outcome of my thesis, I have authored three and co-authored two scientific articles published in high-profile journals such as *Deep Sea Research II* and *Progress in Oceanography*. However, the proudest moment for me was defending my thesis in front of a panel of French and South-African researchers. I cannot be thankful enough to my main PhD advisor, Dr. Francis Marsac, who was nothing but supportive during the 3-year period. He gave me freedom to manage my work and explore methodologies, encouraged me to think critically and to acquire new skills and, on top of all, financially supported my laboratory work. After graduating, Dr. Marsac and Dr. Nathalie Bodin (Seychelles Fishing Authority) fully supported me to investigate trace elements in micronekton from southwestern Indian Ocean. I was offered a MARG-I postdoctoral scholarship from WIOMSA to conduct the first research project between the Seychelles Fishing Authority, the Géosciences Environnement Toulouse (France) and the Littoral Environnement et Sociétés laboratories. The laboratory analyses have been completed and a scientific article will soon be submitted for publication.

Finally, this French-South African collaboration also allowed me to network with researchers from both countries and to develop future research projects to be conducted in the Indian Ocean. Despite the numerous hardships associated in building and continuing a scientific collaboration between institutions from both hemispheres, it is an extremely rewarding endeavour personally as well as professionally. I cannot be thankful enough to IRD, UCT and UM for their faith and trust and to have chosen me for this scientific collaboration which has life-lasting impacts.

### References

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Pavane with her main PhD supervisor, Dr. Francis Marsac (left) and delivering a presentation at the Working Group on Fisheries Acoustics, Science and Technology (below).



Above, Mrs Ukarapo T. Mungunda, winner of the UCT digital imaging competition, and her awarded "Beauty and the Beast" photo. The photo depicts fishes sampled during the La Pérouse and MAD-Ridge seamounts.

## Insights from the NASA's PACE mission (Plankton, Aerosol, Clouds, ocean Ecosystem)

Priscila Kienteca Lange

Postdoctoral Research Associate, Blue Marble Space Institute for Science (BMSIS), USA

Alumnus profile: <https://nf-pogo-alumni.org/profile/plange/>



My name is Priscila K. Lange, and I became an NF-POGO alumnus after attending the Centre of Excellence in Bermuda (2011-2012), followed by a shipboard training on the cruise AMT 22 (2012). Thanks to the knowledge gained in these years and the guidance of Trevor and Shubha, I had the opportunity to complete my Ph.D. at the University of Oxford in 2017, advised by Dr. Heather Bouman. After the Ph.D., I returned to Brazil, where my daughter was born. As a pregnant woman and then a recent mother, it was very challenging to find a job in Brazil. After trying for a few months, I applied for a position overseas, at the American National Aeronautics and Space Administration (NASA).

I was admitted to NASA as a post-doctoral fellow in 2018, as part of the science team of the new NASA mission called [Plankton, Aerosol, Clouds, ocean Ecosystem](#) (PACE). The PACE satellite will be launched in 2022, and will host two polarimeters and a hyperspectral ocean colour instrument (OCI), which I was lucky enough to see! (Fig. 1). Because of the spectral resolution of PACE's OCI, the reflectance ( $R_{rs}(\lambda)$ ) information will allow finer segregation between phytoplankton and aerosol types. My role was to develop new phytoplankton algorithms using hyperspectral  $R_{rs}(\lambda)$  and derived inherent optical properties (IOPs), and also evaluate existing algorithms to aid implementation by NASA. I had Dr. Ivona Cetinic, Dr. Cecile Rousseaux, and Dr. Jeremy Werdele as bosses. However, they were way more than that. They were mentors, inspirations, and examples for life, as many of my work colleagues were.

Being part of a NASA mission was truly amazing, especially a mission like PACE. During the 1.5 years I worked for PACE, I learnt what it takes to launch a satellite. The time, the planning, team work, collaborations, collective effort, fundraising and most importantly, science communication and outreach! The PACE project puts a massive amount of effort to inform the public about the goals of this mission and how it will benefit society. Every single person in the mission is involved in the communication efforts: the project manager, the project scientist, principal investigators, engineers, data managers, programmers, everyone participates in the activities of science communication and outreach (Fig. 2, left). And this is where I learnt my greatest lesson: Raising awareness of the importance of your science to society is crucial not only for fundraising, but also for the success of a project. In other words, **Application and education**: Application of science to benefit society, and education of society by bringing to them the knowledge gained with science.

