



The Fourth International Conference and Exhibition on Water Storage and Hydropower Development for Africa

will take place at the
Speke Resort Munyonyo Conference Centre, Lake Victoria, Uganda
13 to 15 April 2021

Organizers:

THE INTERNATIONAL JOURNAL ON
**HYDROPOWER
& DAMS**

in partnership with:



International supporting organizations include:



ICID-CIID



Local supporting organizations include:



UEGCL
Generating for Generations



THE REPUBLIC OF UGANDA
MINISTRY OF ENERGY AND MINERAL DEVELOPMENT



NATIONAL WATER AND
SEWERAGE CORPORATION



THE REPUBLIC OF UGANDA
MINISTRY OF WATER AND ENVIRONMENT

www.hydropower-dams.com/Africa2021

MISSION

The objective of the regional conferences for AFRICA, co-hosted by **Aqua~Media International** and **ICOLD**, in collaboration with the governments of the host countries, is to bring together a group of experts from all parts of the world to focus on issues of specific interest for Africa, in the field of water storage and hydropower development.

Typically, participants include high-level representatives of ministries and utilities, private development groups, consulting practices, international and regional development banks, contractors, and equipment suppliers.

Themes begin with project identification and planning, progress through to financing,

design, environmental protection, social aspects, and then construction, operation, maintenance and refurbishment.

Cross-border collaboration for transboundary schemes, challenging sites and climate resilience, as well as capacity building and training, are topics which always feature high on the agenda.

AFRICA 2021 will be the fourth conference and exhibition in this series. The first took place in Addis Ababa, Ethiopia, in 2013, under the auspices of the African Union, with a keynote address from the Commissioner for Energy and Industry. The second was held in Marrakech, Morocco in 2017, under the High Patronage of HE King Mohammed VI.

AFRICA 2019 moved south to Windhoek, Namibia, and had strong participation from NamPower, the Global Water Partnership - Southern Africa, and the Southern African Power Pool. The World Bank, African Development Bank, and the African Union, have all contributed much to the programmes.

Uganda is an enthusiastic local partner for AFRICA 2021. International delegates and accompanying persons will meet in beautiful surroundings, for three days of sessions, preceded by workshops and training seminars, and followed by tours to hydro schemes.

There will be plenty of additional networking opportunities, and cultural excursions.



STEERING COMMITTEE

M. Abebe, Ethiopia
 D. Aelbrecht, France
 H.I. Aker, Turkey
 I. Araki, Japan
 I. Arinaitwe, Uganda
 Azeb Asnake, Ethiopia
 M. Aufleger, Austria
 F. Avellan, Switzerland
 E. Bellendir, Russian Federation
 L. Berga, Spain
 P. Boeriu, UNESCO-IHE
 R. Boes, Switzerland
 D. Brox, USA
 R. Bucher, Germany
 A.M. Byaruhanga, Uganda
 R.C. Charlwood, USA
 G. Cloete, Namibia
 T. Coe, UK
 V. Denis, Switzerland
 L. Deroo, France
 J-M. Devernay, France
 M. De Vivo, France
 O. Didry, France
 P. Dufon, France
 M.R.H. Dunstan, UK
 I. Ekpo, Nigeria
 P. Erbisti, Brazil

P. de Félix, France
 J. Freitas, Portugal
 R. Grether, Germany
 K. Grubb, UK
 P. Gruber, Switzerland
 J. Gummer, Australia
 W. Hakin, Australia
 C.R. Head, UK
 A. Hughes, UK
 R.E. Israelsen, USA
 Jia Jinsheng, China
 Ø. Johansen, Norway
 M. Kayondo, Uganda
 C. Kayitenkore, Burundi
 H. Kling, Switzerland
 H. Kreuzer, Switzerland
 T. Kunz, Switzerland
 K. Laksiri, Sri Lanka
 F. Lempérière, France
 B. Leyland, New Zealand
 L. Lia, Norway
 M. Lino, France
 M. Marence, The Netherlands
 P. Mason, UK
 M. McWilliams, UK
 L. Mouvet, Switzerland
 H. Mutikanga, Uganda

