

World Association for Sedimentation & Erosion Research – WASER

NEWSLETTER

Reporting WASER news to you regularly

2021 No. 3

(Sept. 29, 2021)

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NEWS

WASER co-sponsored ISI Online Training Workshop on Sediment Transport Measurement and Monitoring, July 5-9, 2021, successfully held



The UNESCO-ISI Online Training Workshop on Sediment Transport Measurement and Monitoring was held from July 5-9, 2021, and represents a key activity of the International Sediment Initiative (ISI) of UNESCO for 2021. It meets the objectives of the new strategy of ISI, which in turn is a contribution to the 8th phase of the IHP (2014-2021), focuses on “Water security: responses to local, regional and global challenges”, and addresses the wide-ranging environmental, social and economic impacts of erosion, sediment transport and sedimentation processes. Measurement and monitoring of sediment transport are of critical importance for managing and mitigating these impacts.

The Online Training Workshop was sponsored by UNESCO-IHP, and the Ministry of Water Resources, P.R. China; organized by the UNESCO-IHP International Sediment Initiative (ISI), the International Research and Training Center on Erosion and Sedimentation (IRTCES), the China Institute of Water Resources and Hydropower Research (IWHR), and the UNESCO Beijing Office; and co-sponsored by the World Association for Sedimentation and Erosion Research (WASER), the International Association for Hydro-Environment Engineering and Research (IAHR), and the Jingjiang Bureau of Hydrology and Water Resources Survey. The workshop had been designed for, and was open to, young engineers, scientists and managers, who were based in developing countries and working in fields such as river basin/reservoir management, water and soil conservation, sediment management and control etc. and who wished to improve their knowledge and understanding of fluvial sediment measurement and monitoring.

A total of 223 participants from 61 countries

and regions, including the 15 lecturers/organizers and 208 registered trainee participants, attended the workshop, among them 176 (85%) of the trainee participants, were from developing countries. The geographic distribution was Asia and the Pacific – 99 (48%), Latin America and the Caribbean – 46 (22%), Africa – 38 (18%), Europe and North America – 21 (10%), and Arab States – 4 (2%). Female participants accounted for 41% of the total. Over 870 persons including unregistered participants joined in the online training.

The opening of the training workshop on July 5 was chaired by Prof. Manfred Spreafico, Chairman of ISI. Prof. Shahbaz Khan, Director of the UNESCO Office in Beijing and UNESCO Representative to the Democratic People's Republic of Korea, Japan, Mongolia, People's Republic of China, and the Republic of Korea; Ms. Xinyang Chi, Deputy Director of the Department of International Cooperation, Science and Technology, Ministry of Water Resource, P.R. China; Prof. Guangquan Liu, Deputy Director of IRTCES; and Mr. Harald Koethe, Director of the International Centre for Water Resources and Global Change (ICWRGC), gave welcome speeches.

Five training lectures and one perspective lecture were delivered over 5 days. The Lectures included:

Lecture-1, Collecting sediment data for studying sediment-based ecological problems (Dr. Mengzhen Xu);

Lecture-2, Sediment measurement for the Three Gorges Project (Prof. Dr. Guanglei Duan);

Lecture-3, Online monitoring of suspended sediment at the Zhicheng Gauging Station on the Yangtze River (Mr. Dibing Xu);

Lecture-4, Field survey and monitoring methods for river flow, sediment transport and river beds in mountain regions (Dr. Zhiwei Li);

Lecture-5, Measuring erosion and sediment yields on slopes and in small catchments (Prof. Dr. Baoyuan LIU & Dr. Yaxian Hu); and

Perspective Lecture, Measurement and monitoring techniques concerning suspended load and bedload (Prof. Helmut Habersack)

Prof. Manfred Spreafico and Prof. Desmond E. Walling, well-known experts in the field of erosion and sedimentation, served as Chairpersons to chair the lecture and discussion sessions.

