International Conference "Marginal Seas - Past and Future"

November 27 - December 1, 2023

Conference Program

ZOOM_ID: 840 6080 3054

Password: 2023

Guangzhou Marine Geological Survey,
China Geological Survey,
Guangzhou, P.R. China

Co-organized by

DDE Marginal Seas Task Group

Baltic Earth

University of Szczecin, Poland

Helmholtz-Zentrum Hereon, Germany

China University of Geosciences, Wuhan, China

Sun Yat-sen University, China

Section of Marine Geology, Polish

Scientific Committee on Oceanic Research, Polish Academy of Sciences, Poland

PREFACE

Marginal seas as zones of transition between continents and oceans are increasingly becoming the focus of international marine research. The reason lies in their importance as buffer zones for the natural transfer of matter and energy between the mainland and the marine areas and thus as a source of marine raw materials, for energy production, as trade routes and the socio-economic networking of society. In addition, the coastal zones and the people living there are increasingly threatened by sea-level rise and extreme weather phenomena, so that effective coastal zone management is of vital importance.

To contribute to the demands of the society on marine geosciences, and to foster international cooperation we established a network of marine scientists and launched a scientific research initiative focused on marginal seas research. Our special research approach consists in the integration of the new possibilities of big data analysis and modeling techniques including AI and machine learning. On 28th November, 2019, the 1st Marginal Seas Expert Meeting took place at Guangzhou, China titled "Eurasian Marginal Seas: Past and Future", hosted by the Guangzhou Marine Geological Survey (GMGS), China Geology Survey (CGS), and attended by 18 overseas experts from seven countries, together with 50 Chinese colleagues. During the COVID-19 pandemic, the conference "Marginal seas: Past and Future", was held on-line as 2nd Marginal Seas Expert Meeting hosted by the University of Szczecin (USZ), Poland and the Baltic Earth scientific network, on 16-17th December, 2020. In 2021 the Marginal Seas Task Group has been established in the frame of the Deep-Time Digital Earth (DDE) Big Sciences Program of the International Union of Geological Sciences (IUGS) and co-organized later scientific events such as the GMGS/CGS hosted a hybrid online / onsite 3rd Expert Meeting "Marine Geology: Marginal Seas - Past and Future" on 14-17th December, 2021, at Guangzhou, China. The 4th Marginal Seas Expert Meeting: hybrid online / face-to-face Conference Session "Comparing Marginal Seas", was integrated into the 4th Baltic Earth Conference, May 31-June 2, 2022 in Jastarnia, Poland, hosted by the DDE Marginal Seas Task Group, University of Szczecin, Poland and Baltic Earth scientific network. The 5th Marginal Seas Expert Meeting was an on-line event hosted by USZ, Poland and Baltic Earth on 5-7th December, 2022, with a major theme of "River Mouth Systems - Natural Drivers and Human Impacts".

The chain of events was continued via the 6th Marginal Seas Expert Meeting, which was integrated into the hybrid online/onsite IAMG2023 Conference in Trondheim, Norway, August 5-12, 2023, with a topical Session of "Marginal Seas - Dynamics and Modeling". This meeting

was specifically undertaken to strengthen young scientists' participation in the DDE Marginal Seas activities.

The IUGS and International Association for Mathematical Geosciences (IAMG) provided support for the Marginal Seas initiative network, not only for the organization of scientific meetings, but also for research, in particular by supporting the R&D Project "Morphological Evolution of Coastal Seas - Past and Future" undertaken from 2021 to 2024.

To continue pushing the Marginal Seas initiative forward, the International Conference "Marine Geology: Marginal Seas - Past and Future" will be held in Guangzhou, November 27 to December 1, 2023. As the 7th Marginal Seas Expert Meeting, it shall support communication in marine geoscience and technology between Chinese scientists and their international partners that are active in marine geosciences, including the coastal and marine environmental research, fundamental geology, mathematical geosciences, marginal sea future projections, and management for the upcoming decades.

The conference is organized and hosted by the GMGS/CGS, Guangzhou, China who have carried out numerous successful marine geological surveys and scientific research work in the marginal sea areas of the South China Sea, as well as the deep sea and polar sea areas in the past 60 years. In this field of science, the GMGS has successfully cooperated during the last 40 years with colleagues and organizations from the American and European Continents, as well as from East and South Asia.

This hybrid online / onsite international conference is one of the important scientific activities to celebrate the 60th anniversary of GMGS in 2023. The conference will be structured into an opening ceremony, four topical sessions, discussion and conclusion parts covering three days with English language speech and presentations.

Outline

1. Timetable

Time span:

27th November to 1st December 2023.

27th November, Monday, onsite registration at conference venue

28th November, 2023, Tuesday, Opening ceremony and keynote speeches

29th November, 2023, Wednesday, Scientific sessions

30th November, 2023, Thursday, Scientific sessions, discussion, conclusion

1st December, 2023, Friday, Departure

Time zones:

We take care of the international time zones, arranging the meeting time main in daylight time of UTC/GMT+1 winter time zone, afternoon and evening of UTC/GMT+8 time zone.

