

The 4th IAHR Asian Working Group Symposium on Hydraulic Machinery and Systems

August 12-16, 2023

Kashgar, China

Call for paper

All accepted manuscripts will be published in IOP Conference Series.

Find author guidelines [here](#).

Themes

Intake system, Hydraulic turbines, Pump-turbines, Pumps, Pumped Storage, Ocean energy, Small and micro hydropower, Sustainable hydropower, Energy storage and flexibility, Cavitation and Multiphase flow, Multi-field coupling, Computational fluid dynamics and fluid structure interaction, Sediment erosion, Vortex breakdown, Vibration and fatigue loading, Measurement techniques and signal processing, Model tests and laboratory tests, Smart grid and digital twin, Selected topics.

Advance notice



Technical tour: Altash Hydro Junction



Home



IAHR 2023 Asia Kashgar

The 4th IAHR Asian Working Group Symposium on Hydraulic Machinery and Systems

12-16 August, 2023

Organizer: Tsinghua University

Co-organizer: Xinhua Hydropower Company Limited

Background

The international Association for Hydro-Environment Engineering and Research (IAHR), founded in 1935, is a worldwide independent organization of engineers and water specialists working in fields related to the hydro-environmental sciences and their practical application. Activities range from river and maritime hydraulics to water resources development and eco-hydraulics, through to ice engineering hydro-informatics and continuing education and training. IAHR stimulates and promotes both research and its application and by doing so it strives to contribute to sustainable development, the optimization of world water resources management and industrial flow processes.

IAHR accomplishes its goals by a wide variety of member activities including working groups, research agenda, congresses, specialty conferences, workshops and short courses; journals, monographs and proceedings; by involvement in international programs such as UNESCO, WMO, IDNDR, GWP, ICSU and by co-operation with other water-related (inter)national organizations.

IAHR comprises of several technical divisions, provides operational framework for the Committees. The IAHR-Committee on Hydraulic Machinery and Systems deals with the advancement of technology associated with the understanding of steady and unsteady flow characteristics in hydraulic machinery and conduit systems connected to the machinery. The technology elements include the fluid behavior within machine components, hydro-elastic behavior of machine components, cavitation, and two-phase flow in turbines and pumps, hydraulic machine and plant control systems, the use of hydraulic machines to improve water quality, and even considerations to improve fish survival in their passage through hydro plants. Included in two phase pumping are gas oil pumps and sand laden water. Because model tests and laboratory tests carried out in laboratories must be scaled down from the prototypes, studies of size and pressure scale effects are also a central research field. The research work in the Committee forms the basic study for the IEC standards code dealing with hydraulic machinery for hydroelectric power plants.

The main emphases of the IAHR Committee on Hydraulic Machinery and Systems are to stimulate research and understanding of the technologies associated with hydraulic machinery and to promote interaction between the machine designers, machine users, the academic communities, and the communities at large. Hydraulic machinery is both cost effective and environmentally responsible. The increasing atmospheric content of carbon dioxide related to pollution from thermal power plants, is one of the most significant threats

to our global ecology. The problem is exacerbated by the need for increased energy production in developing countries. This results in rising global temperatures and dramatic changes in climate which may also result in flooding in parts of our globe. Energy conservation together with replacement of coal and oil-fired power plants are, therefore, needed. The development and installation of more efficient hydroelectric power plants which work hand in hand with water storage and flood protection is part of this strategy. Waterpower is the most significant "renewable resource". The goals of this IAHR Committee are to improve the value of hydraulic machinery to the end user and to society and to improve society's understanding and appreciation of that value.

To meet its objectives, the Committee focuses on the best possible exchange of technical knowledge through collegial contacts by arranging Committee Symposia every second year, between the IAHR Congresses. The Symposia are designed to attract scientists and engineers from industries, universities, consultants and users of hydraulic machinery. In addition, specialized symposia are organized focusing on the subjects of its 3 working groups:

WG1 - "Cavitation and Dynamic Problems in Hydraulic Machinery and Systems";

WG2 - "Latin America Working Group";

WG3 - "Asian Working Group".

In recent years, water conservancy and hydropower in Asia have been developed dramatically. Hydraulic machinery like pump, pump turbines and etc., are widely used in project construction. There are plentiful scientific and technical payoffs achieved within the related researches. "Asian Working Group" has held three symposiums on hydraulic machinery and systems, which are:

Asian Working Group - IAHR Symposium on Hydraulic Machinery and Systems, 16–19 November 2017, Beijing, China; ([IOP Conference Series: Earth and Environmental Science, Volume 163, 2018 - IOPscience](#))

2nd IAHR-Asia Symposium on Hydraulic Machinery and Systems, 24-25 September 2019, Busan, South Korea; ([IOP Conference Series: Earth and Environmental Science, Volume 627, 2021 - IOPscience](#))

3rd IAHR-Asia Symposium on Hydraulic Machinery and Systems, 22-23 November 2021, Kathmandu, Nepal. ([IOP Conference Series: Earth and Environmental Science, Volume 1037, 2022 - IOPscience](#))

The 4th IAHR Asian working group Symposium on Hydraulic Machinery and Systems will be organized by Tsinghua University and Xinhua Hydropower Company Limited during 12-16 August 2023 at Kashgar China. Tsinghua University organized the 1st IAHR AWG symposium with supported by other 8 universities and enterprises, it is an honor to organize the prestigious symposium again. The preparation of the symposium was started during the period of the Executive Committee meeting of IAHR 2022 Norway, the key members of Asian Working Group of IAHR had a discussion about the location, decided to have IAHR 2023 Asia in China. The organization of the symposium was led by Prof. WANG Zhengwei. The

organizing committee welcomes all researchers, scholars and professionals around the world to participate in this symposium, and hope all attendees enjoy the stunning scenery, tasty food and mysterious history together in Kashgar.