The appraisal of the online training workshop by the participants was highly positive. Their assessments indicated that:

‘the presentation was excellent and the topic was very informative’,

‘organized at the highest level’

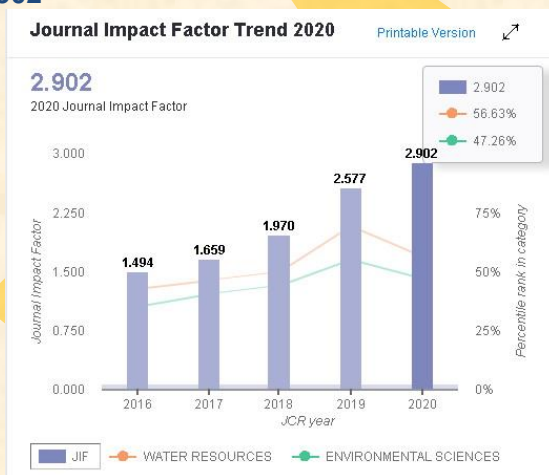
‘knowledge acquired during the workshop exceeded our expectations’, and

‘we hope more such courses to be organized’.

According to the responses to the questionnaire evaluating the workshop returned by the participants, the assessments relating to the ‘quality of the workshop’ falling into the ‘good’, ‘very good’ and ‘excellent’ categories exceeded 94%. Assessments relating to the ‘quality of the documents provided for participants’ falling into these three categories exceeded 97%, and assessments relating to the ‘quality of the training staff/lecturers’ falling into these three categories exceeded 97%.

The training materials, including lecture notes, PPT files, and video replay, can be downloaded or viewed via the workshop website at: <http://isi-unesco.iahr.org/>.

Journal Impact Factor of the International Journal of Sediment Research increases to 2.902



The 2020 Journal Citation Reports (JCR) were released by Clarivate Analytics on June 30, 2020. The International Journal of Sediment Research (IJSR) Journal Impact Factor for 2020 is 2.902. Within all the journals in the category of Water Resources and Environmental Science, IJSR was ranked Q2 and Q3, respectively.

The IJSR is the official journal of the World Association for Sedimentation and Erosion Research (WASER). The journal is under the administration of the Ministry of Water Resources

(MWR), PRC and is co-owned and sponsored by the International Research and Training Center on Erosion and Sedimentation (IRTCES), the China Institute of Water Resources and Hydropower Research (IWHR) and Tsinghua University. It is an international, peer reviewed journal, focusing on publication of original contributions related to theoretical advances, numerical modelling, field observational and laboratory studies and reviews dealing with processes, products and techniques in the field of sedimentation and erosion. Of particular importance are contributions covering topics linked to geography, geomorphology, soil erosion, watershed management, sediment transport, sedimentology, fluvial processes, fluvial geomorphology, reservoir sedimentation, coastal sedimentation and estuarine processes, sediment-related ecological and environmental problems, river management, and the social and economic effects of sedimentation.

All researchers in the sediment field are encouraged to submit their important papers to the International Journal of Sediment Research.

The Journal website can be found at: <https://www.journals.elsevier.com/international-journal-of-sediment-research>.

ISWCR received its second IF of 6.027

Clarivate officially released the 2020 Journal Citation Reports (JCR) on June 30, 2021. For each SCIE indexed journal, the JCR presents a rich array of citation metrics, including the Journal Impact Factor (JIF), alongside descriptive data about a journal's open access content and contributing authors.

According to the latest JCR, the 2020 Impact Factor for the official journal of WASWAC - International Soil and Water Conservation Research (ISWCR) is 6.027.

ISWCR was officially indexed by Science Citation Index Expanded in July, 2019, and is classified into three subject areas of Water Resources, Soil Science, and Environmental Sciences. ISWCR received its first official Impact Factor of 3.770 in June 2020. The impact factor of 6.027 is the second official IF for ISWCR.

Amongst the total of 98 journals in the categories of Water Resources, ISWCR was ranked 6, which rises 3 place compared to that for last year. In the categories of Soil Science and Environmental Science, it is ranked as 4 out of 37 (Q1) and 45 out of 274 (Q1), that indicates a rise of 3 and 31 places, respectively, compared to those for last year. ISWCR is now a Q1 journal in all three categories of Water Resources, Soil Science, and Environmental Sciences. (Source: WASWAC)

Prof. Shahbaz Khan, Director of UNESCO Beijing Office, met with Prof. KUANG Shangfu, President of IWHR



On August 5, 2021, Prof. Shahbaz Khan, Director of UNESCO Beijing Office visited China Institute of Water Resources and Hydropower Research (IWHR) and met with Prof. KUANG Shangfu, President of IWHR and Director of IRTCES as well as his team, to discuss future cooperation between UNESCO and IWHR.