The conference will start at

7:00 AM (UTC/GMT+0, Greenwich, London),

8:00 AM (Winter time, UTC/GMT+1, Central Europe Time, Szczecin, Warsaw, Berlin, Copenhagen, Stockholm, Brussels, Paris, Madrid, Bologna, Monaco, Zagreb; South Africa),

9:00 AM (Winter time, UTC/GMT+2, Eastern Europe Time, Riga, Tallin, Helsinki),

10:00 AM (Winter time, UTC/GMT+3, Moscow, Istanbul),

12:30 PM (UTC/GMT+5:30, New Deli, Kolkata),

14:00 PM (UTC/GMT+7, Hanoi, Jakarta),

15:00 PM (UTC/GMT+8, Beijing, Guangzhou, Kuala Lumpur, Manila, Bandar Seri Begawan),

16:00 PM (UTC/GMT+9, Tokyo),

18:00 PM (UTC/GMT+11, Canberra, Sydney, Tasmania),

20:00 PM (UTC/GMT-11, Wellington),

21:00 PM (UTC/UTC-10, Tahiti, Hawaii),

23:00 PM (UTC/UTC-8, Pacific Standard Time, Vancouver, Seattle, California, Los Angeles),

1:00 AM (UTC/GMT-6, Central Standard Time, Oklahoma City, Baton Rouge, New Orleans),

2:00 AM (UTC/GMT-5, Eastern Standard Time, New York, Groton Connecticut, Augusta),

3:00 AM (UTC/GMT-3, Buenos Aires).

2. Conference Venue, Hotel and Food

Conference venue location:

This is a hybrid conference of in-person and on-line remote scientific presentations. We would like to set the conference's main meeting place at No. 101 meeting room in Nansha Base of Guangzhou Marine Geological Survey (GMGS), CGS, China.

Address: 1133 Haibin Rd., Nansha District, 511458 Guangzhou, China

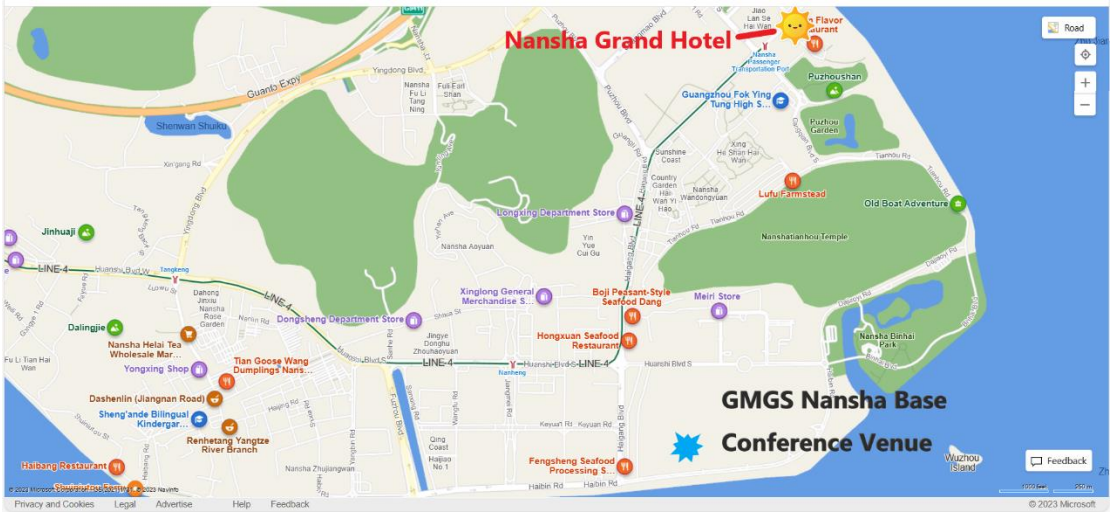

Figure 1. Map of conference venue and recommend hotel.