Working for NASA was a great achievement in my career. But I had no idea how wonderful this experience would be and how it would change many of my impressions of the scientific world. The NASA's Ocean Ecology Laboratory hosts the Ocean Biology Processing Group (OBPG), which is responsible for processing data from satellites such as Aqua-MODIS and VIIRS, and host the NASA Ocean Color website and the database SeaBASS. In such an environment, with such responsibility and pressure, I could not believe how people could be so kind, helpful, friendly and really embrace new employees (Fig. 2, right). I learnt so many lessons, I had so much support, and I made friends and working partners for life. I realised that it is the kind of work environment I want to be in, and I will do my best to make it happen back home in Brazil. None of this would have been possible without the background and previous support provided by NF-POGO. For that, I am forever grateful.



Visit to the PACE OCI testing facility during an endurance test with Dr. Jeremy Werdele (left). Thank you Jeremy!



(Left) Participation of the NASA Ocean Ecology Laboratory in the Earth Day outreach event at the Union Station, Washington DC (Left to right: Gary Davis (NASA spacecraft systems engineer), Dr. Bridget Seegers (NASA OEL), myself. (Right) Picture taken on the women's day, when daycare was closed and I had to take my baby to work. She had a fun time!



# NANO's tribute in loving memory of Professor Trevor Platt

## NANO Founder (1942 - 2020)

On April 5<sup>th</sup> we lost our mentor, Prof. Dr. Trevor Platt. Trevor's groundbreaking scientific contribution revolutionised the concepts in ocean dynamics, physical-biological interactions, and primary production. But in addition to this, Trevor was one of the most important founders and an enthusiastic patron of the NF-POGO Alumni Network. We, NF-POGO alumni, are part of Trevor's legacy, and for that we are all forever thankful. It was an honour and a privilege to be his apprentice.

Here, NF-POGO alumni and friends leave a tribute to his memory.

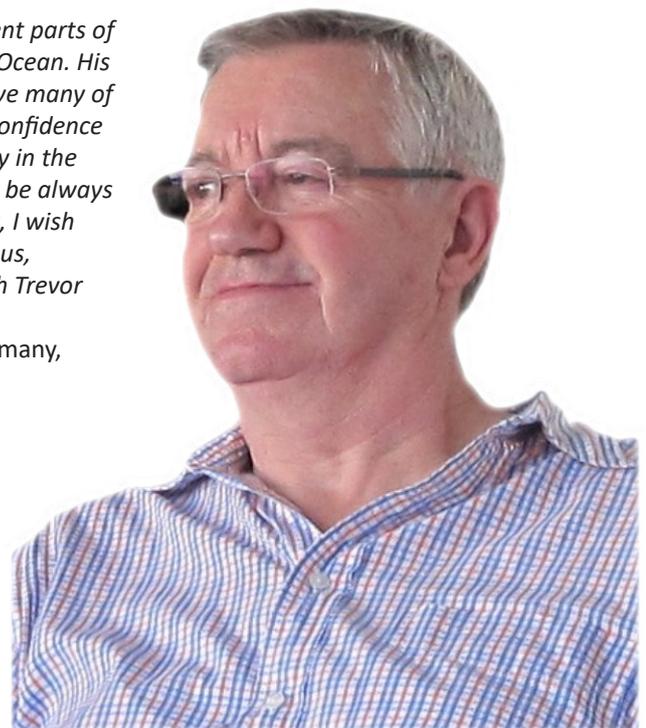
*"A real teacher is he who is very selfless and who loves his student's even more than a father can love his child (Swami Rama- Living with the Himalayan Masters). This definition of teacher by Swami Rama is so appropriate for Prof. Trevor and every student of his got to witness this quality of teacher in Prof Platt. His physical absence is an irreplaceable loss to all his students and followers. But Trevor will always live in the works and actions of these researchers."*  
- Ravidas Naik (VP India, 2004-2005)

*"Everyone benefits from a mentor, especially the young, and at that Trevor excelled, but also the not so young, and for me, that was Trevor. He touched my heart, touched my soul. Inspired me. Nurtured me. Guided me. I am eternally grateful. I am a better person for having known him. Trevor and Shubha were truly the yin and yang of life, learning, giving, and caring. The world has lost a great scientist and friend, a friend of the planet, the blue planet, that he nurtured and cared for so deeply. Our thoughts and prayers now go to Shubha. May she find peace of mind during this terrible time."*  
- Gerry Plumley (NANO Friend)

*"Professor Trevor Platt touched my life by his wisdom, knowledge and kind words and changed the course of my destiny. He encouraged me to believe in myself and go beyond what I think I am capable of. It is a big loss for the Ocean Science community and he will be missed and will always be remembered."*  
- Gayatri Dudeja (CofE Bermuda, 2010-2011)