Welcome message

We are happy to announce the 4th IAHR Asian Working Group Symposium on Hydraulic Machinery and Systems will be held in Kashgar, Xinjiang Uygur Autonomous Region, China, during 12 to 16 August, 2023.

This Symposium will gather scientists and engineers from industries, universities, consultants and users of hydraulic machinery mainly in Asia to discuss the most recent advances in 19 related topics, as well as the latest challenges faced in industry.

We also welcome participates from all over the world.

We hope in Kashgar, this very beautiful city, to host a productive academic exchange.

Prof. WANG Zhengwei
Tsinghua University, Chair of Asian Group Working
IAHR Committee on Hydraulic Machinery and System
Head of organizing committee and Editor-in-chief

On behalf of Xinhua Hydropower Company, I am pleased to welcome you to participate in this symposium.

At the last day of the Symposium, the attendees will be invited to visit the Altash Key Water Control Project located in the Yarkant River, basin in southern Xinjiang. It has an installed capacity of 755,000 kW and designed annual energy output of 2.186 billion KWH. It is one of the 172 major water-saving and water-supply projects promoted by The State Council and one of the 100 major projects during the national "13th Five-Year Plan" period. It is also the largest water conservancy project in Xinjiang at present.

We look forward to meeting you at the Symposium in Altash.

ZHANG Yan (To be confirmed)
Secretary of the Party Committee and Chairman of the board
Xinhua Hydropower Company Limited

Contact

Organizing committee E-mail: iahr2023asia@mail.tsinghua.edu.cn

Chunan Yang E-mail: yangchunan@mail.tsinghua.edu.cn

Yan Liu E-mail: ruthliuyan@mail.tsinghua.edu.cn

Scope

The organizing committee encourages and welcomes the original research papers and reviews on the following topics. Following are the broad topics covered in this symposium.

1. Intake system: This section covers the research topic pertaining to complete intake system from inlet of the penstock to the inlet of the spiral casing. Some examples are, intake gate, trace rake, conduit, penstock, main inlet valve, water hammer, surging, surge tank, head losses, fatigue loading in the penstock, hydraulic transients, bifurcation, trifurcation junctions, etc.

2. Hydraulic turbines: This section is extremely broad and covers all components of hydraulic turbines, such as spiral casing, stay vane, guide vane, runner, blade, splitter, labyrinth seals, and draft tube. The section covers axial, radial, tangential and mixed flow turbines; high, medium, low and very low head (kinetic - ocean wave) turbines; Pelton, Francis, Kaplan, bulb, fluvial, propellor, etc. Topics such as turbine optimization, design, model tests, efficiency measurements are also included.

3. Pump-turbines: This section covers all topics related to the pump-turbines, fast transition, phenomena occur in pump mode, turbine mode, etc. Many times, centrifugal pumps are used as turbine. This section also covers the topics of centrifugal pump, its design, optimization, performance, cavitation, suction circulation, blade design, vibration, NPSH, parallel/series operations, etc.

4. Pumps: This section is extremely broad and covers all components of pumps, such as spiral casing, stay vane, guide vane, runner, blade, splitter, labyrinth seals, and suction tube. The section covers axial, radial, tangential and mixed flow pumps; high, medium, low and very low head pumps. Topics such as pump optimization, design, model tests, efficiency measurements are also included.

5. Storage Pumps: Pumping water from the lower pool to the upper pool and store it for power generation.

6. Ocean energy: This section is broad, the utilization of wave energy, tidal energy, tidal current energy, etc., mainly about hydraulic machinery related subjects.

7. Small and micro hydropower: This section is about various kinds of hydro-machineries in various locations, such as the innovative and effective design for small and micro hydropower.

8. Sustainable hydropower: This section somewhat overlaps the topic of 'hydraulic turbines' however, this section focuses on sustainability and more towards development of sustainable hydraulic turbines of any head-power-discharge range. Some of the examples are fish friendly turbine design, very low head turbine with little infrastructure, easy to install, hybrid option (hydro-wind-solar) for rural applications, environment friendly design, green metals for turbine components, mini and micro hydro, innovative technology for sustainable hydro, energy efficient application, etc.

9. Energy storage and flexibility: This section covers the topic related to studies/research on energy storage in the context of hydropower, energy market, scheduling, energy management, transient operations such as load variation, start-top, load rejection, no-load, runaway. No-load and runaway are steady state operation however, both are results of transient operations and considered in this section. Energy production and management with multiple turbines, load sharing, ancillary services, load ramping, etc. are part of this topic.

10. Cavitation and Multiphase flow: This section covers the broad topics, which involves two or more phases in the study (experimental and/ or numerical). Examples are cavitating flow, erosion, air injection, aeration, development of cavitation/erosion model, etc. Note - study of cavitating vortex rope is part of the section of 'vortex breakdown'.

11. Multi-field coupling: Interaction between different physical fields (hydraulic field, thermal field, structural field, magnetic field, sound field, etc.) in a hydraulic machinery.

12. Computational fluid dynamics and fluid structure interaction: This section is very broad, and covers all phenomena occur in hydraulic machinery as well as solution using numerical techniques. Topics which emphasize the CFD techniques, high quality simulations (1D, 2D or 3D), 1D-3D coupling, development of numerical model, turbulence modelling, numerical verification and validation, detached eddy simulations, large eddy simulations, direct numerical simulations, etc. FSI analysis, one-way, coupled, FEA of turbine components, etc. (Note — the section is broad, and many research papers may fit in this section. However, if the focus is not numerical analysis, please select other section, which is more appropriate while submitting the paper.)