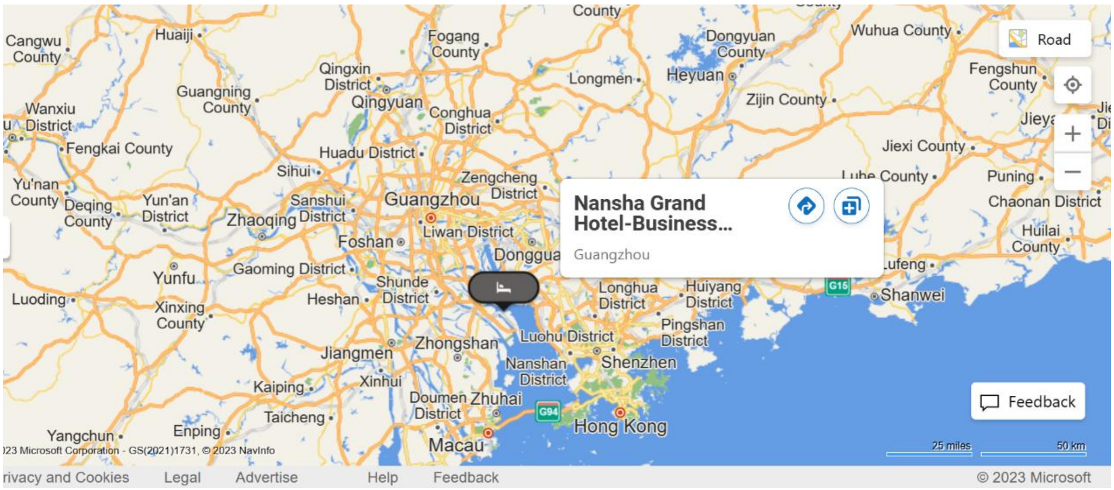

Figure 2. location of Nansha Grand hotel in regional map

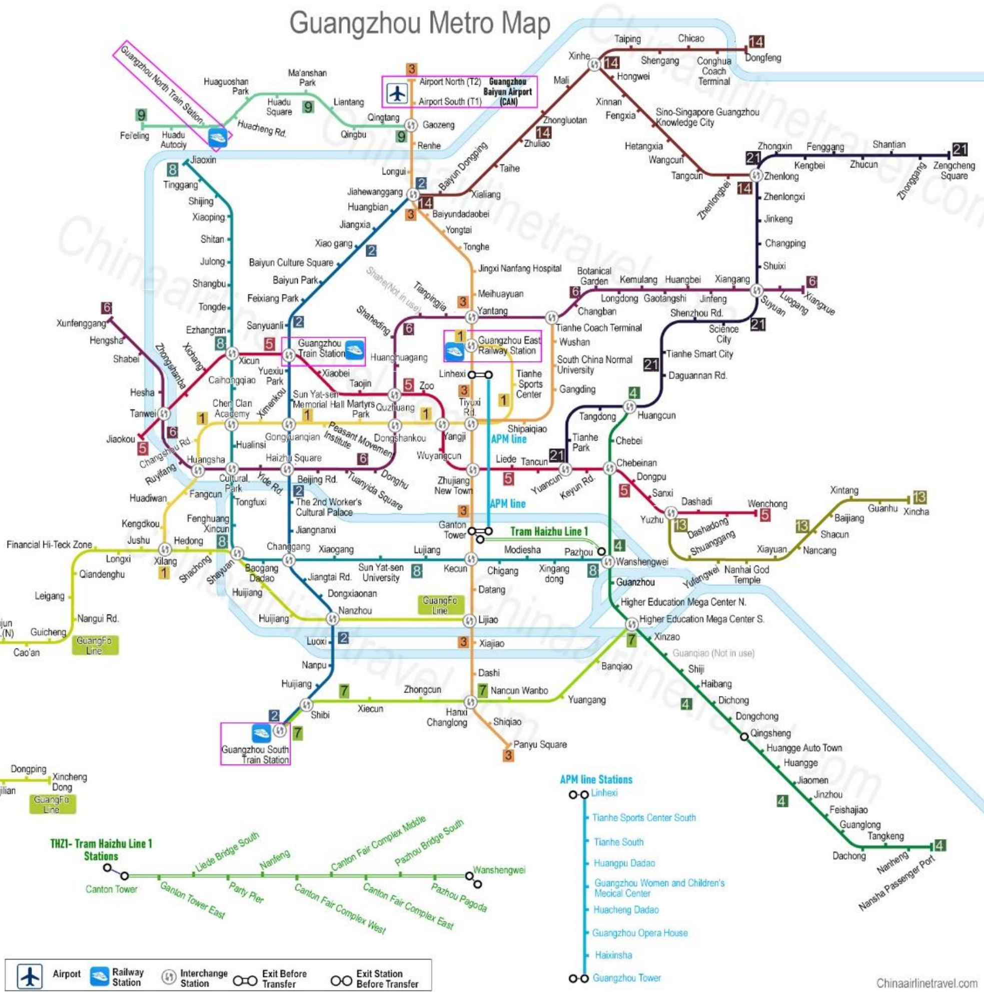

Figure3. Guangzhou Metro Map (without fast-metro line 18 &22)

Traffic guidance:

1. Airport in Guangzhou: Guangzhou Baiyun Airport is in Huadu District, Guangzhou city. Thre have metro line 3 from airport to Panyu Square station within 1 hour (11 RMB). In Panyu Square station you can change Fast-metro line 18 (160km/h) to Hengli Station within 15 minutes (7 RMB). Then can take bus at A Exit to Nansha Grand Hotel with 30 minutes (2 RMB).
2. Airport in Shenzhen: Shenzhen Bao-an Airport is in Shenzhen city, front of the Pearl River Mouth. The Shenzhen-airport Port is 2 km nearby the Airport, where has ship/ferry to Nansha Passenger Port with three voyages in each day. The sailing time is about 35 minutes. Left side of Nansha Passenger Port is Nansha Grand Hotel. You also can take taxi from Shenzhen Airport to Nansha Grand Hotel, but need more payment (~200 RMB).
3. Fast-Train (Railway) in Guangzhou:
    1) The Guangzhou South railway Station is in Panyu District. You can change Fast-metro line 22 (160km/h) from Guangzhou South Station to Panyu Square station within 10 minutes (5 RMB), then exchange Fast-metro line 18 to Hengli Station. Then take bus to Nansha Grand Hotel.
    2) The Qingsheng railway Station is in Nansha District. You can change in this station to take metro line 4 directly to terminal site Nansha Passenger Port station within 40 minutes (5 RMB).
4. Normal Metro: Nanheng station in metro line 4 is nearby conference venue, GMGS Nansha Base. There need 25 minutes by feet.

Hotel information:

We contacted with Nansha Grand Hotel to get a quite favorable price. Participants need payment by themselves for hotel.

The Nansha Grand Hotel is location on the coast, front of Pearl River Mouth, nearby the Nansha Passenger Port, Nansha District, Guangzhou, China. Outside of Hotel, the metro Line 4 has termination station Nansha Passenger Port. The Passenger Habor, Puzhou Garden and Tianhou Palace are nearby the Hotel.

Address: 1&2nd South Road, New Coastal City, Nansha, Guangzhou 511458, China.

Tel: +86-20-3930 8888

Website: www.nanshahotel.com

The participants also can select the commercial hotels nearby the Conference Venue.

Food:

The conference offers free food in GMGS canteen for lunch and dinner. After lunch or dinner, participants can have a sightseeing along the coast and in the garden nearby GMGS Nansha Base.