*"Trevor was (is) a role model for many oceanographers, not only because of his significant contribution to the science but as a human who found and taught others the importance of the unity of oceanographers from all different parts of the world for saving the World Ocean. His support, trust, and kindness gave many of us young oceanographers the confidence and position that we have today in the field. Trevor and his lessons will be always live among us. For this moment, I wish strength and patience for all of us, especially Shubha who was with Trevor throughout the path."*  
- Forough Fendereski (CofE Germany, 2016-2017)

*"Prof. Trevor Platt was the greatest scientist I have ever met. Despite being a world renowned scientist, the effort he took not to intimidate a novice like me while explaining complex bio-optical theories and satellite data analyses revealed the perfect teacher and the humble human in him. He introduced me into the POGO family and encouraged me to take up NANO projects. Whether it be the SAFARI 1 and 2 symposia, or the joint EU FP7 and India-UK bilateral projects, he guided me on each and every little aspect, from planning the field trips to organising workshops and developing scientific relations to writing reports. I will always remember our discussions on books and his passion for cooking. He made all his acquaintances feel equally loved and cared for. We are all blessed to be his students. Such noble souls seldom tread the earth and I count myself extremely lucky to have known him."*  
- Nandini Menon (Reg CofE Philippines, 2014)



*"It was the year 1995. I had come back to Sri Lanka after completing my Ph.D. in Physics (in Theoretical Bio Physics, to be more precise) and had secured a permanent position at the Department of Physics at University of Ruhuna, only a year ago. As a fresh academic, I was going through a difficult time establishing myself as a researcher in Bio Physics for two main reasons, one because I was the only person in the country at that time with a Ph.D. in the particular field and two because we were not having access to fast computers in the department at that time. As I was exploring my research interests to make a turn, I came across a circulated notice about an intensive workshop to be held in April of that year in Bangalore, India on "Applications of Remotely Sensed Data on Ocean Colour". As soon as I read the suggested topics, I thought it could be an area where I could make some contribution to the society, especially, as a scientist from a country surrounded by the Indian ocean. At the same time, I was having doubts whether my application to the workshop would be turned down as my research background was different. I thought to send an email to the resource persons inquiring about the possibility of my participation under those circumstances. The resource persons were Dr. Trevor Platt and Dr. Shubha Sathyendranath and to my amusement, I got a very supportive and a generous reply from them the very next day asking me to apply for the workshop. I attended it with an open mind and the way they conducted the workshop created a huge positive change in my outlook and it was the greatest turning point in my research career. As a young academic I watched and learned with so much enthusiasm that how knowledge and experience of a great researcher could make him so humble, down to earth, friendly and supportive. The understanding, the friendship and the professional closeness that Trevor and Shubha extended during those few days carried through all these years in multiple scales which lead to many developments as well as many accomplishments in my research career. Though I was kind of a 'lateral' entry researcher into the field of oceanography, Trevor always encouraged me saying that 'Don't worry, you can adapt easily because you are not carrying the baggage'. With his support and recommendation, I visited Bedford Institute of Oceanography for a few occasions, and sometimes I wished if I had a chance to work there much longer because of the cordial and productive research environment he had entrusted in the lab. I would close this short account of my memorable acquaintance with Trevor with the deepest sadness for the loss of a great researcher and a great mentor. May his soul rest in peace!!"*

- Kanthi Yapa (VP Sri Lanka, 2006)



Such was his knowledge and dedication, Trevor received numerous awards and honours throughout his career. Above, Trevor received Illustrious Visit Distinction at the University of Concepcion, Chile in 2016. (Credits: UdeC).

*"I have no words to express the immense gratitude that I will always feel for Trevor Platt. He was a real visionary, and an exemplary person to follow. He invested a significant part of his life transferring his knowledge to the new generation of scientists without any cultural preference. He was an outstanding academic in the field and -more importantly- Trevor was a very modest person despite his exceptional professional achievements. He was always able to help people. I am honoured for having been your student in the framework of the POGO programme. I will really miss our short but very nutritional conversations. You leave an invaluable legacy that will remain forever. I am a tangible proof of your legacy. I am deeply saddened for your early and unexpected departure. Rest in peace, my friend and professor."*

- Rafael Rasse (CofE Bermuda, 2010-2011)

*"I only met Trevor briefly in Nova Scotia for a workshop, and was initially nervous to meet him because of his stature. But, his warmth immediately made me feel at ease. I was impressed with his passion to promote oceanography beyond borders and to the youth."*

- Aletta T. Yñiguez (NANO Friend)