S. Muyenga-Muyenga, Namibia
 N. and L. Nielsen, Australia
 A. Nombre, Burkina Faso
 A. Noorzad, Iran
 H. Obermoser, Switzerland
 A. Palmieri, Italy
 D. Paschini, France
 B. Pelikan, Austria
 J. Plummer Braeckman, UK
 B. Popa, Romania
 P.J. Rae, Canada
 J. Reynolds, UK
 M. Rogers, USA
 F. Coelho da Rocha e Silva, Portugal
 D. Roul, France
 A. Schleiss, Switzerland
 S. Sparkes, Norway
 M. Stehle, Namibia
 J. Teyssieux, France
 C. Tindimugaya, Uganda
 A. Tremblay, Canada
 B. Trouille, USA
 O. Westberg, Norway
 D.A. Williams, UK
 K-T. Yum, Korea
 Xu Zeping, China
 G. Zenz, Austria

UGANDA HOSTS AFRICA 2021



Uganda as host country

Uganda, also known as the Pearl of Africa, ranks among the most active African nations for the recent and current construction of water infrastructure and hydropower plants, and is therefore the ideal host country for **AFRICA 2021**, which will take place from **13 to 15 April** next year.

The international conference and exhibition will take place at the luxurious **Speke Resort Munyonyo** (see more details on p4) where numerous high-level meetings have taken place, such as the G77 Summit. The resort, with its large modern conference centre, and accommodation in various categories, is located on the shore of **Lake Victoria**, the largest lake in Africa, and second largest freshwater lake in the world. The lake is the source of the mighty Nile river, and the basis for existing and future major hydro schemes in Uganda, and other countries within the river basin.

The conference will be organized and hosted by **Aqua~Media International**, in partnership with the **International Commission on Large Dams**. The local partner is **UEGCL**, with its Steering Committee headed by Managing Director, Dr Harrison Mutikanga. Other international supporting organizations include ICID, IEA and CHINCOLD.



Warm welcome from the Government of Uganda

During a visit to Kampala in February, a delegation from Aqua-Media attended a number of planning meetings. The programme and study tours (see p6) were discussed at an initial meeting with the **UEGCL Steering Committee**.

Then, together with Dr Mutikanga and the CEO of UEGCL, Eng Proscovia Njuki, Alison Bartle was welcomed to a meeting with Her Excellency, the Hon Dr Kitutu Kimono Mary Goretti, **Minister of Energy**, who expressed her support for AFRICA 2021. She commented that President Museveni had called for more conferences on water and energy just two days previously (during the AfWA 2020 Congress in Kampala). The Hon Minister was especially pleased to hear that rural development, small hydro, capacity building and environmental and social aspects would be on the conference agenda.

At subsequent meetings, strong support for AFRICA 2021 was expressed by the **Permanent Secretary for Water**, Alfred Okot Okidi; the **Commissioner for Water and President of UCOLD**, Dr Callist Tindimugaya; and, Prof Mahmoud Lutaaya (General Manager) and Dr Silver Mugisha (Managing Director) of the **National Water and Sewerage Corporation**.



Uganda's hydropower

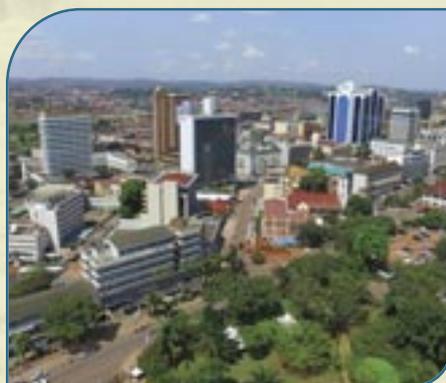
Hydropower currently supplies nearly **90 per cent of electricity in Uganda**. The country has always had a strong commitment to developing its substantial potential. Four large hydro plants are in operation: Nalubaale (180 MW); Kiira (200 MW); Bujagali (250 MW); and, Isimba (183 MW) which was commissioned last year (March 2019). Now construction of the 600 MW Karuma scheme is continuing, as well as a number of small and medium-scale schemes, totalling 165 MW.