Scheduled bus:

The conference offers free bus to transfer participants from Nansha Grand Hotel to GMGS Nansha Base at 9:00/930 am, 14:00, and back at 23:00 to hotel.

3. Conference Registration

No registration fee is charged.

Online Registration：

On-line is requested starting Nov. 10, 2023.

Please send e-mail to LOC for registration.

Registration template,

I am [title, Name], from [affiliation], to register International Conference “Marine Geology: Marginal Seas - Past and Future”. I will take part in the conference [in-stie or on-line].

In-stie Registration：

In-person participants please visit the conference venue to register your information. The reception time start on Nov. 27, 2023.

4. Online Software Support

This conference selects Zoom meeting software via internet connection for all the participants.

The related information is: Zoom-Meeting Topic, Marine Geology: Marginal Seas-Past and Future

Join Zoom Meeting

https://zoom.us/j/84060803054?pwd=xf0iET9aaMmNPJfgRSvzSckDjiaG1I.1

Meeting ID: 840 6080 3054

Passcode:2023

Please mark your full name with affiliation after logging in the Zoom software. In order to keep the position for participants, the LOC warmly welcome you to register your personal account in Zoom meeting linkage before the conference. The register just need type in your name and e-mail address.

5. Scientific Sessions

(1) River impacted continental shelves - sediments and environment

River-influenced continental shelf sediments, with their architecture and material composition, uniquely reflect as proxies the history of global climate dynamics and continental margin tectonics. This refers to both the material and energy transport as well as the hierarchically structured periodicity of the controlling processes. With the beginning of the industrial age, natural processes are superimposed by anthropogenic influences, which are to be interpreted separately. With the help of geostatistical and functional models, the structure and genesis of the sediment sequences can be represented in an exemplary manner. The reconstruction of the paleoenvironment based on proxies of the sedimentary record is carried out as a solution to a reverse task. Forward modeling, which takes into account climate change in particular, enables the generation of future scenarios needed to develop management strategies for the coastal and marine environment.

Conveners: Peter Clift (University College London, UK), Gary Greene (Moss Landing Marine Laboratories, California, USA), Jan Harff (University of Szczecin, Poland), Joanna Waniek (Leibniz Institute for Baltic Sea Research, Warnemünde, Germany)

Note: We will have an extension session after the Session One to discuss “International drilling campaign front of Pearl River Estuary and Peal River Delta joint research”.

(2) Coastal processes

Coasts around the world are constantly changing as a result of land-sea-atmosphere interaction. The consequence of the ongoing climate change is the observed intensification of extreme phenomena such as storm surges, floods, tsunamis, and heavy rain falls. This superimposed by eustatic sea level rise, changes in the wind and wave direction and a general deficiency of sediments in the coastal zone result in increased coastal erosion and pose a real threat to the safety of the coast in terms of the natural environment and the existing

infrastructure crucial for coastal municipalities and society. To mitigate current coastal hazards and prevent future impacts, it is essential to have a comprehensive understanding of the physical, geological, biological, and chemical processes that control the source-to-sink transport of sediments on the Earth's surface, including their anthropogenically driven modifications. The aim of this session is to bring together interdisciplinary, international expertise to provide an overview of the current research status of coastal morphodynamics research and future perspectives. We welcome submissions that are of an analytical or laboratory nature, in the field or involve numerical modeling on a local, regional or global scale, from single events to the scale of decades and millennia.

Conveners: Joanna Dudzińska-Nowak (University of Szczecin, Poland; Section of Marine Geology, Polish Scientific Committee on Oceanic Research, Polish Academy of Sciences), Tarmo Soomere (Estonian Academy of Sciences; Tallinn University of Technology, Estonia), Xinong Xie (China University of Geosciences in Wuhan, China), Abdullah Sulaiman (Department of Mineral and Geoscience Malaysia, Kuala Lumpur, Malaysia)

(3) Ecosystem dynamics

Out of the complicated system of Marginal Seas ecology, we decided to include just one, of many, topics as a session subject. Thus, we focus on the important group of primary producers - diatoms. The main topic: “Recent and fossil diatom flora from the Marginal Seas - with particular reference to habitat characteristics and biogeography”, to be considered in terms of its geological past and its recent development. Diatom evolution extends back to the Mesozoic era, and through time they became an important group of primary producers in oceanic (plankton) and coastal marine environments (benthic) with a species number estimated to exceed 100,000. With their role in biogenic elements cycles, diatoms greatly influence the global climate, atmospheric carbon dioxide concentration, and marine ecosystem functions. Through the micropaleontological application in environmental and age dating studies, diatoms have been widely used in coastal and marine systems to reconstruct paleoenvironment and changes in paleoceanographic proxies in multi-dimensions. With technological progress diatoms have become also a target for the marine blue biotechnology as a source of valuable metabolites. However, we are open to considering contributions from other fields in ecosystem dynamics.

Conveners: Yenny Risjani (Brawijaya University, Indonesia), Jinpeng Zhang (Guangzhou Marine Geological Survey, CGS, China), Yahui Gao (Xiamen University, China)

(4) Methodological approaches and Geodata management, including Machine Learning and Artificial Intelligence

The comparative studies of marginal seas (from mapping to process modeling), including both historical reconstruction and future projection, requires fast and convenient access to

databases containing necessary geological, oceanographic, bathymetric, ecological, and climate data, including Remote Sensing data. For a reflection of geo-processes by models from the global to the regional level, a harmonization of geodata and their international accessibility are required. A basic task is the visualization of maps of both empirical data and model results using geographic information systems (GIS) tools and mapping techniques. Over the past decade GIS has been significantly and positively influenced by Artificial Intelligence (AI) and Machine Learning (ML) techniques, becoming crucial in geoscience research.