Prof. Khan appreciated the contribution of IWHR in the field of water development in China and the world. He emphasized that UNESCO Beijing Office, as a cluster office with five units: Education, Culture, Natural Sciences, Social and Human Sciences, and Communication & Information, will strengthen the cross-disciplinary cooperation and popularization of water science and education with IWHR, enrich and improve the international sediment research platform, enhance the impact of IWHR's affiliated Category II Centre's influence, and explore opportunities of international water culture exchange.

Prof. Kuang expressed his congratulations to Prof. Khan on his appointment as Director of UNESCO Beijing Office in March this year and welcomed his team. He recalled the cooperation between Prof. Khan and IWHR in previous activities, introduced the operation of UNESCO Category II Centre (International Research and Training Centre on Erosion and Sedimentation), and put forward ideas on strengthening international water science education, increasing the influence of the UNESCO Category II Centre, and expanding international water culture exchange.

Members of UNESCO Beijing Office and IWHR also discussed in depth topics including the achievements in aquatic ecological restoration, medium and long-term water science education, and promoting collaboration among water science communities of shared future. (Source: UNESCO Beijing Office)

A study of sediment cores indicates more heavy rain events in warm periods and less climate variability in cold periods



Fewer than one hundred kilometers lie between the flood-ravaged district of Ahrweiler and the volcanic lakes in the Eifel. These maars have now provided evidence that weather extremes could increase. Researchers at Johannes Gutenberg University Mainz (JGU) and the Max Planck Institute for Chemistry have used sediment cores from maar lakes and dry maars in the volcanic Eifel to precisely construe how the climate in Central Europe changed over the last 60,000 years. In cold periods, the climate fluctuated less, and weather extremes were less pronounced. In warm periods, on the other hand, there were more extreme precipitation events, and abundant decadal fluctuations. This result suggests that Central Europe will have to adapt to more extreme weather events as a result of human-induced climate change.

Many scientists believe that the stable climate of the past 10,000 years was a prerequisite for human development. Before that, the earth's climate was characterized by strong fluctuations. These became noticeable in the alternation of glacial and interglacial periods. In the glacial periods, particularly cold and somewhat warmer phases followed one another. The present, unusually stable period of the Holocene also falls into such a warmer period of a glacial period. But humankind is disrupting this steady phase – mainly by emitting greenhouse gasses. The consequences of this can also be seen from climate history. A team led by Frank Sirocko, professor at Johannes Gutenberg University in Mainz, and Gerald Haug, Director at the Max Planck Institute for Chemistry, is now using analyses of sediment cores from the Eifel maars to show how climate change has affected Central Europe in the past and might do so in the future.

Extreme events occur every 20 to 150 years

In particular, the sediments of the dry maar of Auel allowed the researchers to understand that changes in the North Atlantic current system, which includes the Gulf Stream, have directly influenced the climate in Central Europe. "Here, the sediment core data from the Eifel maars show that during warmer periods, there were stronger

climate fluctuations with more variability in temperature and precipitation as well as more extreme events," says Sirocko, who played a key role in the study.

From the sediments, the researchers construed short periods of a few decades of additional warming during the interglacial periods and even years with extreme climate and weather events (e.g. heavy rain), which occurred every 20 to 150 years. During the glacial periods, on the other hand, the climate was much more stable.

"The sediment cores are so well stratified that we can decipher the climate of almost every year of the past 60,000 years. This is because in Auel, for example, about two millimeters of sediment were deposited every year," explains Sirocko. His team determined the organic carbon content layer by layer while researchers at the Max Planck Institute for Chemistry analyzed the concentrations of silicon and aluminum. From these, they can infer the amount of diatoms in the water.