*"I am deeply saddened by the big loss of Trevor, I am honoured and blessed to have known him, he was a very caring and great person for the ocean community and young scientists from all over the world. May our prayers ease his wife Shubha and all his family and friends through this difficult time. and may his soul rest in peace."*

- Yosra Khammeri (CofE Bermuda, 2010-2011)

*"'Short and concise', that is what Trevor expected from us his pupils and "children" at Bedford Institute of Oceanography. Trevor himself was anything but short, quite the contrary; he was full of big ideas. He was a great teacher, generous with his knowledge and advice, and always expecting the very best from us. He used to gaze at the audience whenever we had a presentation to check their reaction, and provide constructive criticism afterwards, and was proud when we did well. He took the time to teach us the complexity of English, humouring us patiently when we had difficulty pronouncing a word... and he would not give up until we got it right. He used to greet us with "behave" when he was leaving; we tried.... He was never alone in his enterprise; Shubha was right at his level. Trevor had a huge impact on us, and his teaching has helped us all along."*

- Margareth (Nabuma) Kyewalyanga, Vivian Lutz, and Sophie Carler (VP Kochi 2004-2005, NANO Friend)

*“Life’s perspective changed since I met Prof Platt during his first POGO visiting Professorship at NIO, RC-Kochi in 2004. Those four months of training under him and the doctoral research at NIO, Goa moulded me as a scientist who fulfilled even administrative matters with a scientific temper. A second stint in 2013 at PML, UK for three months on NAIP fellowship reinforced the personal bond and concepts on optics which could be applied to marine fisheries. This paved way for the prestigious Jawaharlal Nehru Science Fellowship to Prof Platt for which I became the coordinator. He brought in a sea of change in the ways we approached a scientific problem, promoted inter-disciplinary studies, and built an international team to work on remote sensing and health. There is still a long way to go to fulfill his dreams of SAFARI and related science. Memories are bright and your wisdom will guide us but I will miss your warm physical presence which was always gentle and affectionate.”*

- Grinson George (VP India, 2004-2005)

*“For me Dr Trevor Platt was an example, not only as the brilliant ground breaking and creative scientist he was, but also as the person who believed that we have the power to change the world through our science, and encouraged so many to do so. Openness was the keyword he imprinted in me. All this while being the very kind person he was. My sincere heart feelings to Shubha.”*

- Cátia Matias (CofE Bermuda, 2008-2009)

*“I first came across the name Platt just after my PhD, when I was, looking at ocean colour remote sensing and came across the paper ‘Platt and Sathyendranath’ that made a huge impression. It was almost 2 decades later that I met Trevor and Shubha at the POGO-7 meeting in Hyderabad after being selected as the POGO-Nippon Foundation visiting Professor to Sri Lanka. This was the first time I realised that the relationship between Trevor and Shubha extended beyond being co-authors. Since then I have met Trevor and Shubha at many meetings around the world and was always impressed by the kind words and advice given by Trevor to many early career researchers and students. Trevor achieved much and received multiple awards over his career but his leadership in global marine science (POGO) and his humble personality is what I admired the most. We all mourn the loss of a visionary leader. May he rest in Peace. Deepest sympathies to Shubha. We are all thinking of you.”*

- Charitha Pattiaratchi (NANO Friend)

*“Prof Trevor Platt, FRS, was a renowned scientist in bio optics and remote sensing and he nurtured large numbers of students belonging to the all continents. I met the Professor and his wife Dr Shubha Sathyendranath during the first SAFARI conference held at Cochin 2010. I attended several lectures in later years on different occasions and every time he conveyed new knowledge in the subject. He personally took an interest to send me for a three week NF-POGO training in the Philippines and then encouraged me to become an alumni of NF-POGO. He was one of the best mentors ever I have seen, provided best guidance, always patiently heard others, well mannered, respected the scientists and students, and led a simple and active life. Prof Trevor and Dr Shubha are two gems in the ocean science community. Praying Almighty to give Professor an eternal life and also prayers to his wife to get strength to meet the situation. GOD BLESS ALL.”*

- Muhamed Ashraf P (Reg CofE Philippines, 2014)



Trevor believed ocean partnerships are the pathway to achieve international cooperation, the only possible way to study the ocean at its vast geographical scale. As an authority on the subject he was invited as guest speaker in many conferences. Above, Trevor presented at the World Research and Innovation Congress - Oceans, in Lisbon, 2014. Credits: Vikki Cheung

*“Besides brilliant scientific research and scientific management achievements, Trevor Platt should be specially honoured as a mentor, advisor, lecturer, and studies organiser. Certainly there are hundreds of people around the globe who are sincerely thankful to him for educational lectures and scientific mentorship. So I am. Personally, I was only lucky enough to attend one of his lecture courses and met him few times in my life; yet a large part of my scientific and professional success, I believe, is due to his direct or indirect efforts. So let’s render homage to this professorial side of his personality, use it as a model and try to do our best in scientific teaching and ocean literacy development around the world.”*

