13th International SUT (China) Technical Conference

(The First Notice)

Tianjin, China

November 1-4, 2024

Offshore oil and gas and green energy are major resources to ensure a sustainable industrial development in the future. In order to build an open platform for technological exchange, promote the progress of global marine resources exploration and development technology, promote international cooperation between Chinese and foreign universities, enterprises and research institutions, and further enhance the cooperation and exchanges between Chinese universities and enterprises involved in maritime affairs, the 13th International SUT (China) Technical Conference will be held in Tianjin, China, from November 1 to 4, 2024. Well-known domestic academicians will attend as consultants of the conference, and we would like to extend our warmest invitation to experts and scholars from domestic and abroad engaged in scientific research, education, production, application, and other disciplines to discuss the development of offshore resources, engineering equipment and related industrial topics.

Founded in 1966 and headquartered in London, United Kingdom, the Society for Underwater Technology (SUT), http://www.sut.org.uk, is the most influential academic organization in the world of underwater engineering, and is a multidisciplinary society that brings together institutions and individuals concerned with underwater technology, marine science and engineering. The annual SUT (China) Technical Conference was initiated by SUT China Branch and 12 sessions have been successfully held in Shenzhen, Shanghai, Qingdao, Beijing, Zhoushan, Changsha, Dalian and Haikou, which have been highly recognized by experts and scholars.

With the theme of "Green Development of Marine Energy", this conference invites distinguished experts and scholars from dozens of universities, research institutes and enterprises in the field of ocean engineering around the world to participate and discuss key topics such as underwater technology, ocean engineering equipment, and development and utilization of ocean resources.

I. Time and Places

Time：November 1st-4th, 2024

Place：Tianjin, China

II. Hosts and Organizers

Hosts：SUT China Branch

China University of Petroleum (Beijing)

Organizers: Tianjin University, State Key Laboratory of Hydraulic Engineering Intelligent Construction and Operation, Jiangsu University of Science and Technology

Co-Organizers: 2H Offshore, Dalian University of Technology, Tsinghua University, Harbin Engineering University, Shanghai Ocean University, Shanghai Jiao Tong University, Westlake University, China University of Petroleum (East China), Southwest Petroleum University, Zhejiang University, Zhejiang Ocean University, Ocean University of China, Sun Yat-sen University, Tianjin University Qingdao Institute of Marine Technology, Hohai University, Hainan University, Changsha Mining and Metallurgy Research Institute Co., Ltd

III. Call for Paper

This conference will focus on the following topics (including but not limited to):

A: Development of marine oil and gas and mineral resources

1. Subsea production system
2. Risers and pipelines
3. New ship and offshore platform
4. Smart ocean technology and application
5. Structure safety and reliability
6. Intelligent monitoring, operation and maintenance of ocean engineering equipment
7. Underwater survey and communication
8. Marine engineering test and numerical simulation technology
9. Marine resources mining technology and equipment

B: Marine renewable energy development

1. Renewable energy equipment such as offshore wind turbines, photovoltaic devices and wave energy converters

2. Development, monitoring, operation and maintenance of offshore renewable energy equipment
3. Grid connection of offshore renewable energy generation
4. Storage and conversion of offshore renewable energy
5. Integrated development of offshore renewable energy

IV. Paper Submission

1. The content of the paper should revolve around the conference topics, highlighting innovation and achievements in the fields of oil and gas resources, mineral resources, and renewable energy development, with significant academic and application promotion value. It should not have been published or presented in public publications or conferences both domestically and internationally. Please write in English.
2. The full paper (10 pages max.) and abstract (1 page max.) should be formatted in strict accordance with the template. The full paper and abstract template can be downloaded from the official website: http://www.sutchina.org/, which is also the submission and registration website (title of submission: paper name + author + organization, WORD version).
3. Conveners for multiple thematic directions are requiring for the 13th International SUT (China) Technical Conference. If interested, please send a one-page resume (format not limited) to SUT@cup.edu.cn. The final convener will be determined by the organizing committee.
4. Abstract and full paper submission open: May 15, 2024.
5. Abstract submission deadline: September 15, 2024.

   Full paper submission deadline: October 8, 2024.

   Please send the abstract and full paper to SUT@cup.edu.cn.

V. Paper Publication

Those presenters may choose to write the full text of the report. Excellent papers will be recommended to be published in journals such as *China Ocean Engineering*, *Journal of Hydrodynamics*, *Modern Subsea Engineering and Technology*, *Marine Energy Research*, *Marine Systems& Ocean Technology*, *Ocean and Costal Management* and *Journal of Harbin Engineering University*.