Particularly thick sediment layers during floods

The special feature of the Eifel maars is that sediments were deposited undisturbed in the oxygen-free depth of the lake basins. These unique conditions preserved the annual layers. The climate, environment, fauna, flora, and volcanic activity of the Eifel can thus be reconstructed quite accurately from these. In interglacial periods, even the course of the seasons can be seen in the layers – similar to the annual rings of a tree. During flood events during these phases, particularly thick sediment layers also formed; these can range from several millimeters to a few centimeters. In glacial periods, on the other hand, the layers are very thin and hardly visible. Not even the seasonal variations are visible in them.

"Our climate is essentially determined by the interaction of the warm gulf stream and cold air from Arctic sea ice in the North Atlantic. This determines the intensity and frequency of low-pressure areas and the position of the Northern Hemisphere jet stream," says Sirocko. The climate development in the Atlantic and in Central Europe is absolutely synchronous. "This synchronicity clearly shows that temperatures in the Gulf Stream region, in particular, have controlled the European climate," says Alfredo Martinez-Garcia, one of the Max Planck researchers involved. "Upcoming changes in the Atlantic current system and sea ice cover, in particular, will also have a direct and immediate effect on the European climate."

Careful planning of settlements and infrastructure

"What we have reconstructed for the climate

of the Eifel confirms a frequent observation in the climate history of other regions of the Earth, especially the tropics and subtropics, of the last millennia. The frequency and intensity of climate and weather extremes increased during warmer periods. Extremes no longer occurred only every hundred years but rather at much shorter intervals. The differences observed in climate conditions during glacial periods and interglacial periods also provide further evidence that human-induced warming will lead to increasingly more intense climate and weather extremes," says Haug, co-author of the study. "Therefore, in the most vulnerable regions such as the Eifel, careful consideration should be given to how settlements and infrastructure such as roads or pipeline networks are planned."

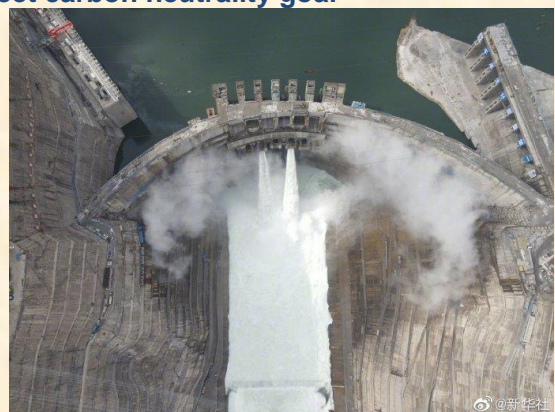
Haug's colleague Sirocko and his team have meanwhile archived 52 long cores from the Eifel at the Institute of Geosciences in Mainz, thereby opening up one of the most important geoarchives in Central Europe. For the publication in Nature Geoscience, he combined drill cores from the Schalkenmehren, Holzmaar, and the dry maar lake of Auel to create a complete sequence of the last 60,000 years.

The maar sediments have been studied since the 1980s. In 1998, Sirocko started the Eifel Laminated Sediment Archive (ELSA) project with the aim of fully developing the sedimentary deposits in the maar lakes and the old, now silted-up maars of the Eifel with drill cores as a geoarchive.

More information: Frank Sirocko et al, Muted multidecadal climate variability in central Europe during cold stadial periods, Nature Geoscience (2021). DOI: 10.1038/s41561-021-00786-1

(Source: <https://phys.org/>)

Massive hydropower project to help country meet carbon neutrality goal



After working nonstop for 1,510 days and nights China has completed construction of the dam for the Baihetan Hydropower Station, which

will be the world's second-largest in terms of installed capacity. The total concrete volume is more than 3 times of the Great Pyramid of Giza in Egypt.

Almost 8 million metric tons of concrete was used to finish the dam, which is 289 meters high, China Three Gorges Corporation, which built it, said in a news release on Monday.

The completion of the dam lays a solid foundation for the station's first generating units to go into operation as scheduled before July 1. It also signals that the massive project will be able to play its designed role in controlling floods, the company said.