Large schemes, at the feasibility study stage, planned on the Nile, include Agayo (840 MW), Oriang (450 MW) and Kiba (390 MW).

An agreement was recently signed for a 14 MW cross-border scheme with Tanzania, and a 1.75 MW mini hydro scheme is going ahead on the border with Kenya, as part of the Angologo multipurpose scheme.

The small hydro potential of the country is thought to exceed 400 GWh/year.

Uganda's planners, developers and engineers therefore have plenty of experience to share with their counterparts from all around the world, on dam construction, hydropower development, O&M, powerplant refurbishment, and environmental protection.



SPEKE RESORT MUNYONYO



SPEKE RESORT MUNYONYO

It seems appropriate for international experts to be discussing hydropower and water storage at a venue named after the explorer who discovered the source of the River Nile. The venue is also located on the shores of Lake Victoria, the largest lake in Africa. The location is close to Kampala, and to Entebbe International airport.

The meeting rooms to be used for the AFRICA 2021 sessions, workshops, exhibition and social events are within a **luxurious 5* complex**, spanning about 100 ha.

Two state-of-the-art congress centres have been designed to blend discreetly with lush tropical vegetation and blossoming trees, vast lawns, elegant restaurants, an equestrian centre, a marina, and of course a panoramic view of the **68 000 km² lake**.

The venue provides all that is necessary for the smooth running of a major international event, and has plenty of experience of doing so. The resort is well accustomed to welcoming heads of state to Commonwealth meetings,

and G77 Summits; the hospitality, security, efficient service and high quality cuisine reflect this well.

When not engaged in conference activities, or if staying on for a holiday, delegates can take advantage of an **Olympic-sized swimming pool**, nine restaurants and bars, fishing or bird-watching on the lake, riding at the **equestrian centre**, playing **golf**, or simply keeping fit in a conventional gym.

Bedrooms have been booked at favourable rates for **AFRICA 2021** participants; all are tastefully designed and decorated, and well equipped with free WiFi, facilities to make hot drinks, fridges, complimentary water, and large TVs. All offer splendid views across the gardens.

We will also reserve rooms at another hotel, and a block of apartments, owned by the Speke Group. Complimentary transfers from to and from these will be available.

Full details of accommodation will be available when the **registration process opens in December** this year.



CONFERENCE THEMES

Multipurpose water resources schemes, including many large regional hydro projects, are moving ahead in Africa at an unprecedented rate. In addition to plenary and parallel sessions exploring the themes below, at AFRICA 2021 there will be focused workshops and panel discussions on topics such as project finance and risk, regional cooperation and progress with the large national and regional hydro projects. Papers are now invited on the themes below, or related topics. See p8 for abstract submission guidelines.

Future plans for water resources and hydro development in Africa

- Potential and planned developments
- Adapting design and construction methods to suit Africa
- The role of hydro in regional development
- Regional cooperation on transboundary rivers
- The roles and challenges for river basin authorities and power pools
- The 'Belt and Road initiative' and how it affects hydro in Africa
- The Programme for Infrastructure Development (PIDA)
- Building and maintaining transmission systems for hydro
- Hydro in synergy with other renewables
- Innovations in hydrogen technology and opportunities for hydro projects

Addressing risk and project financing

- Covid-19: Lessons in risk and resiliency at water infrastructure projects and operating schemes
- Adaptive project management and business continuity
- Risk and insurance
- Regulatory and policy frameworks
- Innovative financing and contractual issues at all project stages
- Sovereign debt and macro development economics in Africa
- Financial sustainability

