Session title: **Artificial Intelligence and Marine Big Data support SDGs(I)**

Session Organizer: **Institute of Oceanology, Chinese Academy of Sciences; South China Sea Institute of Oceanology, Chinese Academy of Sciences**

Short Description

This session will be of interest to researchers, methodologists, and policy makers on SDG 13、14 targets. This session will also be of interest to those who care about marine development and those related to the marine economy.

Objectives

The session will focus on SDG 13、14 and discuss the following important points. Like reducing marine hazards and disaster losses, protecting marine and coastal pollution, protecting and Restoring of Marine Ecosystems, minimizing and addressing the impacts of ocean acidification and big ocean data in helping to understand of the ocean. The objective of the session is destined to the presentation of new ocean science and efficient technologies in supporting the implement of SDG 13、14 targets.

Expected Results

1.The supporting of the latest progress in ocean science on sustainable development

2.Providing data, methods and means for implement of SDG 13、14 goals from the discussion of ocean scientists

3.Efforts should be taken in the next steps to protect the health and sustainable development of the ocean

Agenda

Time 15:15-16:45, September 7th 2023 Room: 305 C

Moderators:

WANG Fan

Professor

Institute of Oceanology, Chinese Academy of Sciences

WANG Fan, Researcher, Director of the Institute of Oceanology, CAS (IOCAS).He is mainly working on ocean circulation dynamics, including the western boundary currents in the low-latitude Pacific, tropical ocean circulation, shelf circulations in the China Seas and mesoscale processes, etc. He undertook more than 30 projects funded by National Basic Research Program, National High Technology Research and Development and National Natural Science Foundation of China, etc.He has published over 140 papers and 3 Academic Monographs. He has been awarded "National Advanced Science and Technology Workers", "National Science and Technology Innovation Talents" and many other awards for his remarkable works.

LI Chaolun

Professor

South China Sea Institute of Oceanology, Chinese Academy of Sciences

LI Chaolun, Researcher, Director of South China Sea Institute of Oceanology. He obtained my PhD degree from Institute of oceanology, Chinese Academy of Sciences in 2002. Since then, he worked in the zooplankton team of IOCAS. As a visiting scientist, I worked in the University of Tromsø, Norway during 2004-2005, and in the University of Connecticut, USA in 2007. His research interests include zooplankton population dynamics, ecological disasters (jellyfish bloom) in China coastal waters, extreme environment and ecosystem exploration in the deep sea and polar sea. Now he the member of Standing Scientific Group on Life Sciences of SCAR.

Event 1 (15:15-15:33)

A purely data-driven transformer model for real-time predictions of the 2023-24 climate condition in the tropical Pacific

ZHANG Ronghua

Professor

Nanjing University of Information Science & Technology

ZHANG Ronghua is a professor at School of Marine Sciences, Nanjing University of Information Science and Technology, Nanjing, China. He received his Ph. D. from the Institute of Atmospheric Physics, Chinese Academy of Sciences in 1989. Then, he worked respectively at the Meteorological Research Institute/Japan Meteorological Agency (Japan), the National Oceanic Data Center (NODC)/NOAA (USA), the University of Rhode Island (USA), the Columbia University (USA), the University of Maryland (USA), and the Institute of Oceanology, Chinese Academy of Sciences (IOCAS). His research interests include coupled ocean-atmosphere interactions and numerical modeling, ENSO prediction and predictability, and climate simulations. Currently, he serves as an Associate Editor in Chief for Journal of Oceanology and Limnology (JOL), an Assistant Editor in Chief for Acta Oceanologica Sinica and as an Editor for Atmospheric and Oceanic Science Letters (AOSL).

Event 2 (15:33-15:51)

Introduction to a platform of information integration of China coastal sea

ZHANG Fang

Professor

Institute of Oceanology, Chinese Academy of Sciences

Dr. ZHANG Fang, is currently working as the Professor of CAS Key Laboratory of Marine Ecology and Environmental Sciences, IOCAS. Her research interests include population dynamics of zooplankton, trophic ecology of gelatinous zooplankton, large jellyfish bloom forming mechanism, monitoring, prediction and control. She has been supported by several state level projects from the China National Natural Science Foundation (NSFC) and Ministry of Science and Technology (MoST) of China, she has published more than 70 peer-reviewed scientific papers.

Event 3 (15:51-16:09)

Ocean big data in support of the sustainable development of the Maritime Silk Road

TANG Shilin

Professor

South China Sea Institute of Oceanology, Chinese Academy of Sciences

Dr. TANG Shilin received a B.S. degree in Exploration Technology and Engineering from the China University of Petroleum in 2003 and a Ph.D. degree in Physical Oceanography from Graduate University of Chinese Academy of Sciences in 2008. In 2008, he worked as an assistant scientist at the Center for Earth Observation & Digital Earth, Chinese Academy of Sciences. In 2009, he was supported by the Natural Sciences and Engineering Research Council of Canada (NSERC) and worked in Fisheries and Oceans Canada. Currently, he is working as a research professor in the State Key Laboratory of Tropical Oceanography, South China Sea Institute of Oceanology, Chinese Academy Of Sciences, and working as an adjunct scientist at the Sanya Institute of Ocean Eco-Environmental Engineering. His research interests include ocean remote sensing and ocean big data.

Event 4 (16:09-16:27)

Big data helps to understand the diversity and geographical distribution of marine microeukaryotes

ZHAO Feng

Associate Researcher

Institute of Oceanology, Chinese Academy of Sciences

Dr. ZHAO Feng served as the deputy director of the Laboratory of Marine Organism Taxonomy and Phylogeny, Institute of Oceanology, Chinese Academy of Sciences. He was successfully selected as a member of the Youth Innovation Promotion Association of the Chinese Academy of Sciences (2022). Dr. Zhao's research focuses on the diversity and distribution of protist, particularly ciliates, in the deep sea. He serves as a young editorial board member of the international journal iMeta and the Chinese journal Acta Hydrobiologica Sinica.

Event 5 (16:27-16:45)

Global estuarine fronts monitoring using remote sensing big data

FU Dongjie

Associate Researcher

Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences

Dr. FU Dongjie is Associate Professor at the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences. Dr. Fu's research focuses on coastal remote sensing, remote sensing big data. He has been honored with first-class of Marine Science and Technology Award from Chinese Society for Oceanography in 2021.