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## SASSCAL GRADUATE STUDIES PROGRAMME IN INTEGRATED WATER RESOURCES MANAGEMENT (SGSP-IWRM)

CALL FOR EXPRESSIONS OF INTEREST

INTENSIVE AND SPECIALIZED SHORT COURSES

HOSTED BY



NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH



United Nations  
Educational, Scientific and  
Cultural Organization



International Centre  
for Water Resources and Global Change  
under the auspices of UNESCO

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## **1 SASSCAL GRADUATE STUDIES PROGRAMME IN INTEGRATED WATER RESOURCES MANAGEMENT (SGSP – IWRM)**

In support of SASSCAL's research agenda and the expressed needs of the regional water sector for highly qualified professionals, SASSCAL, together with the Namibia University of Science and Technology (NUST) established the SASSCAL Graduate Studies Programme in Integrated Water Resources Management (SGSP – IWRM). The programme is implemented by NUST in partnership with the International Centre of Water Resources and Global Change (ICWRGC) based at the Institute of Hydrology in Koblenz Germany. The SGSP-IWRM is fully funded by the Federal Ministry of Education and Research (BMBF).

## **2 AIMS AND OBJECTIVES OF THE SGSP-IWRM**

The overarching objective of the SGSP-IWRM is the development and deployment of innovative, excellent and collaborative education and research at PhD degree level complemented by selected tailor-made training programmes for decision makers and industry.

The programme endeavours to:

- Increase the number of highly qualified IWRM experts and knowledge in the region by providing scholarships to excellent PhD students;
- Promote innovation in interdisciplinary education and research;
- Transfer know-how and diffuse new methods, practices and tools for integrated water resources management through offering tailor-made short-courses and specialized training to practitioners;
- Provide a national platform for knowledge sharing, policy development and advice, thereby integrating and coordinating regional initiatives;
- Support the internationalization of research and human capacity development in Southern Africa; and
- Design and accredit an innovative demand-based integrated PhD curriculum in IWRM.

### 3 CALL FOR EXPRESSIONS OF INTEREST

The SGSP-IWRM is seeking the services of seven exceptional IWRM experts to support the development and delivery of intensive and specialized short courses. The 7 courses are aimed at equipping the SGSP-IWRM PhD students, industry partners, policy makers, researchers, and practitioners with appropriate knowledge and skills of cutting edge solutions for a changing water and sanitation landscape.

Table 1: SGSP-IWRM Common Block IWRM Courses

Course Titles
1. Harmonisation of National Policies, Legislation and Regulations for Effective Transboundary Water Resources Management
2. Harnessing the Fourth Industrial Revolution (4IR) to Improve Water Supply Efficiency
3. Water Quality Management and Effluent Treatment
4. Tools and Approaches for Water Resources Management at Basin Scale
5. Environmental Flows (E-Flows)
6. Thriving for Sustainability: Through Applying the Water-Energy-Food Nexus (WEF) Approach
7. Financing of Water Infrastructure Projects: Focus on Public Private Partnerships

#### 3.1 Set Activities and Deliverables

The IWRM experts are expected to execute the following:

- Submit an instructional design document (course structure), which includes the pedagogical approach, tools, and work plan.
- With support of the SGSP-IWRM Academic and Scientific Advisory Committee of the SGSP-IWRM identify key experts to support the development of content of the 7 Intensive and Specialized Short Courses, and training materials.
- Lead the delivery of the 7 Intensive and Specialized Short Courses.

### **3.2 Language**

The basic version should be created in English.

### **3.3 Required Qualifications of the IWRM Experts**

The IWRM experts must possess the following competencies:

- Experience in developing IWRM course content.
- Similar work in the last 3 years (provide traceable references).
- High proficiency in written and spoken English is required.
- A demonstrated high level of professionalism and an ability to work.

### **3.4 Enquiries**

Any enquiries shall be submitted through email by 31st of May 2023 to [sgsp-iwrm@nust.na](mailto:sgsp-iwrm@nust.na) with the title **“Enquiry: Development and Delivery of Intensive and Specialized Short Courses”** in the subject line.

### **3.5 Submission of Expression of Interest**

Interested IWRM experts are requested to submit their profile sheet (refer to attached excel template), and their Curriculum Vitae (CV) no later than 23<sup>rd</sup> of June 2023. All profile sheets and CVs to be submitted through email to, [sgsp-iwrm@nust.na](mailto:sgsp-iwrm@nust.na) with the title **“Expression of Interest: Development and Delivery of Intensive and Specialized Short Courses”** in the subject line.

### **3.6 Eligible Countries**

This opportunity is open to IWRM experts from the Southern African Development Community (SADC), and Germany.

*Harmonisation of National Policies, Legislation and Regulations for Effective Transboundary Water Resources Management*

- Module 1: Overview of the revised SADC protocol on shared water courses
- Module 2: Current status of policies, legislation and regulations in transboundary water resources management (TWR0
- Module 3: Benefits of harmonization of national policies, legislation and regulations
- Module 4: Addressing institutional fragmentation
- Module 5: Key building blocks towards harmonization of national policies, legislation and regulations for sustainable management of TWR

*Harnessing the Fourth Industrial Revolution (4IR) to Improve Water Supply Efficiency*

- Module 1: Groundwater and surface water sources
- Module 2: Water production steps and distribution
- Module 3: Wastewater treatment process management
- Module 4: Non-revenue water
- Module 5: Water demand management
- Module 6: Harnessing 4IR solutions to address non-revenue water
  - Artificial Intelligence (AI) and Internet of Things (IoT)
  - Asset management
  - Operation and maintenance of the distribution system
  - Leak detection and management
  - Water quality monitoring
  - Water meter management
- Module 7: Corporate governance

*Water Quality Management and Effluent Treatment*

- Module 1: Water quality and pollution - theory and definitions
- Module 2: Enabling institutional and legislative framework for water quality management
- Module 3: Key drivers for water pollution in Southern Africa
- Module 4: Emerging pollutants and impacts on human health
- Module 5: Innovative sanitation and effluent management solutions

## *Tools and Approaches for Water Resources Management at Basin Scale*

Module 1: Hydrological cycle

Module 2: Water resources planning at basin scale

- Decision support tools for water resources planning and management

Module 3: Tools for water resources assessments and monitoring

Module 4: Tools and approaches for analysis of big data

Module 5: Data management

## *Environmental Flows (E-Flows)*

Module 1: Understanding the river system

Module 2: Fundamentals of a healthy river ecosystem

Module 3: Rational of environmental flows

Module 4: Environmental flows assessment methodologies

Module 5: Key factors for successful environmental flow implementation

## *Thriving for Sustainability: Through Applying the Water-Energy-Food Nexus (WEF) Approach*

Module 1: Rational for WEF nexus approach

Module 2: Key WEF nexus principles

Module 3: Implementation of the WEF Nexus approach (assessment, tools, and instruments)

## *Financing of Water Infrastructure Projects: Focus on Public Private Partnerships*

Module 1: Large water and sanitation infrastructure gap in Southern Africa

Module 2: Motivation for PPPs

Module 3: PPP typologies (merits and de-merits)

Module 4: PPP issues and challenges

Module 5: Strengthening PPP enabling environment for the water sector

Module 6: International best practice and regional application of PPPs