13. Sediment erosion: Structural erosion caused by solid particles in water. Varying particle (size, shape, hardness, material, etc.), different sediment concentration and velocity distribution will cause various abrasive and erosive wear patterns in hydraulic machinery.

14. Vortex breakdown: This section covers the topics of vortex breakdown in hydraulic machinery that includes, trailing edge vortex, inter-blade vortex, draft tube vortex rope, leading edge vortex, etc.

15. Vibration and fatigue loading: This section covers all topics relevant to vibration, resonance, damping, modal, strain and fatigue analysis. The section also covers estimation fatigue lifetime, crack development, stress-strain measurements, fatigue analysis.

16. Measurement techniques and signal processing: This section covers all topics which emphasizes new measurement techniques/ idea/ approaches in hydropower plant. It may be efficiency, pressure, strain, velocity and vibration. However, the focus is measurement technique and the instrumentation and not the flow phenomenon. Topic related to calibration and uncertainty quantification are covered here. This section also covers the topics of data collection and processing, new approach of data processing, data collection, development of analytical technique for large data, statistical analysis of data.

17. Model tests and laboratory tests: Characteristic test (energy characteristic, cavitation characteristic, etc.) on a reduce-scaled model of a hydraulic machinery. Model test is always used for verifying that the contractually guaranteed values of the main hydraulic properties are met, and a laboratory test is also used for scientific observation.

18. Smart grid and digital twin: Smart grid and digital twin are somewhat different topics; however, those are grouped here to avoid a long description of scope. This section covers hybrid operation of hydraulic turbines, isolated grid operation with wind-solar-hydro, other topic of smart grid that involves hydraulic turbines. Topics of hydropower digitization, automation, signal processing, monitoring and conditioning as part of digital twin, use of digital twin for the prediction of maintenance, fatigue loading, damage calculations are part of this section.

19. Selected topics: This section covers the topics, which are not included in above sections. One such example is manufacturing techniques for hydraulic turbine and

components, heat treatment, prototyping, scaling, surface roughness, blade material and metallurgy, topics related to refurbishment projects, etc. It is important to note that the topics in this section must be explicitly in the context of hydropower and hydraulic machinery.

Above information mainly from IAHR symposium on Hydraulic Machinery and Systems guide version 2022.

Committees

A. Organizing committee

Anfu Zhang (Xinhua Hydropower Company Limited, China)

Baohu Zhang (Xinhua Hydropower Company Limited, China)

Baoshan Zhu (Tsinghua University, China)

Bhola Thapa (Kathmandu University, Nepal) - Co-chair

Chisachi Kato (The University of Tokyo, Japan) - Co-chair

Chunan Yang (Tsinghua University, China) - Secretary

Gang Wang (Xinhua Hydropower Company Limited, China)

Honggang Fan (Tsinghua University, China)

Huating Song (Xinhua Hydropower Company Limited, China)

Jianhua Deng (Xinhua Hydropower Company Limited, China)

Lei Tan (Tsinghua University, China)

Leilei Xu (Xinhua Hydropower Company Limited, China)

Shuhong Liu (Tsinghua University, China)

Xianwu Luo (Tsinghua University, China)

Xiaojie Qi (Xinhua Hydropower Company Limited, China)

Xingxing Huang (Future Energy Research Institute of S.C.I. Energy, Switzerland) - Abroad coordinator

Yan Liu (Tsinghua University, UK) - Secretary

Yexiang Xiao (Tsinghua University, China)

Yongyao Luo (Tsinghua University, China)

Young-Ho Lee (Korea Maritime and Ocean University, Republic of Korea) - Co-chair

Zhengwei Wang (Tsinghua University, China) - Chair

Zhigang Zuo (Tsinghua University, China)

Zhiqiang Jin (Xinhua Hydropower Company Limited, China)

B. IHAR Committee on Hydraulic Machinery and Systems

Stefan Riedelbauch (University of Stuttgart Machinery, Germany) – Chair

Chisachi Kato (University of Tokyo, Japan) – Vice Chair

Eduard Egusquiza (Universidad Politécnica de Cataluña, Spain)

François Avellan (EPFL, Switzerland)

Stuart Coulson (Voith Hydro, United States of America)
Ole Gunnar Dahlhaug (NTNU, Norway)
Bhupendra K Gandhi (Indian Institute of Technology, Roorkee India)
Carl Höegström (VATTENFALL, Sweden)
Young-Ho Lee (Korea Maritime and Ocean University, Republic of Korea)
Andrej Lipej (University of Novo mesto, Slovenia)
Sergio Óscar Liscia (FUNDACIÓN FACULTAD DE INGENIERÍA, Argentina)
Bernd Nennemann (Andritz Hydro Ltd. Canada)
Pavel Rudolf (Brno University of Technology, Czechia)
Qing-Hua Shi (Dong Feng Electrical Machinery Co., Ltd., China)
Romeo Susan-Resiga (Politehnica University Timisoara, Romania)
Geraldo Lúcio Tiago Filho (Universidade Federal De Itajubá, Brazil)
Laurent Tomas (Alstom, France)
Zhengwei Wang (Tsinghua University, China)

C. IAHR AWG executive committee

Director

Zhengwei Wang (Tsinghua University, China)

Associate Director

Chisachi Kato (The University of Tokyo, Japan)

Youngho Lee (Korea Maritime & Ocean University, Korea)

Secretary General

Jianping Yuan (JiangSu University, China)