The main focus of this topic is on: 1) formatting, harmonizing, processing, and mapping marginal sea data including AI and ML various application scenarios (such as data cleansing, image interpretation, semantic classification and segmentation, digital mapping), and 2) the presentation of methodological approaches to manage geodata and to make the spatial database FAIR (Findable, Accessible, Interoperable, and Reusable) through the implementation of dedicated Marine Spatial Data Infrastructure at different scales.

Conveners: Federica Foglini (The Institute of Marine Sciences of the National Research Council, Bologna, Italy), Jennifer McKinley (Queen's University Belfast, UK), Minghua Zhang (R&D Center of CGS, Beijing, China), Yuanzhi Zhang (The Chinese University of Hong Kong, China)

6. Conference Organizers

Organizers:

Guangzhou Marine Geological Survey, China Geological Survey, China.

Base for International Science & Technology Cooperation of Deepsea Geoscience, MOST, China.

Key Laboratory of Marine Mineral Resources, Ministry of Natural Resources, China.

Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China.

Co-Organizers:

University of Szczecin, Poland

Helmholtz-Zentrum Hereon, Geesthacht, Germany

China University of Geosciences, Wuhan, China

Sun Yat-sen University, Zhuhai, China

DDE Marginal Seas Task Group

Baltic Earth

Section of Marine Geology, Polish Scientific Committee on Oceanic Research, Polish Academy of Sciences, Poland

Host:

Guangzhou Marine Geological Survey, China Geological Survey, China

Scientific Committee

Chairman: Guangsheng Yan

Leadership, China Geological Survey (CGS), China.

Co-chair:

Zhenqiang Xu (Guangzhou Marine Geological Survey, CGS, China)

Jan Harff (University of Szczecin, Poland, leader of DDE Marginal Seas Task Group)

Jennifer McKinley (IAMG Executive Committee councilor, Past President; IUGS Executive Committee councilor; DDE Governing Council President; Queen's University Belfast, UK)

Members *(Alphabetical List)*:

Ryszard Borówka (University of Szczecin, Poland)

Hayley Cawthra (Council for Geoscience, South Africa)

Peter Clift (University College London, UK; Louisiana State University, USA)

Junjie Deng (Sun Yat-Sen University, China)

Joanna Dudzińska-Nowak (University of Szczecin, Poland)

Federica Foglini (ISMAR- Institutes of Marine Research, CNR, Italy)

H. Gary Greene (Moss Landing Marine Laboratories, USA)

Gaowen He (Guangzhou Marine Geological Survey, CGS, China)

Wojciech Jegliński (The Polish Geological Institute - National Research Institute, Poland)

Tao Jiang (China University of Geosciences in Wuhan, China)

Markus Meier (Leibniz Institute for Baltic Sea Research, Warnemünde, Germany)

Andrzej Osadczuk (University of Szczecin, Poland)

Marcus Reckermann (Helmholtz-Zentrum Hereon, Geesthacht, Germany)

Yu Situ (IUGS Secretariat, Beijing, China)

Tarmo Soomere (Estonian Academy of Sciences, Tallinn University of Technology, Estonia)

Hans von Storch (Helmholtz-Zentrum Hereon, Hamburg University, Germany; Ocean University of China, China)

Abdullah Sulaiman (Department of Mineral and Geoscience Malaysia, Malaysia)

Szymon Uścinowicz (Institute of Hydro-Engineering, Polish Academy of Sciences, Poland)

Joanna Waniek (Leibniz Institute for Baltic Sea Research, Warnemünde, Germany)

Zhen Xia (Guangzhou Marine Geological Survey, CGS, China)

Xinong Xie (China University of Geosciences in Wuhan, China)

Shengxiong Yang (Guangzhou Marine Geological Survey, CGS, China)

Zhen Yang (Guangzhou Marine Geological Survey, CGS, China)

Jinpeng Zhang (Guangzhou Marine Geological Survey, CGS, China)

Minghua Zhang (Secretary General of IUGS-CGI; CGS, China)

Wenyan Zhang (Helmholtz-Zentrum Hereon, Geesthacht, Germany)

Yuanzhi Zhang (The Chinese University of Hong Kong, China)

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Ranran Du (main meeting place affairs), 17820704224

Yingzhi Ren (media affairs), 13794357440

7. Conference Agenda

Opening Ceremony

UTC/GMT+8 Time zone (Beijing Time).

Time/28th	Issue	Speaker/Affiliation/Local time	Host
15:00-15:05	Welcoming words	Lixia Xing, vice-Director or Zhengqiang Xu, director Guangzhou Marine Geological Survey, CGS, China	Gaowen He
15:05-15:10	Opening the conference	Guangsheng Yan, Conference Chairman, Leadership of China Geological Survey, China	
15:10-15:15	Brief speech	Jennifer McKinley, IUGS Executive Committee councilor IAMG, Committee councilor/Past President; DDE GC chairman/Queen's University Belfast, UK [7:00am, London]	
15:15-15:20	Brief speech	Waldemar Tarczyński, Rector, University of Szczecin, Poland [8:15am, Szczecin]	
15:20-15:25	Brief Speech	Abdullah Sulaiman, Director, Department of Mineral and Geoscience Malaysia, Kuala Lumpur, Malaysia. [15:20, Kuala Lumpur]	
15:25-15:30	Video adjustment		