VI. Schedule

2024 November 1st: Registration

2024 November 2nd: Invited Keynote Presentations

2024 November 3rd: Technical Oral and Poster Sessions

2024 November 4th: Visits and Excursions

VII. Contacts

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Chairman of SUT China Branch: China University of Petroleum (Beijing), Professor Zhang Yu

Executive Chairman: Tianjin University, Professor Yu Jianxing, Professor Xu Wanhai

May 15, 2024

VIII. Introduction

A. Organizers

1. Tianjin University

Tianjin University, formerly known as Peiyang University, was founded on October 2, 1895. It is the oldest institution of higher education in the modern history of China, pioneering modern higher education in the nation and making outstanding contributions to the economic and social development. With strong faculty, distinct disciplinary characteristics, excellent education quality and research standards at the forefront domestically, Tianjin University has become a high-level research university with significant international influence. The university offers 76 undergraduate majors, 47 first-level master's degree programs, 34 first-level doctoral programs, and 37 postdoctoral research stations. 14 disciplinary areas rank in the top 1% in the Essential Science Indicators (ESI), with 4 ranking in the top 0.1% and engineering disciplines in the top 0.01%. 2 disciplines are included in the Ministry of Education's 101 Plan for teaching reform. Additionally, Tianjin University has 6 national key laboratories, 5 national engineering and technology research centers, 3 international science and technology cooperation bases and 142 provincial and ministerial-level key research platforms.

2. State Key Laboratory of Hydraulic Engineering Intelligent Construction and Operation

State Key Laboratory of Hydraulic Engineering Intelligent Construction and Operation was approved for construction in March 2023. Its predecessor, State Key Laboratory of Hydraulic Engineering Simulation and Safety, was approved for construction in 2011 and the evaluation result was excellent in 2018. The laboratory's core technologies have formed significant advantages and characteristics in the intelligent construction and safe operation of major water conservancy projects, civil engineering, naval architecture and ocean engineering in China. The laboratory has 141 permanent staff, including 1 academician of the Chinese Academy of Engineering, 20 national talents and 18 national young talents. The laboratory is committed to the applied basic research of hydraulic engineering intelligent construction and operation, including simulation and intelligent construction, dynamic safety and disaster prevention and control, digital twin and intelligent operation and maintenance. The laboratory will focus on breakthroughs in core technologies such as intelligent construction and operation of major water conservancy projects, structural dynamic safety and disaster prevention and control. The laboratory aims to establish a full-life-cycle technical system from intelligent construction to smart operation and maintenance for major water conservancy projects, ensuring high-standard construction and long-term safe operation of the

structures, and continuing to lead the development direction and technological innovation of international water conservancy projects construction.

3. Jiangsu University of Science and Technology

Jiangsu University of Science and Technology（JUST） is an engineering-oriented university with a competitive edge in three disciplines: shipbuilding, marine engineering and sericulture study. With its excellence at cultivating engineers, it is credited as being one of the best institutions by the Ministry of Education. With diligence, virtues, experience, and practice as its motto, and the Belt and Road Initiative as its mission, JUST is dedicated to the well-being of Chinese society and world development. JUST has established stable, comprehensive cooperation with partners from many institutions, government sectors, and enterprises in China. With the aim of becoming more globally involved, JUST has launched various scientific and educational cooperative programs with its partners from many countries and regions, turning its campuses into increasingly diversified communities. During its long historic course of development, JUST has contributed greatly to the Chinese shipbuilding industry and modernization of national defense. The core values of JUST have been developed and refined to capture its true essence, which is today embodied by the traditions of generosity, patriotism, and ambition. JUST is today striving to establish itself as a first-class university in the field of shipbuilding.

B. Host location

Tianjin, one of China's four municipalities directly under the central government, is the largest coastal open city in northern China, known as the Pearl of Bohai Sea. The city is the gateway of northern China to the outside world, serving as the shipping hub, logistics center, and modern manufacturing base of northern China, as well as the economic center of the Bohai Sea region. The city governs 16 districts, with a total area of 11,966.45 square kilometers and a population of 13.63 million people as of 2022.

In ancient times, Tianjin was also known as Jingu, Zhigu, Dinggu, and Jinmen. Tianjin, meaning the place where the emperor crosses the river, was christened by the King of Yan Zhu Di during the Ming Dynasty who crossed the river in Tianjin to seize power. Tianjin is located in the east of Bohai Sea, leaning against Yanshan in the north, and the urban area is built along the Haihe River with beautiful scenery. The five main tributaries of the Haihe River converge in Tianjin before flowing into the sea, earning Tianjin the titles of "Nine River Confluence" and "Key Junction of Rivers and Seas". Consequently, Tianjin is the throat gateway to Beijing by sea and has been the gateway to the capital and an important town in the imperial court. Due to its geographical and historical reasons, Tianjin not only has many Western-style buildings in various

foreign concessions but also has been visited by many famous figures from all walks of life in recent times, leaving behind many celebrity residences.

Tianjin is an old city with a history of more than 600 years, known as the "food capital". Many Tianjin dishes have elaborate cooking methods, fresh ingredients, and dozens of cooking techniques. Tianjin dishes are not only delicious but also pay attention to nutritional balance. The most famous classic delicacies in Tianjin include Goubuli Steamed Bun, Erduoyan Fried Rice Cake, Tianjin Pancake, Eight-treasure Tofu, Moo Shu Pork, Tianjin Fried Dough Twist, Diced Pork in Pot, Gaba Dishes, etc.