Located on the Jinsha River, the upper section of the Yangtze, Baihetan straddles the southwestern provinces of Yunnan and Sichuan. Aside from generating electricity, the station will also help prevent floods, control flows of sediment and facilitate shipping.

A major source of power for China's west-to-east power transmission project, the station is also a key part of the flood control system in the Yangtze.

"It's a milestone project with epoch-making significance in the history of hydropower project development," the company said.

With a total installed capacity of 16 million kilowatts, which comes second only to that of the Three Gorges Hydropower Station, the new station is expected to make a great contribution to the country's efforts to see carbon dioxide emissions peak before 2030 and go carbon neutral before 2060.

Once it is in full operation in July next year, the daily output of the station is expected to be sufficient to meet the annual household power consumption of half a million people. Generating that much power every day over the course of a year would take almost 20 million tons of standard coal, China Central Television reported.

China consumed 4.98 billion tons of standard coal last year, according to the National Bureau of Statistics.

China Three Gorges Corporation said Baihetan has a more extensive network of underground tunnels than any other hydropower station. They run for a total length of 217 kilometers — 1.7 times the distance from Beijing to Tianjin. (Source: Xinhua)

PUBLICATIONS

Papers Published in the International Journal of Sediment Research Volume 36, No. 5, 2021



Pages 567-686 (October 2021)

Self-Organizing Maps for identification of zeolitic diagenesis patterns in closed hydrologic systems on the Earth and its implications for Mars
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Numerical modeling of bedload and suspended
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Two-dimensional modeling of fine sediment
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Application to the Gironde Estuary, France
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Damien Pham Van Bang, Fabrice Klein
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Key drivers of changes in the sediment loads of
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Cheng Liu, Yun He, Zhongwu Li, Jia Chen, Zhijing
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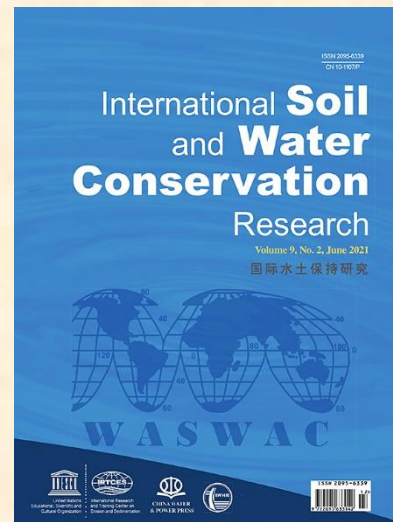
Modeling of climate change impacts on Lake
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Full papers are available at ScienceDirect:

<https://www.sciencedirect.com/journal/international-journal-of-sediment-research> with free access to
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Free full papers and open access are available at ScienceDirect :

<https://www.sciencedirect.com/journal/international-soil-and-water-conservation-research>.

COMING EVENTS

The 7th International Conference on Estuaries and Coasts (Shanghai, China, October 18-21, 2021)

Date: October 18-21, 2021

Venue: East China Normal University, Shanghai, China

Organizers:

East China Normal University

Sponsors: International Research and Training Center on Erosion and Sediment Research (IRTCES); World Association for Erosion and Sediment Research (WASER)

Co-sponsors: International Association for Hydro-Environment Engineering and Research (IAHR).

Secretariat: East China Normal University

Summary: The International Conference on Estuaries and Coasts (ICEC) is a triennial event initiated by the International Research and Training Center on Erosion and Sedimentation (IRTCES). Six such conferences have now been held in Hangzhou and Guangzhou, China; Sendai, Japan; Hanoi, Vietnam; Muscat, Oman, and Caen, France in 2003, 2006, 2009, 2012, 2015 and 2018. With support from related international associations, and with the participation of experts and scholars worldwide, the ICEC has attracted wide attention and has become an important and popular event. The ICEC provides an opportunity for scientists, engineers, researchers and decision-makers to exchange ideas, research results and advanced techniques, and develop collaboration and friendships. The 7th International Conference on Estuaries and Coasts (ICEC-2021) will be held in the East China Normal University, Shanghai, China during October 18-21, 2021.