Time/28th	Plenary lecture	Speaker/Affiliation/Local time	Host
※15:30-16:00	The Influence of the Fraser River Delta on an Active Margin Urban Sea System – Central Salish Sea – USA and Canada	H. Gary Greene, Moss Landing Marine Laboratories/San José State University USA [23:30, California]	Jinpeng Zhang
※16:00-16:30	Revisiting Spatio-temporal Evolution of Ganges-Brahmaputra-Meghna Mega Delta System	Snigdha Ghatak, Geological Survey of India, Kolkata, India. [13:30, Kolkata]	
※16:30-17:00	GMGS/CGS work for Eurasia Marginal Seas - Past and Future Initiative	Gaowen He, Deputy Chief-Geoscientist, Guangzhou Marine Geological Survey, CGS, China	
17:00	Group photo		

(※, keynote speech, green colour remarks the in-site presentation)

Session One: River impacted continental shelves - sediments and environment

Time/28th	Lecture	Speaker/Affiliation/Local time	Host
※19:00-19:30	Large River Deltas and their Continental Shelves in Southeast Asia as Recorders and Controllers of Regional and Global Climate	Peter Clift, London University College, UK/ Louisiana State University, USA [11:00am, London]	Jan Harff
19:30-19:50	Evolution of barrier coast under condition of sand starvation and sea-level changes; an example from the Polish coast of the Baltic Sea	Paweł Sydor, PGI-NRI, Poland [12:30am, Szczecin]	
19:50-20:10	Heavy Minerals Occurrence as The Potential Source for Rare Earth Element (REE) - A Case Study from Lower Coastal Plain Fluvial Systems (Sungai Terengganu and Sungai Dungun)	Mohamad Shaufi Sokiman, UMT, Malaysia [19:50, Kuala Lumpur]	
20:10-20:30	Gravity-driven sediment transport processes on muddy coasts	Qian Yu, Nanjing University, China.	
20:30-20:50	Biogeochemical characterization of benthic processes in a range of coastal sediments affected by submarine groundwater discharge in the southern Baltic Sea	Cátia Milene Ehlert von Ahn, IOW, Germany [13:30, Berlin]	
20 minutes	Breaktime		
21:10-21:30	Vegetation succession, climate change and cold events during 9.2–8.0 cal kyr BP in eastern China: High-resolution pollen evidence from the Yangtze delta plain area	Bing Song, Nanjing Institute of Geography & Limnology, CAS, China.	Peter Clift
21:30-21:50	Identification of Three Stages of Paleochannels and Main Source Analysis Beginning in the Middle Pleistocene in the Western Bohai Sea in North China	Shuyu Wu, Yantai Center of Coastal Zone Geological Survey, CGS, China.	
21:50-22:10	Influence of neotectonic movement on south coast of Hainan Island of China, Pingyuan Li, GMGS, China	Pingyuan Li, Guangzhou Marine Geological Survey, CGS, China	
22:10-22:50	**EXTENSION Session Discussion**	All participants	Peter Clift

Time/29th	Lecture	Speaker/Affiliation/Local time	Host
9:50-10:10	Mn (II) carbonate authigenesis marks the benthic SMTZ and is fueled by Mn-driven anaerobic oxidation of methane: A Black Sea perspective	Tiantian Sun, ZU-China/IOW-Germany	H. Gary Greene, Jan Harff
10:10-10:30	Characterization of grain size and clay mineral distribution and provenance implication of surface sediments in Tangshan Harbor, Bohai Bay	Yamin Yang, Natural Resources Comprehensive Survey Command Center, CGS, China.	
10:30-10:50	Heavy metals pollution history and trend on semi-enclosed embayment — take Shenzhen Bay for example	Hai Lin, Guangzhou Marine Geological Survey, CGS, China	
10:50-10:55	Three-dimensional seismic evidence for depositional undulations nucleated around pre-existing relief, South China Sea【Poster】	Yingci Feng, South China Sea Institute of Oceanology, CAS, China.	
10:55-11:00	Annual Assessment of Seawater Quality of Qinzhou Bay in 2020 【Poster】	Wei Li, Yantai Center of Coastal Zone Geological Survey, CGS, China.	
11:10-11:15	Geomorphologic characteristics and genetic analysis of the submarine pockmarks in the west of the North Yellow Sea (East of Miaodao Islands) 【Poster】	Kuanle Bao, Yantai Center of Coastal Zone Geological Survey, CGS, China.	
5mitues	Break time		

Session Two: Coastal processes

Time/29th	Lecture	Speaker/Affiliation/Local time	Host
11:20-11:25	Enhancing Estuarine Evolution Projection under Human Influences: A Synergy of Bayesian Network and Process-Based Modelling【Poster】	Hongze Yu, Sun Yat-Sen University, China.	Xinong Xie
11:25-11:30	Changes in sedimentary environment of the bayhead delta front depositions of the Lingding Bay, Pearl River Estuary 【Poster】	Jingyu Hu, Sun Yat-Sen University, China.	
11:30-11:35	Distribution and ecological risk assessment of pollutant in the coastal zone of Yantai,	Mengting Li, Yantai Center of Coastal	

	China 【Poster】	Zone Geological Survey, CGS, China.	
11:35-11:40	Study on changes of coastline morphology and submarine geomorphology in Caofeidian Area, Bohai Sea【Poster】	Wenxin Jiang, Yantai Center of Coastal Zone Geological Survey, CGS, China.	

