New members of the AIMES scientific steering committee

After conducting an open call for new Scientific Steering Committee members, AIMES is pleased to announce that Avit Bhowmik, Natalie Mahowald, Pedro Monteiro, and Yunne-Jai Shin joined the AIMES SSC in 2022. We are excited to see how they contribute to and shape AIMES moving forward!

Prof. Avit Bhowmik is an Assistant Professor of Risk and Environmental Studies at Karlstad University, Sweden. He also serves as Research Director at the Centre for Research on Sustainable Societal Transformation, Lead Modeller at the Exponential Roadmap Initiative and Advisor to the Sustainability Agenda network and African Circular Business Alliance. Avit holds a Ph.D. in Spatial Environmental Health from University of Koblenz-Landau, Germany and an Erasmus Mundus M.Sc. in Geospatial Technology. His current research focuses on leverage points for rapid climate mitigation and sustainability transformation. He explores innovative and existing climate solutions, and studies how they could be implemented to exponentially reduce greenhouse gas emissions and abruptly transform societies to sustainability. He also models the successful implementation pathways for UN Sustainable Development Goals. Previously, Avit led research on these topics at Stockholm Resilience Centre and Earth-Doc network of the Earth League with Johan Rockström, Future Earth and The World in 2050 project of the Sustainable Development Solutions Network. He is author of "1.5C Business Playbook" and several reports released to the United Nations Climate Action Summits and High Level Political Forums. Within AIMES, Dr. Bhowmik hopes to develop scientific modeling infrastructures and databases and promote its scientific products, which will be particularly relevant for the Open Modelling Foundation working group. His goal is to advance the AIMES agenda and add to its diversity and interdisciplinarity.

Prof. Natalie Mahowald is an Associate Professor of Atmospheric Sciences at Cornell University in the Department of Earth and Atmospheric Sciences. She earned her M.S. in Natural Resource Policy at the University of Michigan and her Ph.D. in Meteorology at MIT in 1996. The focus of Natalie's work is on natural feedbacks in the climate system, and how they responded in the past to natural climate forcings, and how they are likely to respond in the future. This includes building new parameterizations within Earth system models that couple new areas: for example aerosols and biogeochemistry, or fires within the Earth system, or the impacts of land use on aerosols and the carbon cycle. Natalie has received a number of awards and recognitions throughout her career including: American Meteorological Society Henry G. Houghton Award, American Meteorological Society Fellow, American Geophysical Union Fellow, and Guggenheim Foundation Fellow. She served as lead author on two Intergovernmental Panel on Climate Change reports: Assessment Report 5, Working Group 1 and the Special Report on 1.5°C. For her future work with AIMES, she is excited to plan workshops in the new areas requiring expertise: the high metal requirements of converting to renewable energy and the potential for adverse environmental impacts, the impact of accumulating plastics on the earth system, and better integration of social sciences within earth system science as well as building a Young Scholars network.

Dr. Pedro Monteiro is the Chief Oceanographer at Council of Scientific and Industrial Research (CSIR) in South Africa where he heads the Southern Ocean Carbon-Climate Observatory (SOCCO). He earned a PhD from the University of Cape Town in 1997. Dr. Monteiro's research interests are in the role of the ocean in the global carbon cycle towards a better understanding and projection of the carbon-climate feedbacks, their processes and characteristic modes of variability. More specifically his research focuses on the role of the Southern Ocean in the global carbon-climate system through the lens of fine scale (meso and sub-mesoscale) physics and its influence of the variability and trends of ocean fluxes and storage of anthropogenic CO_2. Increasingly this research is growing to include heat so that CO_2 and heat fluxes and storage and their mechanisms are better understood in an integrated way. This work undertaken in the Southern Ocean Carbon Climate Observatory (SOCCO) combines robotics based experiments with forced very high resolution models and machine learning based data products. Dr. Monteiro served as a coordinating lead author of the IPCC AR6 WG1 Chapter 5 'Carbon and Biogeochemical Feedbacks,' and drafting author of the Technical Summary and Summary for Policymakers (SPM). Dr. Monteiro is interested in contributing to AIMES's broader objectives to build networks to support, understand, and project the emerging feedbacks in the complex coupled Earth System – ecosystem – human system under contemporary and projected human agency. He hopes to explore the responses of the coupled ES – ecosystem – human systems to net-zero and negative emissions at both regional and global scales.

Dr. Yunne-Jai Shin is a Director of Research for the Research Institute for Development for Marine Biodiversity, Exploitation and Conservation in France. She has a Ph.D. in Biomathematics from University Montpellier and two Master's degrees in Biomathematics and Fisheries Science from the University of Paris and ENSAR Rennes. Previously, Dr. Shin acted as an honorary research associate at the University of Cape Town's Department of Biological Sciences, and a research scientist at IRD. Her expertise is in marine biology and ecology. Some of her key achievements include the simulation of biodiversity scenarios for marine ecosystems under the combined effects of fishing and climate change; the assessment of the status of global marine ecosystems based on analyses of biodiversity indicators, and the development of state-of-the-art ecosystem models to run these scenarios. Dr. Shin served as the coordinating lead author of Chapter 4 of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' Global Assessment, Chapter 5 of the IPBES-IPCC scientific report, and participated in political hearings that ensued at the US Congress, French Parliament, and French Presidential Palace. What motivates Dr. Shin in AIMES is the opportunity to share visions from experts working in different disciplines and on different biomes. In the SSC, she hopes to contribute to the animation of research on biodiversity models and scenarios by bringing her expertise in marine ecosystem modeling and scenarios of ocean futures.