- Kirill Kivva (CofE Bermuda, 2009-2010)

*"Prof. Dr. Trevor Platt was a person of great knowledge in the field of ocean science as well as other fields which naturally enlightened people around him. I have been fortunate enough to know Prof. Dr. Platt as well as Dr. Sathyendranath during my POGO training at NIO, India in December 2004. Since then both have been my Mentors and strong moral support in my career specially during my Ph.D and personally too. I also got to work with him in 2008 in a project at SAHFOS, United Kingdom. He was a kind hearted, simple, down-to-earth person who would be hard to find in our current prevailing society. His demise is a huge loss to the field of science and personally to me. My best regards to Dr. Shubha Sathyendranath during this hard phase of life. May his soul rest in peace."*

- Siddhi Prabhukonkar Naik (VP India, 2004-2005)

*"It is a big loss for the scientific community and specially for the ocean community. Trevor was one of the nicest people I have ever met in my life. I wish his soul to rest in peace!!!"*

- Ousmane Diankha (CofE Bermuda, 2011-2012)

*"Prof. Trevor Platt made many important contributions to scientific research, international cooperation and capacity development. He also played a pivotal role in the establishment of the International Ocean Colour Coordinating group (IOCCG), being one of its founding members, and serving as the first Chair (1996-2006). Trevor was a mentor and an inspiration to many people, myself included. I worked closely with Trevor on the IOCCG Committee, and his strong leadership skills were instrumental in helping the group to gain international recognition and credibility. He was always very determined, and for a short while took up cycling (as I did). One day he set a target of a century ride (160 km) around rural Nova Scotia and quietly accomplished his goal, solo - there was no stopping him! His passing has saddened the hearts of many people from around the world, but his influence on ocean colour science will live on for many years to come."*

- Venetia Stuart (IOCCG Project Scientist, NANO Friend)

*"I was a young PhD student when I first met Trevor. He was giving a course in Chile and I was really inspired by his knowledge and his ideas. He was reachable and easy to talk with, showing interest in what I was doing and encouraging me to continue in this path. After that first encounter, every time I met him I got the chance to know other aspects of his life besides the academic one, like how much he liked playing the guitar and that he took a portable guitar with him to his trips around the world. I've never seen a portable guitar before, really one that can be folded and fit in a small box! Thus finding his way to do what he liked anywhere he travelled. I haven't got the chance to see him much lately, but I keep with me all the good memories."*

- Ana Dogliotti (VP Brazil 2006, Reg CofE Brazil 2009)

*"Trevor was (and will always be) my mentor and 'dad' in research and academia. I considered myself a 'prodigal daughter' of Trevor and Shubha because I became notorious for bobbing on and off grid. After long periods without communication, doing research stints in some corner of the world, colleagues would suddenly tell me that Trevor and Shubha were looking for me...Oooopssss!!!! Every time they would 'find' me, I'd get that sweetest "Hmm...you did it again" look and I'd shrink like a shameful raisin as their open arms and bear hugs would tell me 'It's okay'. Then would come 'the talk', in the subtlest, sweetest way, but head on to point...amazing! Haha! Trevor (and Shubha) were epitomes of passion, generosity and inspiration, who touched the lives of young scientists (they definitely did mine!) to make us into responsible, ethical and perceptive researchers/scientists with a heart... Will not fail you. Will miss you..."*

- Kathleen - Mimoy - Silvano (CofE Bermuda, 2009-2010)



Trevor's contributions to capacity developing is immense. He conducted training in several developing nations and taught Ocean Colour Remote Sensing at the NF-POGO Centre of Excellence, where he was very dear by all. Here, the 2013-2014 scholars prepared a dinner for Trevor and Shubha at the AWI Guesthouse in Helgoland, Germany.



Trevor was a great supporter of NANO since its very start. He was present in most of our annual meetings, bringing his expertise and coordination skills to assist on the elaboration of the network activities such as the regional projects. Above, the participants of the 2011 NANO Meeting, in Abingdon (UK), representing NANO Friends and alumni, Nippon Foundation and POGO Secretariat.