Overall Theme:

Anthropocene Coasts

Topics of the Conference (tentative):

1. Hydrodynamics in estuaries and coasts: tides, waves, circulations, and their interactions;
2. Sediment transport dynamics: sand, mud and their mixture;
3. Multi-scale morphodynamics: tidal flats, estuaries, deltas, beaches, dunes, eco-morphodynamics...;
4. Coastal management: flood defense, ecosystem conservation, human-nature interactions...

URL: <http://icec2021.ecnu.edu.cn/>

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The 14th International Conference on Hydrosience and Engineering (Turkey, May 26-27, 2022)

Date: May 26-27, 2022

Venue: Cesme, Turkey

Invitation: We are pleased to announce that 14th International Conference on Hydrosience & Engineering, ICHE 2022, will be held on May 26-27, 2022 through face-to-face sessions at IZTECH, Urla, Turkey.

Due to the health and safety concerns, and prospective uncertainties regarding the global travel situation, we had to

postpone ICHE 2022 conference which was originally planned in September, 2020.

If you haven't submitted an abstract yet, you can directly submit an extended abstract/full paper to participate ICHE 2022 by December 15, 2021.

We look forward to seeing you in İzmir. Until then, we hope that you stay safe and well.

ICHE 2022 LOC

URL: <https://www.iche2020.org/>

Contact

info@iche2022.org

The 39th IAHR World Congress (Spain, June 19-24, 2022)

Date: June 19-24, 2022

Venue: Granada, Spain

Invitation: On behalf of the Congress Organising Group (COG) of the 39th IAHR World Congress and the International Association for Hydro-Environment Engineering and Research (IAHR), we are delighted to invite you to join the 39th IAHR World Congress in 2022 in Granada, Spain.

Spain is a leading country in Hydro-Environment Engineering, strongly involved with IAHR. We are also a hub for Europe, Asia, Africa and the Americas, a gateway to the world. Customs procedures for coming to Spain are very easy for the majority of countries around the world, with no visa needed for over 100 nationalities. Granada has superb transportation connections – there are more than 70 international flights (destinations) from Malaga Airport and over 200 through the Madrid and Barcelona Airports – and incredible accessibility from all parts of the world.

Granada is unique: there are few places in the world where one can see so many hydro-environment engineering processes in such a small area: snow, desert, pristine rivers, spectacular reservoirs, and traditional cultural techniques alongside ultra-modern technologies. Granada is a modern city but with an impressive historical legacy. Not too large, nor too small; very well connected and affordable for everybody.

The University of Granada is the leader in Europe in international student exchanges and has vast experience organizing large-scale events. The Granada Congress Centre with its unique auditorium capable of welcoming 2.000 delegates and its modern audio-visual facilities offers a state of the art conference experience in the heart of the city. PCO Kenes Spain has the experience, knowledge and reliability that the IAHR World Congress needs.

This Congress will bring together the enthusiasm of a whole country to organize a high-level event in the field of water. For us it's not just another event, but the event of the year. The central theme of the Congress will be "From Snow to Sea", linking past with present and focusing attention on the importance of considering the integral water cycle to address present and future challenges.

Specific topics including Human-water relationships, Snow, river and sediment management, Environmental hydraulics and urban water cycle, Hydraulic structures, Water resources management, valuing and resilience, Computational and experimental methods, Coasts, estuaries and shelves and Extreme events: from droughts to floods will be covered in regular sessions. Special Sessions will also be organized in collaboration with worldwide experts in the different fields.

The Congress will provide a platform for science and practice to meet. A lively exhibition alongside the congress will present

the latest developments in equipment, software and instrumentation as well as enhance relevant achievements from practice. Workshops and training events will be offered as well throughout the event. (Prof. Joseph Hun-wei Lee, IAHR President)

URL: <https://iahrworldcongress.org/>

Contact

Congress Secretariat

+34 913612600

Llámanos iaHR2022@kenes.com

The 15th International Symposium on River Sedimentation (Florence, Italy, Sept. 6-9, 2022)