Session Two: Coastal processes

Time/29th	Lecture	Speaker/Affiliation/Local time	Host
※15:00-15:30	Multi-decadal barrier behaviour: some geological constraints	Andrew Cooper, Ulster University, Northern Ireland, UK/University of KwaZulu-Natal, South Africa [7:00am, Ulster]	Joanna Dudzinska-Nowak
15:30-15:50	Scale Characteristics of InSAR Surface Deformation and Its Analysis of Natural and Human-Induced Drivers along the coast of Fujian, China	Zhaoquan Huang, Xiamen University, China	
15:50-16:10	Multi-technical approach for coastal changes reconstruction in urbanized context	Giovanni Fasciglione, University of Naples, Italy. [8:50am, Rome]	
16:10-16:30	Last 15 years erosion patterns along the root section of the Hel Peninsula, Poland in the light of LiDAR measurements	Marek Harenda, Institute of Hydro-Engineering of Polish Academy of Sciences, Poland. [9:10am, Gdansk]	
16:30-16:50	Periodicity of Suspended Sediment Concentration from Diverse Data Perspectives	Yunwei Wang, Nanjing Normal University, China.	
16:50-17:10	Isotope hydrobiogeochemistry of and material transport from modern hard-water creeks discharging to the southern Baltic Sea: In crusts we trust	Michael Boettcher, Leibniz Institute for Baltic Sea Research Warnemünde Germany. [9:50am, Berlin]	

17:10-17:30	Isotope biogeochemical investigations on the spatial and temporal dynamics of a coastal peatland in the southern Baltic Sea	Rhodelyn Saban, Leibniz Institute for Baltic Sea Research Warnemünde Germany. [10:10am, Berlin]	
17:30-17:50	Application of ambient noise tomography to coastal granite islands- A case study of Wuzhizhou Island in Hainan, China	Cheng Huang, Haikou Marine Geological Survey Center, China	
70 minutes	Break time		
19:00-19:20	Coastal Geological and Geohazard Mapping in Malaysia	Amin Noorasid Abdul Jalil, Department of Mineral and Geoscience Malaysia, TSD, Malaysia. [19:00, Kuala Lumpur]	Xinong Xie
19:20-19:40	Unmanned Surface Vessel for Coastal Seabed and Sub-seabed Mapping	Mirza Iryawan Bin Hamza, Hidrokinetik Technologies Sdn Bhd, Malaysia. [19:20, Kuala Lumpur]	
19:40-20:00	Asymmetric evolution of river mouth bifurcation under angled river-tide interaction, a case study at river mouths of Lingding Bay, Pearl River Estuary	Junjie Deng, Sun Yat-sen University, China	
20:00-20:20	Reconstructing recent coastal changes in sites of community importance by integrating geomorphological and remote sensing surveys: the case of Cala Cefalo (Southern Italy)	Alessia Sorrentino, University of Naples, Parthenope, Italy. [13:00, Rome]	
20:20-20:40	Coastal vulnerability assessment in a Mediterranean changing environment: A case study from the Maltese Islands	Nabanita Sarkar, University of Modena and Reggio Emilia, Modena, Italy. [13:20, Rome]	
20:40-21:00	Decadal scale morphodynamics of the southern Baltic Sea Coast, Western Pomerania, Poland	Rachel Jankowski, University of Szczecin, Poland/Groton Connecticut, USA [7:40am, Groton Connecticut]	
20 minutes	Break time		

Session Three: Ecosystem dynamics

Time/29th	Lecture	Speaker/Affiliation/Local time	Host
※21:20-22:50	Indonesian Archipelago reveals sustainable and high biodiversity and species richness of marine diatoms. What's next? (In memories with A. Witkowski).	Yenny Risjani , Universitas Brawijaya, Malang, Indonesia [20:20, Sekampung Udik]	Jinpeng Zhang
21:50-22:10	Microfossil Records of Modern Typhoons along the Coast of China	Min Chen, Third Institute of Oceanography, MNR, China	
22:10-22:30	Mediterranean-like "fall dump" events in the Baltic Sea	Jérôme Kaiser, Leibniz Institute for Baltic Sea Research Warnemünde (IOW), Germany. [15:10, Berlin]	
22:30-22:50	Biological facies variations since the late MIS 3 in northwestern South China Sea and their paleoenvironmental implications	Miaomiao Liu, Shantou University, China.	
22:50-22:55	Acute heat stress induces autophagy of zooxanthellae and host cells in the outer mantle of the giant clam Tridacna noae with a stable fecal microbiota 【Poster】	Minglan Guo, South China Sea Institute of Oceanology, CAS, China.	
22:55-23:00	Sub-fossil diatom in marine sediments from the Taiwan Strait and their environmental significance 【Poster】	Zheng Wang, Xiamen University, China	

Session Three: Ecosystem dynamics

Time/30th	Lecture	Speaker/Affiliation/Local time	Host
9:40-10:00	The source of metals pollution using lead isotopic in Brunai Bay, Malaysia	Joseph Anak Bidai, University Malaysia Terengganu, Malaysia [9:40, Kuala Lumpur]	Yahui Gao
10:00:10:20	Unraveling the Complex Interplay Between Diatoms and Bacteria Under	Chunlian Li, South China Normal	

	Fluctuating Nutrient Conditions	University, China	
10:20-10:40	Marine facies deposition history in inner bay of Pearl River Estuary, South China recorded from diatom and grainsize in Holocene	Jinpeng Zhang, Guangzhou Marine Geological Survey, CGS, China.	