*“Professor Trevor Platt's impact on my scientific career is so significant and I cannot remember him without great respect and regards. I first met him in 2004 when I was a participant in the NF-POGO training workshop conducted at the National Institute of Oceanography, Regional Centre, Kochi, India. He inspired and guided me throughout the course and even financially supported me to complete that training course as I was starving at that time. Since then in several instances, I looked up for his helping hands and he never put me in desperation. He was such a scholarly, gentle, and easily approachable person and after all a great humanitarian keen to uplift newcomers in science. Undoubtedly, his demise is a great loss for the entire Marine Science fraternity especially to all those upcoming young scientists across the globe. Here I join with the sorrow of Madam Shubha and all other relatives and friends. I bow before his everlasting great memories. May his soul rest in peace.”*

- R. Jyothibabu (VP India, 2004-2005)

*“My first meeting with Prof. Trevor Platt is still fresh in my memory. It was during the NF-POGO visiting Professorship programme (March 2005) in Kochi, India in which I was among the participants. During the training programme I could find Prof. Platt was always pleased to share his ideas with us. With his incredible enthusiasm, spirit for scientific discussions and his exemplary teaching approach, he owned the hearts of all trainees. There is not an iota of misgiving that his untimely demise is a massive loss and will leave a huge gap in the world of marine science fraternity. I personally will miss a great mentor and above all a simple and affable human being in Prof. Platt. With deepest reverence for Prof. Platt I feel fortunate that I was closely associated with him in some part of my scientific career and will always cherish the moments. May his soul RIP.”*

- Sarat Chandra Tripathy (VP India, 2004-2005)

*“Trevor was a mentor, an inspiration and a guide to many of us, NANO members. My gratitude to Trevor and Shubha is unmeasurable, as they guided and motivated me towards my scientific career. After being so lucky to be Trevor and Shubha's student in Bermuda, who introduced me to the amazing world of ocean optics, they motivated me to go on the NF-POGO Shipboard training and endorsed me to pursue a Ph.D. in Oxford, something I never thought I could achieve. I thank them for teaching me the greatest lesson of all: we are stronger when we work together. I thank them for dedicating so many years of their lives to provide knowledge and opportunity to us, early career marine scientists of developing countries. I thank them for their time, their attention, and their energy. And I thank them for believing I could be a good scientist. Trevor will always be in my heart. May his soul rest in peace.”*

- Priscila Lange (CofE Bermuda, 2011-2012)

*“I am deeply saddened by the loss of Professor Trevor Platt FRS. He was a great mentor and director of NF-POGO CofE and NF-POGO Alumni Network for Oceans. He was always creative, productive, thoughtful, and gentle, and has been a true role model for me both as a scientist and a person. I had been looking forward to meeting him again to report my recent scientific progress, especially about my Ph.D. degree that he encouraged me to take and I just finished last month (March 2020). Though my wish will unfortunately not be realised, what I learned from him has always been and will always be my compass in life. My special thoughts are with his widow, Shubha Sathyendranath.”*

- Kentaro S Suzuki (CofE Bermuda, 2009-2010)

*“I first met Prof. Trevor Platt in 2008 at Bermuda Institute of Ocean Sciences where he and Dr Shubha Sathyendranath taught me (among the 1st CofE scholars) satellite oceanography. I always regarded him as a highly dedicated top scientist with an interdisciplinary view of ocean sciences, who also strongly believed that training the next generations of young marine scientists (especially in developing/emerging countries) is a major cornerstone for the enterprise of better understanding and sustainably managing our Global Ocean. May his beautiful soul rest in peace.”*

- Housseem Smeti (CofE Bermuda, 2008-2009)



Trevor was always approachable, his encouragement and guidance were one email away (usually responded within less than an hour). Above, with Lilian Krug (then NANO coordinator), Sophie Seeayve (POGO CEO) and Mathew Avarachen (NANO member). Credits: Phan Thu

*"I can't find words to describe the importance of Trevor and Shubha in my life. I met them during my training in Bermuda, back in 2009. Being Trevor and Shubha, they saw a potential that I didn't even know I had. With their encouragement and support, they held my hand and stayed next to me in every step that brought me where I am today. Dearest mentors, with the right amount of tough love and kindness. Trevor and Shubha are references and pioneers within the Ocean Colour community, being involved in so many projects and initiatives across the world... and, even so, they welcomed hundreds of students from developing countries, many of which today are directors of centres, researchers of excellence, and carry with them a sense of responsibility to pass on their knowledge. Trevor received several awards, titles, and merits in all continents. All tributes failed to mention something even more important: Trevor had the best hug in the whole world."*

- Lilian Krug (CofE Bermuda, 2009-2010)