Vice Secretary General

Shuhong Liu (Tsinghua University, China)

Honorary Members

Eduard Egusquiza Estevez (University Politecnica de Catalunya, Spain)

François AVELLAN (EPFL, Switzerland)

Shengcai Li (University of Warwick, UK)

Yulin Wu (Tsinghua University, China)

Members

Alias M. Noor (Universiti Teknologi Malaysia, Malaysia)

Berkah Fajar (Diponegoro University, Indonesia)

Bhola Thapa (Kathmandu University, Nepal)

Burentsagaan Boldbat (Government Implementing Agency, Mongolia)

Daqing Qin (Harbin Institute of Large Electrical Machinery, China)

Fujun Wang (China Agricultural University, China)

Harinaldi (University of Indonesia, Indonesia)

Huanmao Wang (Dongfang Electrical Machinery Company Limited, China)
Jiandong Yang (Wuhan University, China)
Jie Liu (China Three Gorges Corporation, China)
Jun Matsui (Yokohama National University, Japan)
Katsumasa Shimmei (Hitachi Mitsubishi Hydro Corporation, Japan)
Kazuhiro Tanaka (Kyushu Institute of Technology, Japan)
Kazuyoshi Miyagawa (Waseda University, Japan)
Kiyoshi Matsumoto (Toshiba Co., Japan)
Kyoung-Yeop Kim (Korea Polytechnic University, Korea)
M.R. Ahmed (University of South Pacific, India)
MamataKumari Padhy (Siksha 'O' Anusandhan University, India)
Qinghua Shi (Dongfang Electrical Machinery Company Limited, China)
Quanwei Liang (Dongfang Electrical Machinery Company Limited, China)
Rennian Li (Lanzhou University of Technology, China)
Shouqi Yuan (Jiangsu University, China)
S.H. Winoto (National University of Singapore, Singapore)
Weidong Shi (Nantong University, China)
Wongu Joo (Yonsei University, Korea)
WooSeop Lim (Hyosung Goodsprings, Korea)
Xiaobing Liu (Xihua University, China)
Xingqi Luo (Xi'an University of Technology, China)
Young-Do Choi (Mokpo National University, Korea)
Young-Seok Choi (Korea Institute of Industrial Technology, Korea)

D. Scientific committee

Invitation in progress.

Akira Goto (Ebara Corporation, Japan) (To be confirmed)

Alexandre Presas (Universitat Politècnica de Catalunya, Spain)

Arun Kumar (IIT Roorkee, India) (To be confirmed)

Bin Ji (Wuhan University, China)

B K Gandhi (IIT Roorkee, India) (To be confirmed)

B.V.S.S. Prasad (Indian Inst. of Tech. Madras, India) (To be confirmed)

Chaoshun Li (Huazhong University of Science and Technology, China)

Chirag Trivedi (Norwegian University of Science and Technology, Norway)

Christof Gentner (GE Renewable Energy, Switzerland)

Chun Xiang (Zhejiang University on Water Resources and Electric Power, China)

Claus-Dieter Ohl (Nanyang Technological University, Singapore) (To be confirmed)

Dae Sung Lee (Korea Aerospace Research Inst., Korea) (To be confirmed)

Dazhuan Wu (Zhejiang University, China)
Deyou Li (Harbin Institute of Technology, China)
Diyi Chen (Northwest A&F University, China)
Dunzhe Qi (Water conservancy project construction center of Ningxia Autonomous Region, China)
Ehsan Roohi (Ferdowsi University of Mashhad, Iran) (To be confirmed)
Fei Zhang (Pump-storage Technology & Economic Research Institute of State Grid Xinyuan Company Ltd., China)
Guangjie Peng (Jiangsu University, China)
Guoyi Peng (Nihon University, Japan) (To be confirmed)
Guoyu Wang (Beijing Institute of Technology, China)
Håkan Nilsson (Chalmers University of Technology, Sweden)
Hironori Horiguchi (Osaka University, Japan) (To be confirmed)
Hongxun Chen (Shanghai University, China)
Hongying Luo (Tibet institute of Agriculture and Animal Husbandry, China)
Huashu Dou (Zhejiang Sci - Tech University, China)
Jiegang Mou (China Jiliang University, China)
Jing Yang (China Three Gorges Corporation Institute of science and technology, China)
Jingyin Li (Xi'an Jiaotong University, China) lyli@mail.xjtu.edu.cn To be invited
Jin-Hyuk Kim (KITECH, Korea) (To be confirmed)
Jinyang Xue (Andritz (China) Co., Ltd, China) To be replied
Joon Yong Yoon (Hanyang University, Korea) (To be confirmed)
Jungwan Park (KHNP, Korea) (To be confirmed)
Kai Lin (CSG PCG Engineering Construction and Management Branch Co., China)
Khoo Boo Cheong (National University of Singapore, Singapore) (To be confirmed)
Kwang-Yong Kim (Inha University, Korea) (To be confirmed)
Lei Cao (CCCC National Engineering Research Center of Dredging Technology and Equipment Co., Ltd., China)
Li Cheng (Yangzhou University, China)
Lingjiu Zhou (China Agricultural University, China)
Lipei Wang (Toshiba Hydro Power (Hangzhou) Co., Ltd., China) To be replied
Michel Cervantes (Luleå University of Technology, Sweden)
Min He (Shanghai Kaiquan Pump Group Co. Ltd., China)
Mohamed Farhat (Swiss Federal Institute of Technology Lausanne, Switzerland)
Morten Kjeldsen (Flow Design Bureau AS., Norway)
Motohiko Nohmi (Ebara Corporation, Japan) (To be confirmed)
Pengcheng Guo (Xi'an University of Technology, China)
Ran Tao (China Agricultural University, China)