Session Four: Methodological approaches and Geodata management, including Machine Learning and Artificial Intelligence

Time/30th	Lecture	Speaker/Affiliation/Local time	Host
10:40-11:00	Marine oil spills detection and classification based on polarimetric synthetic aperture radar	Yu Li, Beijing University of Technology, China.	Yuanzhi Zhang
11:00-11:20	Demystifying the Changes and Characteristics of Persistent Heavy Rainfall in the Guangdong-Hong Kong-Macao Greater Bay Area, South China	Bing Wang, Guangdong Climate Center, China.	
11:20-11:25	Effect of Atmospheric Corrections on Shallow Sea Bathymetric Mapping Using GaoFen-2 Imagery: A Case Study in Lingyang Reef, South China Sea【Poster】	Tianqi Lu, Sanya Institute of South China Sea Geology, GMGS/CGS, China	
11:25-11:30	Influence of Different Experimental Conditions on the Determination of Available Phosphorus Content in Alkaline Soils【Poster】	Zhixiong Li, Kunming Natural Resources Comprehensive Survey Center, CGS, China.	
3h30mitues	Break time		
※15:00-15:30	AI State of the art, gaps and opportunities in marine science	Simone Marini, Institute of Marine Sciences of the National Research Council, La Spezia, Italy. [8:00, Rome]	Federica Foglini
15:30-15:50	Marginal Seas – Diversity and Generalization	Jan Harff, University of Szczecin, Poland. [8:30, Szczecin]	
15:50-16:10	DataExpo: A One-Stop Dataset Service for Open Science Research in Geosciences	Lyuwen Wu, Shanghai Jiao Tong University,	

		China.	
16:10-16:30	Algal blooms distinguished from normal waters from enhanced chromatic parameters	Zhongfeng Qiu, Nanjing University of Information Science and Technology, China	
16:30-16:50	Exploring Avian Biodiversity Patterns: Insights from Extensive Geodata Analysis and Structural Equation Modeling	Yi Lian, Tianjin Normal University, China.	
16:50-17:10	Deep Convolutional Neural Network for Sentinel-1 SAR Oil Spill Detection	Qingli Luo, Tianjin University, China.	
17:10-17:30	Remote Sensing Monitoring of Green Tide Disaster from MODIS and GF-1 Data: A Case Study in the Yellow Sea	Yanzhuo Men, Nanjing University of Information Science and Technology, China.	
90 minutes	Break time		
19:00-19:20	The FAIR "Research Object" paradigm for supporting the research lifecycle management within Earth Science communities – the example of the Sea monitoring community within the H2020 REALIANCE project	Federica Foglini, CNR-ISMAR, Bologna, Italy [12:00, Rome]	Minghua Zhang
19:20-19:40	Estimation of total suspended soilds and chlorophyll-a in estuaries by remote sensing: a case in Pearl River Estuary and its coast	Jiaxin Liu, Nanjing University of Information Science and Technology, China.	
19:40-20:00	New Findings on the Spatiotemporal Distribution of Submesoscale Eddies Based on Latest InIRA Data	Huaqian Hou, First Institute of Oceanography, MNR, China.	
20:00-20:20	Automatic classification of coastline and prediction of change - an exemplary study for the North Sea and Baltic Sea	Peter Arlinghaus, Helmholtz-Zentrum Hereon, Geesthacht, Germany [13:00, Berlin]	
10 minutes	Break time		

Conclusion Session

Time/30th	Lecture	Speaker/Local time	Host
20:30-21:10	Conference content discussion, Conclusion	Session's convenors, All the participants	Jan Harff
21:10-22:00	Future joint work discussion, Conclusion	All the participants	Jan Harff, Peter Clift, Jinpeng Zhang
22:00-22:10	Publication issues discussion, Conclusion	Potential Journal/Magazine editorial office, all the participants	Jinpeng Zhang
22:10	**CONFERENCE CLOSE** **(Closing ceremony)**	GMGS/CGS Managers	

8. Introduction to Guangzhou

Guangzhou is a famous culture city and a splendid tourism city with a history of more 2,200 years and a homeland of overseas Chinese as well. It enjoys the name of “Flower City” as the superb geographic and climatic conditions in the South contributed to the natural beauty here. As a city of heroes, Guangzhou has a reputation of great eminence in the modern history of China. The famous historical sites of Nanyue Kingdom Palace, Maritime Silk Road Museum in the downtown, etc. And Sun Yat-sen Memorial Hall, Huanghuagang 72 Martyr Cemetery, Peaseant Movement Institute and the Former Site of Huangpu Military Academy are the witnesses of the modern history of China, and together with Baiyun Mountain, Yuexiu Park, Liuhuahu Park, Guangzhou Tower, constitute colorful landscape groups. Meanwhile, Guangzhou was the starting point of the “Maritime Silk Road” and is an important port city for the reform and opening of China, making great contribution to the economic and cultural exchange and friendly contacts between China and the rest of the world.

Nansha district, Guangzhou located in the geometric center of the Guangdong-Hong Kong-Macao Greater Bay Area. Nansha, Guangzhou is a hub node connecting the city agglomeration on both sides of the Pearl River Estuary, and areas of Hong Kong and Macao islands, with an area of 803 square kilometers, an actual population of more than 1.2 million, and six towns and three streets. In June 2022, the State Council of P.R.C. issued the “Overall Plan for Guangdong-Hong Kong-Macao Comprehensive Cooperation in Deepening and Presenting Nansha to the World”, offering Nansha the important mission of building a major strategic platform based on this Bay Area, cooperating with Hong Kong and Macao and facing the world. Nansha's status in the overall development of the country has been continuously improved.