*"Trevor was, together with Shubha, the promoter of the Latin-American ANTARES network; the idea started at a training course in Concepción in 2002. He was a brilliant researcher, pioneer in many subjects, founder and active participant of many organisations. His obituaries highlight his many academic achievements. We know that parallel to this, and equally important, he was a great teacher! He had a special dedication towards teaching oceanography in developing countries. This is how many of us became, directly or indirectly, his students. As a teacher he was very demanding, that was because he gave a lot! He was generous with his knowledge, and his disposition to help young researchers from different countries to advance in their careers. The teacher "el maestro" is gone; we shall always remember him with respect and affection!"*

- The Antares Network

*"I have been extremely fortunate to have known Prof. Trevor Platt. I met him for the first time in the mid- nineties during a workshop on modelling primary production from satellite data in Bangalore, India and since then my association and interactions with him continued as a part of many workshops and training programmes in India. I was privileged to be selected for POGO fellowship to be trained in optical remote sensing under his guidance in Bedford Institute of Oceanography, Canada. His deep insights helped me at various stages of my professional carrier. A dedicated teacher and a very generous, gentle and caring person. I am shocked and cannot even begin to express my grief at the sudden passing away of Prof. Trevor. It a great loss. I take comfort from my memories, remembering those occasions spent with him as a mentor, guide and a friend. He will always be in my thoughts. My prayers and deepest condolences to his wife and friend Dr. Shubha Sathieyendranath."*

- Mini Raman (Reg CofE India 2012, VP India 2004-2005)

*"I am deeply saddened by the loss of our Dear Trevor Platt. Trevor is a really special person for me. I met him first sometime after my Master's degree, a time when I hardly had any scientific expertise or background. Still, being an extremely down-to-earth person, he showed great compassion for me. His consideration and care for the younger generation was substantial. He guided and supported me in all my endeavours. Even though we met several times, the one that I cherish the most is when Trevor and Shubha visited us Pogonians spending quality time in Helgoland back in 2014. It felt family away from our homes...Sans Frontières! Trevor together with Shubha had changed my life dramatically. We all shall miss him! Mere words cannot express the warm touch he had left in our hearts...where he shall live forever!"*

- Mathew K. Avarachen (CofE Germany, 2013-2014)

*"Trevor was a guide and godfather to everyone who met him even once. He was a gentleman with full of knowledge but he had a no-nonsense approach towards work. He would not have to make a motivational speech for anyone, but you will get motivated by his approach towards work. He was a man of ideas and we will be definitely having less ideas now. Trevor and I started our interaction in 2011 when I was at BIOS for NF-POGO programme. Since then, whatever I did, there was some imprints of Trevor. Trevor would reply to my message (or for that matter, anyone's message) within a few hours, no matter how busy he was! My last message was to him was on 28 March 2020, I didn't get a reply for a couple of days then I started to fear something was not right. Unfortunately, my fear came true. Trevor, we are very sad that you left us but we are proud that you have left a biggest (POGO) family on this planet to take care of each other. My thoughts are with Shubha and the POGO family."*

- Arvind Singh (CofE Bermuda, 2011-2012)

*"Since 1985 when I finished my Bachelor in science in oceanology, I have been part of a Research Training Group in Phytoplankton Ecology in Ensenada Baja California Mexico. At this time Roberto Millan was the group coordinator. Whenever we published a new paper, Dr. Platt always sent us a reprint request. In the 90's we participated in the course "Estimation of primary production from remotely-sensed data on color" in the Biological Oceanography División of Bedford Institute of Oceanography (1992), and in 1997 we participated in the course "Intensive course on remote sensing of the ocean: Applications for ocean color, temperature, wind stress and altimetry". with the Universidad de Chile y Universidad de Concepción (1997), These courses were the international gate to our group. In this last course we met Adriana Gonzalez who in this moment is a fundamental part of our group. With the formation and operation of the "International Ocean Colour Coordinating Group"(IOCCG) and the POGO and NANO initiatives, Dr. Platt and Dr. Shubha Sathyendranath, like a unit, are the principal axes of this ocean color community. We know many Friends on this community. Always Dr. Platt listed all our ideas, no matter how crazy or ambitious they could be. Today, in my role as leader of the phytoplankton ecology group, I consider that Dr Platt's legacy is to promote the use of marine productivity and ocean color data as plausible tools to be used at the international level, including developing countries. For my part, Dr. Platt will always be the example to follow about my activities like teacher and research. Thank you very much Dr. Platt for everything you did for our group, my country and by promoting these research lines in Latin America."*

- Eduardo Santamaria (VP Brazil 2006, Reg CofE Brazil 2009)

*"Trevor Platt was a great person and scientist! He is a source of inspiration for the ocean optics community and will be always remembered. My sincere condolences to Dr. Shubha and the rest of the family."*

- Fernanda Giannini (CofE Bermuda, 2010-2011)