Ruofu Xiao (China Agricultural University, China)

Satoshi Watanabe (Kyushu University, Japan) (To be confirmed)

Shin Hyung Rhee (Seoul National University, Korea) (To be confirmed)

Soo-Seok Yang (Korea Aerospace Research Inst., Korea) (To be confirmed)

Stefan Riedelbauch (University of Stuttgart Machinery, Germany)

Sung-Min Kim (Sungkyunkwan University, Korea) (To be confirmed)

Taegyu Hwang (Komeri, Korea) (To be confirmed)

Takeo Tokumiya (Toshiba Hydro Power Co. Ltd. Japan) (To be confirmed)

Tomoaki Kunugi (Kyoto University, Japan) (To be confirmed)

Toshiaki Kanemoto (Kyushu Institute of Technology, Japan) (To be confirmed)

Viet Anh Truong (Hanoi University of Science and Technology, Vietnam) (To be confirmed)

Wanyou Li (Harbin Engineering University, China) wanyou88@163.com To be invited

Warn-Gyu Park (Pusan National University, Korea) (To be confirmed)

Wei Han (Lanzhou University of Technology, China)

Wen Yang (Sanlian Pump Industry Co., Ltd., China)

Wensheng Ma (Chongqing Pump Industry Co., Ltd., China)

Xavier Escaler (Universitat Politècnica de Catalunya, Spain)

Xianping Wang (Voith Hydro Shanghai Ltd., China) To be replied

Xide Lai (Xihua University, China) To be invited

Xin Liu (China Huaneng Clean Energy Research Institute, China)

Xingxing Huang (Future Energy Research Institute of S.C.I. Energy, Switzerland)

Yanpin Li (North China University of Water Resources and Hydropower, China)

Yeongho Hwang (Shinhan Precision Co. Ltd., Korea) (To be confirmed)

Yong Cho (Korea Water Resources Co., Korea) (To be confirmed)

Yongguang Cheng (Wuhan University, China)

Yongxue Zhang (China University of Petroleum (Beijing), China)

Yoshinobu Tsujimoto (Emeritus, Osaka University, Japan) (To be confirmed)

Young Seok Choi (Korea Inst. of Industrial Tech., Korea) (To be confirmed)

Youn-Jea Kim (Sungkyunkwan University, Korea) (To be confirmed)

Yuan Zheng (Hohai University, China)

Yuka Iga (Tohoku University, Japan) (To be confirmed)

Yun Zeng (Kunming University of Science and Technology, China)

Zhenggui Li (Xihua University, China)

Zhenyue Ma (Dalian University of Technology, China)

Zhipeng Li (Changsha University of Science and Technology, China)

Zhongdong Qian (Wuhan University, China)

Zuchao Zhu (Zhejiang of Sci - Tech University, China)

Submission & Presentation

Abstract and Manuscript submission

Submit your abstract and manuscript to Platform

Organizers, authors and reviewers shall use IOP online article management and peer review system (the “Platform”) to manage, submit, revise and review the abstracts and manuscripts. Here are the [instructions](#) for using the platform.

The submitted abstracts and manuscripts will be reviewed by the organizing and scientific committees. The review criteria are based on scope of the symposium, quality and depth of the scientific results (expected), methodology and [IOP Author guidelines for conference proceedings](#).

Templates

Authors must prepare their papers using [Microsoft Word templates](#), according to the [guidelines and templates](#), and then convert these to PDF format for submission.

As a general rule we would advise that an author does not submit more than two articles to a conference. This includes papers that they have co-authored.

Our guidance on what constitutes authorship is available [here: https://publishingsupport.iopscience.iop.org/questions/ethics-of-authorship/](https://publishingsupport.iopscience.iop.org/questions/ethics-of-authorship/)

By submitting a paper an author and all co-authors are assumed to agree with the terms of the [IOP Proceedings Licence](#).

Language requirement

Manuscript must be in English language. Reviewers may not make suggestions for grammatical errors and poor sentence structures. Authors themselves are responsible for language correction. Articles should be clearly and concisely written, and be accessible to an international audience. You should aim for consistency within your article in matters such as hyphenation and spelling. All acronyms and abbreviations should be clearly explained when they first appear in the text. We encourage authors to use inclusive language wherever possible.

On completion of the first draft, carefully re-read your paper and make any amendments that will improve the content. When complete, send the paper to colleagues and co-authors, and use their feedback to improve the clarity of the text. When all co-authors are satisfied that the draft is ready to be submitted to the submission portal, carry out one final spelling and grammar check before the submission.

Abstract

The abstract text should be formatted using 10 point Times or Times New Roman and indented 25 mm from the left margin. Leave 10 mm space after the abstract before you begin the main text of your article, starting on the same page as the abstract. The abstract should give readers concise information about the content of the article and indicate the main results

obtained and conclusions drawn. The abstract is not part of the text and should be complete in itself; no table numbers, figure numbers, references or displayed mathematical expressions should be included. It should be suitable for direct inclusion in abstracting services and should not normally exceed 200 words in a single paragraph. Since contemporary information-retrieval systems rely heavily on the content of titles and abstracts to identify relevant articles in literature searches, great care should be taken in constructing both.

Paper format

1. The paper size is European A4.
2. Margins are 4cm (top), 2.5cm (left and right) and 2.7cm (bottom).
3. There are no page numbers, headers or footers within the paper.
4. Text is single spaced, not double spaced.
5. All fonts are embedded.
6. All pages are portrait (landscape pages should be rotated).
7. The abstract text should be indented 25mm from the left margin and there should be 10mm space after the abstract before you begin the main text of your article, starting on the same page as the abstract.