Climate, environment and social aspects

- Climate change: resilience, adaptation and mitigation
- Environmental and social aspects
- Dealing with weeds and water hyacinth
- Resettlement and livelihood improvement
- Capacity building
- Changing management and transformational leadership
- Developing local talent in the sector
- Post-ante and ex-post measurement of project success

Civil engineering: innovation and challenges

- Innovations in dam engineering
- Surveillance of key structures
- Safety of dams, spillways, gates and powerplants
- Hydro-mechanical equipment
- Design of flood discharge works
- Hydrological monitoring of rainfall and runoff
- Sedimentation of reservoirs and irrigation canals
- Upgrading of dams and associated structures
- Complicated construction and challenging sites
- Materials for dams
- Dealing with AAR and ASR

Multipurpose schemes

- Multipurpose dams and reservoirs
- Water resources management including irrigation
- Planning for combined hydro and irrigation schemes
- Reservoir operation and cascade developments
- Small dams for irrigation and community water supply
- Hydropower and tourism

Hydropower, large and small: the role, benefits and technology

- Hydro machinery (research, design and operational issues)
- Innovations in powerplant design
- Opportunities for expansion and refurbishment of existing schemes
- Small hydro
- Rural electrification
- Physical and cyber security
- Innovative low-cost technology
- Pumped storage
- Operation and maintenance
- Best maintenance practice in an African context



CULTURAL AND SOCIAL PROGRAMME

ACCOMPANYING PERSONS

Working with knowledgeable local ground agents, we will be putting together a **three day package of tours** for accompanying persons, combining cultural visits, stunning landscapes, animal sanctuaries and a trip on the lake, with lunches together each day.

Highlights to be seen in and around Kampala include: the Kasubi Royal Tombs, Kampala Central Mosque, the National Museum, the Independence Monument, Kabaka's Palace, the Ndere Cultural Centre, St Mary's Cathedral, and the Bahai House of Worship.

Highlights in and around Entebbe include: the Botanical Gardens, the Reptile Village, the Entebbe Wildlife Conservation Centre,



a visitor centre on the Equator, and, the sanctuary for orphaned chimpanzees on Ngamba Island, Lake Victoria.

SOCIAL EVENTS

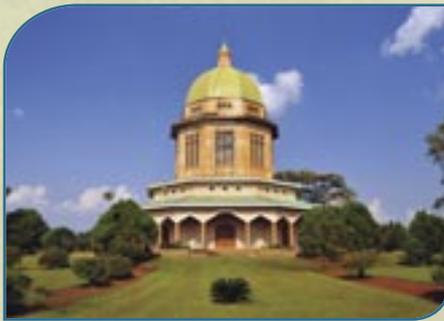
The Speke Resort Munyonyo offers a variety of splendid venues for social events, conveniently located within the same large site, but with different surroundings and character.

The Stables Restaurant offers an ideal venue for the Speakers' and Chairpersons' dinner, before the conference begins. It has a large decked terrace, overlooking a lawn and scenic gardens with blossoming trees.

The **Welcome Reception** is planned to take place on a vast lawn, directly overlooking Lake Victoria; apéritifs will be followed by a buffet supper and musical entertainment.

On the second afternoon of the conference, the exhibition area will remain open into the early evening for a **Networking Party**, giving participants extra time to meet exhibitors and establish new business contacts. Drinks and light snacks will be served.

The **AFRICA 2021 Farewell Gala Dinner** will provide a chance to discover another area of the resort. Apéritifs will be taken beside an Olympic-sized swimming pool, before dinner, with entertainment, in a semi-outdoor venue surrounded by palm trees.



TECHNICAL STUDY TOURS

Two post-Conference study tours are planned, to Uganda's most important dams and hydro plants; itineraries are still to be confirmed, and timings checked, so the information below is provisional. Both will depart on the morning of 16 April.