Date: September 6-9, 2022

Venue: Florence, Italy

Organizer: University of Florence and University of Padua

Sponsors: International Research and Training Center on Erosion and Sedimentation (IRTCES); World Association for Erosion and Sediment Research (WASER)

Co-sponsors: International Association for Hydro-Environment Engineering and Research (IAHR).....(to be invited)

Secretariat: University of Florence, Italy

Permanent Secretariat: IRTCES

Summary: The triennial International Symposium on River Sedimentation (ISRS) was initiated in 1980. Since its foundation, IRTCES has served as the permanent secretariat of ISRS. WASER was inaugurated at the 9th ISRS in 2004, and the ISRS has since become the official Symposium of WASER. The objective of the ISRS is to provide a forum for scientists, engineers, researchers and decision makers to exchange ideas, research results and technical advances, and to share experience and information relating to the study of sediment and its management.

Symposium Theme and Topics:

The theme of the symposium is Sustainable Sediment Management in a changing Environment (tentative)

The symposium topics include (tentative):

1. Sediment transport
2. Reservoir sedimentation
3. River morphodynamics
4. Coastal morphodynamics
5. Ecomorphodynamics
6. Sediment related disaster
7. Plastic in river and coastal systems
8. Interaction between sediment dynamics and hydraulic structures
9. Integrated Sediment Management at the River Basin Scale
10. Social, economic & political problems related to sediment and water management

URL: <https://www.isrs2022.it/>

Organisation & Contacts:

Organized by the Department of Civil and Environmental Engineering, University of Florence, Italy

Organizing Committee Co-Chairs

Stefano Lanzoni, Department of Civil, Environmental and Architectural Engineering, University of Padova, Italy

Luca Solari, Department of Civil and Environmental Engineering, University of Florence, Italy

Contacts

Costanza Carbonari, Department of Civil and Environmental Engineering, University of Florence, info@isrs2022.it

The 2022 International Symposium on Ecohydraulics (Nanjing, China, October 10-14, 2022)

Date: October 10-14, 2022

Venue: Nanjing, China

Invitation: On behalf of the International Association for Hydro-Environment Engineering and Research and the local organizing committee, we cordially invite you to the 14th International Symposium on Ecohydraulics that will be held from October 10th to 14th 2022 in Nanjing, China, an ancient capital of ten dynasties in Chinese history, boasting numerous historic sites, splendid cultural heritage, beautiful cityscape and sceneries.

Ecohydraulics is a rapidly developing inter-discipline of ecology and hydraulics brought about by the ever-growing concern of aquatic and riparian ecology. Since its first edition in 1994, the International Symposia on Ecohydraulics have provided platforms for scientists and engineers worldwide to discuss cutting-edge scientific progress, compared and evaluated state-of-the-art technical methods, and recommended them to the end-users.

ISE 2022 covers a wide spectrum of topics related to ecohydraulics in theory and in practice, including the hydrological, hydraulic, morphodynamic, structural, ecologic, biologic, and technical aspects of the discipline. Six high-profile keynote speeches will be presented. We are expecting you to present at the symposium and share the latest advancement of your research with the international scientific community. Both oral and poster presentations are welcome. A special issue of Environmental Science & Ecotechnology focusing on this conference will be published. Traditionally, ISE features an ECoENet pre-conference workshop which helps early career researchers (ECR) working in ecohydraulics find opportunities and overcome challenges. Starting from the current edition, ISE plans to provide an interactive lecture of a helpful technical tool applied in one of these three topics (1) fieldwork, (2) lab experiments (3) numerical simulation, and rotate among them in the future. (ZHANG Jianyun, Yangtze Institute for Conservation & Development, China, Nanjing Hydraulic Research Institute, China)

URL: <https://ise2022.org/>

Contact

ISE2022 Secretariat

sec@ise2022.org

+86-25-85828956

World Association for Sedimentation & Erosion Research

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(Note: IJSR – International Journal of Sediment Research. The subscription fee for IJSR is USD 96 or RMB 900 per year.)

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NOTE:

All members will receive newsletters, and enjoy discounted registration for the International Symposia on River Sedimentation and other International Conferences organized by WASER, and will receive IJSR and other publications at a preferential price.

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