Paper content

1. The paper includes the author name(s) and affiliation(s) (full address including country).
2. All articles must contain an abstract.
3. All figures and tables should be numbered in numerical order. Please ensure that figure/table numbers are not duplicated or missed.
4. Figures are legible and placed within the text, not collected at the end of the document.
5. If section headings are numbered, ensure that they are numbered numerically, and no numbers are duplicated or missing.
6. Displayed equations should follow a naming convention in numerical order, i.e. (1), (2), (3) etc or by section, i.e. (1.1), (1.2) etc. Ensure every displayed equation has its own number and none are duplicated or missing.
7. Reference lists are checked for accuracy. References can only be linked via CrossRef if they are correct and complete. Check the templates and guidance page for further reference styling information.
8. If numbering references (Harvard system) ensure that references are numbered numerically, every reference has its own number and no numbers are duplicated or missing.
9. Ensure that all references are cited in the text and that all citations have a corresponding reference.
10. Finally, please ensure that the paper is thoroughly proofread to check the standard of English and ensure wording is clear and concise.

Conversion to PDF

1. The PDF file is editable and not password protected.
2. The PDF is free of formatting errors (e.g. corrupt equations, missing or poor-resolution figures), since conversion from Word to PDF can introduce formatting errors.
3. There are no blank pages.

Submission check list

1. Manuscript formatted correctly.
2. Authors' name, affiliation and ORCID are correct.
3. No spelling error in the paper title, authors' name and affiliation.
4. Nomenclatures and abbreviations are correctly defined.
5. Citations, referencing and bibliography is according to IOP Science.
6. DOI (digital object identifier) is written for all references in the bibliography.
7. All authors have read the manuscript and no spelling mistakes (grammatical errors).
8. All illustrations are checked and properly presented, cross-referenced in the corresponding paragraph. Necessary permission is obtained for the illustrations, which are cited from the literature

Copyright and permissions

The content in IOP Publishing's Conference Series journals are all published on a gold open access basis. All of conference series articles are currently published under a [CC BY licence](#). For further information on what the CC BY licence allows, please refer to [this page](#).

[IOP Proceedings Licence](#)

By submitting a paper an author and all co-authors are assumed to agree with the terms of the IOP Proceedings Licence. All papers submitted to IOP Conference Series for publication will be published according to the following terms and conditions.

Licence terms and conditions

By submitting the paper to the conference organizer, you, as copyright owner and author/representative of all the authors, grant a worldwide perpetual royalty free exclusive licence to IOP Publishing Limited (IOP) to use the copyright in the paper for the full term of copyright in all ways otherwise restricted by copyright, including, but not limited to, the right to reproduce, distribute and communicate the article to the public under the terms of the Creative Commons Attribution (CC BY) licence (creativecommons.org/licenses/by/4.0 or any newer version of the licence) and to make any other use which IOP may choose world-wide, by all means, media and formats, whether known or unknown at the date of submission, to the conference organizer.

This licence does not transfer the copyright in the paper as submitted which therefore remains with the authors or their employer, as appropriate. Authors may not offer the paper to another publisher unless the article is withdrawn by the author(s) or rejected by IOP.

Once published, the paper may be reused in accordance with the terms of the applicable Creative Commons Attribution (CC BY) licence, including appropriate citation information (for electronic use best efforts must be made to include a link to the online abstract of the paper on IOPscience), a link to the Creative Commons Attribution (CC BY) licence, and indicating if any changes have been made to the original paper.

By granting this licence, the author warrants that the paper they are submitting is their original work, has not been published previously (other than in a research thesis or dissertation which fact has been notified to the conference organizer in writing), all named authors participated sufficiently in the conception and writing of the paper, have received a final version of the paper, agree to its submission and take responsibility for it, have read and understood IOP Publishing's ethical policy (<https://publishingsupport.iopscience.iop.org/ethical-policy-journals/>) and agree that the submission complies with its terms, and the submission has been approved as necessary by the authorities at the establishment where the research was carried out.

By granting this licence, the author also warrants that they act on behalf of, and with the knowledge of, all authors of the paper, that the paper does not infringe any third party rights, it contains nothing libellous, all factual statements are, to the best of the authors' knowledge and belief, true or based on valid research conducted according to accepted norms and our ethical policy (<https://publishingsupport.iopscience.iop.org/ethical-policyjournals/>), and all required permissions have been obtained.

The IOP Proceedings Licence Notice

The IOP Proceedings Licence Notice should be displayed as:

'Published under licence in *Journal Title* by IOP Publishing Ltd.



Content from this work may be used under the terms of the [Creative Commons Attribution 4.0 International licence](https://creativecommons.org/licenses/by/4.0/). Any further distribution of this work must maintain attribution to the author(s) and the title of the work, journal citation and DOI.'

Presentation submission

Submit your presentation

Presentation guideline

This guideline is aimed to make uniform structure of the presentations and to help other researchers to follow all presentations systematically. Presentation time is 15 minutes followed by 5 minutes question/answer/discussion. Please use following sections/order to maintain uniformity across the presentations.

Introduction (Initial slides)

Introductory information of your research work, goal, objective, etc. Please avoid generic information, such as hydropower, type of hydraulic turbines, renewable energy, etc. This symposium is on hydraulic machinery and all participants are aware of the generic knowledge.

Research method and approach (Middle slides)

This part of slides should contain research method explaining, the method you have used to solve the research problem. This can be, experimental approach, numerical approach, geometry, mesh, calibration, data verification and validation, data analysis techniques, etc.