Tour A – East: Owen Falls, Bujagali and Isimba (2 or 3 days - to be confirmed)

On the first day it is planned for the group to travel by coach from Kampala to **Owen Falls dam** on the White Nile, completed in 1954, and the location of Uganda's first major hydro plant. There are two powerplants today: **Kiira 200 MW**, and **Nalubaale 180 MW**. The dam has been affected by alkali silica reaction, and a refurbishment project is to take place soon.



The second technical visit will be to the **250 MW Bujagali scheme** on the Victoria Nile, completed in 2012. It was constructed as a public-private partnership project, with World Bank financing.

There will also be a chance to see the centre known as the 'Source of the Nile', and the monument to John Hanning Speke, the British explorer who was the first European to reach Lake Victoria, and made several expeditions to establish the source of the Nile.

The final technical visit will be to the **183 MW Isimba scheme**, completed in March 2019. The scheme comprises a concrete gravity dam, a clay-core rockfill dam, and a powerhouse equipped with four Kaplan units.

There will be either one or two overnight stays in Jinja, depending on the length of the tour.

Tour B – North: Karuma construction site (3 days)

This tour will involve a journey north by coach, with a lunch stop en route, provisionally planned to be at Kabalega. There may be an opportunity for a

brief visit to a mini hydro plant in the area, but this is subject to confirmation.

The technical highlight of the tour will be a visit to the site of the **600 MW Karuma site**, where civil works are nearing completion.

Dinner and an overnight stay are planned to be at the **Chobe Safari Lodge**. A game drive is planned for the following morning at Chobe. The group will then travel on to Paara, for an overnight stay at **Paara Safari Lodge**.

An evening or early morning game drive is planned at Paara, before the journey back to Kampala. En route, it may be possible to stop briefly at the site of the proposed future Murchison Falls hydro project.



EXHIBITION AND SPONSORSHIP

The modern and spacious **Speke Ballroom** will provide a magnificent setting for the Exhibition, which will take place in parallel with the AFRICA 2021 Conference.

Exhibition space is generally sold in units of 6 m² (with some areas reserved for larger pavilions). Each space reserved includes white panelling, a table, two chairs, spotlights and, a company name sign.

The price for each stand unit (6 m²) is US\$ 3650.

Lunch and refreshments will be served each day in the Exhibition hall, to ensure that

international participants have plenty of time to visit the exhibitors.

Various opportunities will also be available to **sponsor or co-sponsor** social activities, such as apéritifs, lunches, and coffee breaks; or, items such as water coolers, bags and more. This is a memorable way of bringing your organization to the attention of the international participants.

If your organization is actively involved in water resources or hydropower development in the African region, you should not miss this opportunity to be represented at this

event, which will bring together high level delegations in a region of the world with the greatest potential for future development.

For more details of the Exhibition or sponsorship opportunities, contact: sales@hydropower-dams.com

The plan for the main Exhibition Hall is shown below. We recommend early booking to ensure your preferred position is available. We will be publishing regular updates of available spaces on our website, and in future bulletins and email updates.