*"We would like to express our deepest gratitude to the mentorship and friendship that Professor Trevor Platt shared with the young Filipino researchers that were fortunate enough to have experienced his tutelage. We will always fondly remember his unselfish sharing of his ideas and his passion to offer opportunities to young scientists. I personally admire how he can both inspire you and put you at ease at the same time. His noble and calm presence will truly be missed."*

- Laura T. David (NANO Friend)

*"I met Trevor Platt and his wife, Shubha Sathyendranath, in conferences convened by the IOC and then again when I coordinated the UN Environment Programme (UNEP) – Global Environment Facility (GEF) Transboundary Waters Assessment Programme. Their expertise on oceanic primary production has become a major cornerstone in the growth of large-scale phytoplankton ecology. Beyond his grasp of fundamental oceanographic issues, I remain in awe of Trevor's commitment to build collaborative platforms through which to train developing country scientists. During OceanObs09 in Venice, Trevor would ask if there was interest among Southeast Asian colleagues, particularly early-career scientists, to participate in collaborative work on ocean observations. Trevor was among the most caring scientists I have met, along with his wife Shubha. They would accompany me to my lodging place each night after dinner to make sure I did not get lost in the streets of Venice or Paris. He will be dearly missed."*

- Liana T. McManus (GEF-UNEP Project Coordinator, GRID-Arendal)



Trevor was a natural teacher, sharing his knowledge in a calm yet intriguing way, frequently attracting large audiences. Here, Trevor speaks on the fascination of ocean colour at the *Congreso de Ciencias del Mar* in Chile, 2016. The recording of this lecture is available by the COPAS Sur-Austral [here](#).

POGO's tribute to Trevor can be found [here](#).

## Scientific events announcements

### **15<sup>th</sup> Pan Ocean Remote Sensing Conference (PORSEC) 2020**

**Johor Bahru, Malaysia**

**15-22 September 2020**

The 15<sup>th</sup> Pan Ocean Remote Sensing Conference (PORSEC) 2020 aims to gather all groups of ocean geospatial community within Malaysia and international working on various aspects of ocean and atmosphere using geospatial technology for discussing their results and innovations. The biennial conference is also meant to be an interdisciplinary forum for leading researchers and students in related areas to present the latest developments and applications, to discuss cutting-edge technology, to exchange research ideas and to promote international collaboration in this field.

<https://www.geoinfo.utm.my/porsec/index.php>

### **International Conference on Modeling and Analysis in Marine Big Data**

**Tbilisi, Georgia**

**01-02 October 2020**

International Conference on Modeling and Analysis in Marine Big Data aims to bring together leading academic scientists, researchers and research scholars to exchange and share their experiences and research results on all aspects of Modeling and Analysis in Marine Big Data. It also provides a premier interdisciplinary platform for researchers, practitioners and educators to present and discuss the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the fields of Modeling and Analysis in Marine Big Data

Deadline

15 June 2020

<https://waset.org/modeling-and-analysis-in-marine-big-data-conference-in-october-2020-in-tbilisi>

### **Our Ocean Conference 2020**

**Koror, Palau**

**7 - 8 December 2020**

The conference will draw particular attention to island perspectives to highlight how safeguarding our ocean is essential for achieving sustainable development. Our Ocean 2020 will focus on six Areas of Action, convening partners from across the globe to identify solutions and make commitments to manage marine resources, increase the ocean's resilience to climate change and safeguard its health for generations to come.

Contact: [info@ourocean2020.pw](mailto:info@ourocean2020.pw)

<https://www.ourocean2020.pw/palau-bringing-local-to-global-action-at-our-ocean-conference-2020/>

### **2<sup>nd</sup> International Operational Satellite Oceanography Symposium**

**Darmstadt, Germany**

**25-27 May 2021**

The Executive Steering and Programme Committees are pleased to invite community members from all levels of the value chain, from data providers to users, of operational satellite oceanographic data, products and applications, to attend the second international Operational Satellite Oceanography (OSO) Symposium. This Symposium will focus on the use of satellite data in coupled numerical models for ocean, weather, climate and environment analysis and prediction; and in operational applications for coastal waters.

Deadline

15 Jan 2021

For more opportunities in Ocean Sciences visit <https://nf-pogo-alumni.org/Opportunities/>  
Have any opportunity you would like to announce here? Contact [info@nf-pogo-alumni.org](mailto:info@nf-pogo-alumni.org)



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NF-POGO Alumni Network for Oceans

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NANO News 18 Chief Editor: Priscila Lange

Layout Design Editor: Lilian Krug

<https://nf-pogo-alumni.org/about/newsletters/>