Results (Later slides)

Here you will present the research results of your work.

Conclusions (End slides)

Here you will present the conclusions of your work. Use bullet points and write main outcome/conclusions. Try to avoid very long sentences. Conclusions must be clear and able to answer the goal/objectives presented in initial slides.

Information for the Manuscript presenting authors

1. We have scheduled manuscripts, which are finally submitted (production ready manuscript). If you have not submitted the final manuscript, it is not included in the presentation.
2. Only successfully presented manuscripts during the symposium will be published at IOP Science. Manuscripts, which are not presented during the symposium shall not be published.
3. Time given in the presentation schedule corresponds to the Beijing local time.
4. Total time of the presentation is 20 minutes, which includes 15 minutes presentation time + 4 minutes question-answer + 1 minutes switching to the next presenting author.
5. The presenting authors should upload the presentation to website (<http://www.iahr2023asia.tsinghua.edu.cn>), at least before 10 August 2023.
6. Use specific format to name your file: topic_manuscript id_name of presenting author. For example, topic is 'Hydraulic turbines'; manuscript id is 'P100'; name is 'Li Ming'. File name shall be Hydraulic turbines_P100_Li Ming.
7. Session chair will help to start the presentation and attach the microphone. All presentations will be played through local computer and projectors available in the respective conference rooms.
8. We suggest authors preparing Chinese version after submitting the full manuscripts to facilitate some reviewers' understanding and on-site communication. Authors could send it to the organizing committee's email iahr2023asia@mail.tsinghua.edu.cn, but this is not compulsory.
9. Each Session chair will select a number of excellent papers and recommend them to the committee. The committee will finally select 12 best papers and the award for each paper is CNY 1000.

Peer review policy and proceedings licence

The peer review of papers published in the IOP Conference Series titles is managed by the organizers and proceedings editors. IOP publishing agreements require peer review to be undertaken in accordance with the principles outlined below. Peer review must be conducted through IOP platform. The conference organizer follows the guideline available from IOP Science. All submitted manuscripts will be reviewed under the category of single-blind review and accepted manuscripts will publish on Journal of Physics: Conference Series.

The organizing committee will strictly adhere to the following minimum standards. The information is directly borrowed from [IOP Science](#).

- Unbiased consideration is given to all papers. Papers are considered regardless of the race, gender, religious belief, ethnic origin, citizenship or political philosophy of the authors.
- No terminology will be used that, in the opinion of IOP Publishing, is offensive or might be

perceived to be offensive to others.

- Authors and editors agree to comply with our [ethical policy](#).
- IOP Publishing has the right to investigate any suspicions and/or allegations of misconduct.
- Submission and peer review must be conducted in English.
- Reviewers shall give a clear statement of recommendation for each paper. Comments must be included to support their recommendation. These comments should be suitable for transmission to the author.
- Editors and organizers shall only accept papers where there is clear support from the reviewers.

Conference papers must meet all the usual standards of quality for an IOP Publishing publication. However, reviewers will take into account the nature of conference papers. Review papers are also welcomed and accepted. Reviewers will consider background papers more favourably than would be normal for a regular paper. These allowances shall not go so far as to approve papers of low scientific standard. Papers that have been published in written form elsewhere should not be considered.

Reviewers should consider the following key points related to scientific content, quality and presentation of the papers:

Technical Criteria

- Scientific merit; scientific rigour, accuracy and correctness.
- Clarity of expression; communication of ideas; readability and discussion of concepts.
- Sufficient discussion of the context of the work, and suitable referencing.

Quality Criteria

- Originality: Is the work relevant and novel?
- Motivation: Does the problem considered have a sound motivation? All papers should clearly demonstrate the scientific interest of the results.
- Repetition: Have significant parts of the manuscript already been published?
- Length: Is the content of the work of sufficient scientific interest to justify its length?

Presentation Criteria

- Title: Is it adequate and appropriate for the content of the article?
- Abstract: Does it contain the essential information of the article? Is it complete? Is it suitable for inclusion by itself in an abstracting service?
- Diagrams, figures, tables and captions: Are they essential and clear?
- Text and mathematics: Are they brief but still clear? If you recommend shortening, please suggest what should be removed.
- Conclusion: Does the paper contain a clear conclusion. The conclusion should summarize what has been learned and why it is interesting and useful?

Accepted & Indexing

When the manuscript is completely accepted by the reviewers, authors can deliver the final manuscript with correct formatting. Please note that the manuscripts, which are in the category of 'major revision' and 'minor revision' are not considered as 'completely accepted.' IOP Publishing requires to meet formatting guideline absolutely. Any manuscript, which does not meet the formatting guidelines, will be returned by the IOP publisher and the publication of all manuscripts will be halted. This will delay the publication process. We do not have permission to edit/modify any manuscript. Authors themselves are responsible for the final formatting.

Symposium will submit all manuscript, finally accepted by the reviewers and presented in IAHR 2023 Asia Kashgar, to the IOP Publisher JPCS after the symposium. IOP Publishing provides volume data to the abstracting and indexing providers on publication. However, it is at the discretion of each provider as to how quickly they upload new content.

[Journal of Physics: Conference Series \(JPCS\)](#)

- Conference Proceedings Citation Index—Science (CPCI-S) (Clarivate, Web of Science)
- Chemical Abstracts Service
- CNKI
- Ei Compendex
- GeoRef
- Inspec
- J-Gate
- JST
- MathSciNet
- NASA Astrophysics Data System
- Naver Academic
- Scite
- Scopus
- WTI Frankfurt
- Yewno
- OCLC Worldcat
- EX Libris Primo
- EBSCO Discovery Service
- British Library Services
- Google Scholar
- Serial Solutions
- SPIRES
- TDNET
- INIS
- VINITI

Important dates

Abstract submission deadline: 28 March 2023, 23:59 hrs.