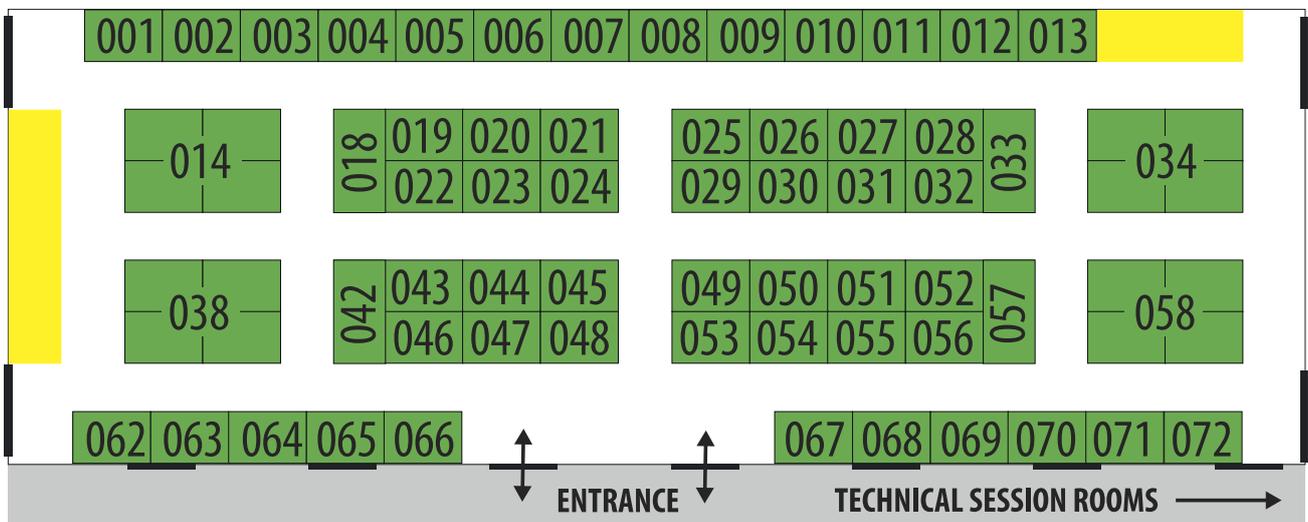


PLAN AND PRICING

 **Single stand 3 x 2 m (6 m²) = \$3650**

contact: sales@hydropower-dams.com

 **= Catering area**



SUBMISSION OF ABSTRACTS

If you would like to present a paper in one of the sessions, please submit an abstract of around 500 words, outlining the scope and suggested session (see themes on p5). Please email abstracts in **Word** format, **not PDF**, incorporating the author's name in the file name, to the address below. Please also include a short CV of the author(s), full contact details, and confirmation that if the paper is accepted, the author or co-author would attend to make the presentation. In the case of any project to be described, please mention its current status or date of completion; research papers should make clear the future application of the results.

Abstracts will be reviewed by our International Steering Committee and authors will be notified whether the paper has been accepted for presentation or publication in the proceedings during November.

Full papers will be required before the end of January 2021.

Please submit abstracts by 31 July 2020.

If you would like to contribute to a panel discussion, you should use this form to indicate your area of interest, and submit your proposal by 31 July.

NB: Some panellists and keynote speakers will be invited, so places will be limited for submitted contributions.

Poster presentations will also be considered.

Please note: abstracts should only be submitted if the author would be able to attend the conference (or send a representative). Please obtain any necessary clearance, and check availability to attend, before submitting the abstract.

Reduced attendance fees will be offered to speakers. These fees will include everything featured in the full delegate fee including meals, social events and event documentation.

Water Storage and Hydropower Development for Africa - IV

Speke Resort Munyonyo Conference Centre, Lake Victoria, Uganda ~ 13 to 15 April 2021

I enclose an abstract of a proposed paper. If it is accepted, I or my representative will attend the conference to present the paper.
Proposed paper topic (see topics on p5):

I would like to be considered for participation in a panel discussion on a topic listed in this announcement.
Please specify which and list your experience relating to current or planned projects.
Proposed discussion topic:
Experience in the subject/region:

I am interested in attending the Conference as a delegate. Please send further details.

My organization may wish to participate in the Exhibition. Please send further details.

I may be interested in sponsorship opportunities. Please send details.

Name: Position/Dept:

Organization:

Address:

Country: Email:

Tel: (+int. code) Web address:

I propose a workshop or panel on the topic:

**Abstracts should be submitted to: Mrs Margaret Bourke, Conference Project Manager: africa2021@hydropower-dams.com
Aqua~Media International Ltd, PO Box 285, Wallington, Surrey SM6 6AN, UK. Tel: +44 20 8773 7244**