Notification of acceptance/rejection of abstract: 15 April 2023, 23:59 hrs.

The first submission of manuscript deadline: 28 May 2023, 23:59 hrs.

The first notification on the manuscript: 15 June 2023, 23:59 hrs.

Revised manuscript submission deadline: 28 June 2023, 23:59 hrs.

The revised notification on the manuscript: 15 July 2023, 23:59 hrs.

The final submission deadline: 30 July 2023, 23:59 hrs.

Registration

Registration

Login name – Password – Confirm Password

Registration Information Form (example)

Personal Information	Full name		Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
	First Name		Last Name	
	Status	<input type="checkbox"/> Prof. <input type="checkbox"/> Dr. <input type="checkbox"/> MSc <input type="checkbox"/> Engineer <input type="checkbox"/> _____		
	Affiliation			
	Address			
	Country			
	Phone number			
	E-mail			
Registration Type	Delegate	<input type="checkbox"/> LIC* with paper	<input type="checkbox"/> LIC Without paper	
		<input type="checkbox"/> HIC* with paper	<input type="checkbox"/> HIC Without paper	
	Students	<input type="checkbox"/> With paper	<input type="checkbox"/> Without paper	
			<input type="checkbox"/> Companions	
Other items	<input type="checkbox"/> Extra Paper _____			
	<input type="checkbox"/> Active IAHR member		Submit certificate	
Total expenses	CNY _____			
Paper ID				
Scientific tour: Altash Hydro Junction Visit				
<input type="checkbox"/> Attend			<input type="checkbox"/> Not Attend	
Invoice	<input type="checkbox"/> No required			

	<input type="checkbox"/> Required	Taxpayer name _____
		Taxpayer ID number _____
Emergency Contact		
Notes		

* LIC: Low-income countries, HIC: High-income countries. Check this list to see if you qualify for "Low income countries" pricing: [IAHR list of regions, countries, and income levels](#).

Registration fees

Early fee (before 30 April 2023)

Index	Delegate without paper	Delegate with paper
Low-income countries	CNY 2300	CNY 2800
High-income countries	CNY 2800	CNY 3300
Students	CNY 1800	CNY 2300
Companions	CNY 1300	

Standard fee (01 May - 31 July 2023)

Index	Delegate without paper	Delegate with paper
Low-income countries	CNY 2500	CNY 3000
High-income countries	CNY 3000	CNY 3500
Students	CNY 2000	CNY 2500
Companions	CNY 1500	

Late fee (01-16 August 2023)

Index	Delegate without paper	Delegate with paper
Low-income countries	CNY 2800	CNY 3300
High-income countries	CNY 3300	CNY 3800
Students	CNY 2300	CNY 2800
Companions	CNY 1800	

Note:

1. Check this list to see if you qualify for "Low income countries" pricing: [IAHR list of regions, countries, and income levels](#).
2. Fee includes: access to all conference sessions, four lunches and five dinners, scientific tour of Altash Hydro Junction.
3. Active IAHR members get a CNY 700 price reduction from the listed fees.
4. The price of delegate with papers only include one paper's review and publishing fees, who submit more than on paper will be charge CNY 700 extra for each additional paper.
5. All fees in CNY - Chinese yuan. Settlement shall be made at the exchange rate on the day

of payment. Find a currency converter here: [BOC EXCHANGE RATE\(new\)](#), the unit of this exchange rate table is 100 foreign currency converted into CNY.

6. Cancellation: Refunds are given with a deduction of CNY 600, until 30 July 2023. There are no refunds after 1 August 2022.

Programme

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

Overview programme

In planning.

Aug. 12 th	Aug. 13 th	Aug. 14 th	Aug. 15 th	Aug. 16 th
Registration (10:00-22:00)	Opening ceremony (9:00-9:30) Group photo (9:30-10:00) Plenary (10:00-13:00)	Parallel sessions (9:00-10:50) Coffee Break (10:50-11:10) Parallel sessions (11:10-13:00)	Plenary (9:00-10:50) Coffee Break (10:50-11:10) Plenary (11:10-13:00)	Return or Scientific tour - Altash Hydro Junction (7:00-21:00)
Lunch(13:00-15:00)				
	Plenary (15:00-16:50) Coffee Break (16:50-17:10) Plenary (17:10-19:00)	Parallel sessions (15:00-16:50) Coffee Break (16:50-17:10) Parallel sessions (17:10-19:00)	Free discussion on technical exchange/ Executive Committee meeting (15:00-16:50) Coffee Break (16:50-17:10) Closing ceremony (17:10-18:10)	
Banquet	Dinner(19:00-21:00)			

Programme 12th, SAT

Coming soon.

Programme 13th, SUN

Coming soon.

Programme 14th, MON

Coming soon.

Programme 15th, TUE

Coming soon.

Programme 16th, WED

Coming soon.

Keynote speakers
Coming soon.

Venue & Visit

Venue

Kashgar (Kashi), Xinjiang Uygur Autonomous Region, China



Accommodation
Coming soon.

Travel
Coming soon.

News & Contact

Visa
Coming soon.

Contact

E-mail: iahr2023asia@mail.tsinghua.edu.cn

Website: www.iahr2023asia.tsinghua.edu.cn (Coming soon)

Address: Tsinghua University, Haidian District, Beijing, 100084, P. R. China

Sponsorship

Invitation in progress.