



Water and Sanitation Jobs:

Bridging the skills gap

20 MARCH 2024

AGENDA

- **Introduction**
Francisca S. Braga, Skanderborg Forsyning a/s; IWA YWP Denmark Chapter
- **Bridging the skills gap in the water & sanitation workforce**
Francis Sankah & Heather Smith, Cranfield University
- **Guiding young people's careers: Understanding career paths and helping young people to manage them**
Neil Dhot, AquaFed
- **Current employment trends in the sector & personal experience**
Josh Newton, Josh's Water Jobs
- **Q&A Panel Discussion**
All speakers and moderator
- **Close**
Francisca S. Braga, Skanderbord Forsyning a/s; IWA YWP Denmark Chapter

WEBINAR INFORMATION



- This webinar will be **recorded and made available “on-demand”** on the [IWA Connect Plus](#) platform and IWA Network website, with presentation slides, and other information.
- The **speakers** are responsible for **securing copyright permissions** for any work that they will present of which they are not the legal copyright holder.
- The opinions, hypothesis, conclusions or recommendations contained in the presentations and other materials are the **sole responsibility of the speaker(s)** and do not necessarily reflect IWA opinion.

WEBINAR INFORMATION



- **'Chat' box:** please use this for general requests and for interactive activities.
- **'Q&A' box:** please use this to send questions to the panelists. (We will answer these during the discussions)

Please Note: Attendees' microphones are muted. We cannot respond to 'Raise Hand'.

MODERATORS & SPEAKERS



Francisca S. Braga

Industrial PhD Student,
Skanderborg Forsyning a/s,
IWA YWP Denmark Chapter,
Denmark



Francis Sankah

Student Ambassador and Water
and Wastewater Engineering
Course Representative,
Cranfield University, UK



Heather Smith

Senior Lecturer in Water
Governance at Cranfield
University, UK



Josh Newton

Founder, Josh's Water Jobs,
United States



Neil Dhot

Executive Director,
AquaFed, UK

BRIDGING THE SKILLS GAP IN THE WATER & SANITATION WORKFORCE

FROM A COURSE DIRECTOR'S PERSPECTIVE (DR HEATHER SMITH)

FROM A STUDENT'S PERSPECTIVE (FRANCIS SANKAH, CRANFIELD UNIVERSITY)



HIGHER EDUCATION IN WATER

- **Cranfield Water & Wastewater Engineering MSc**

⇒ **Becoming Water & Wastewater Processes MSc**



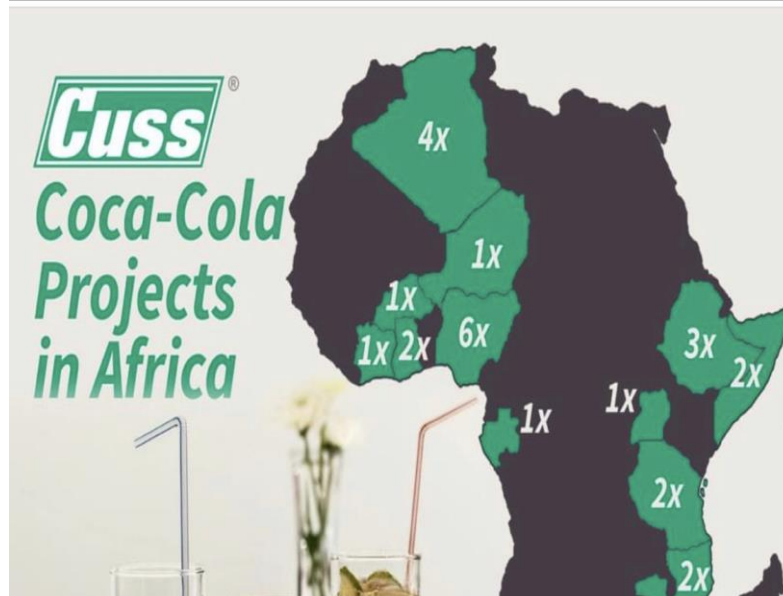
Engineering route



Environmental Science route

- **Reflecting the growing priority of environmental objectives in the water sector – balance with public health needs**
- **Challenges:**
 - Water sector is often forgotten in technical subjects
 - Lower pay compared to other utility sectors?
 - But massive need for technical skills to meet increasingly ambitious requirements

MY EXPERIENCES IN THE WATER SECTOR

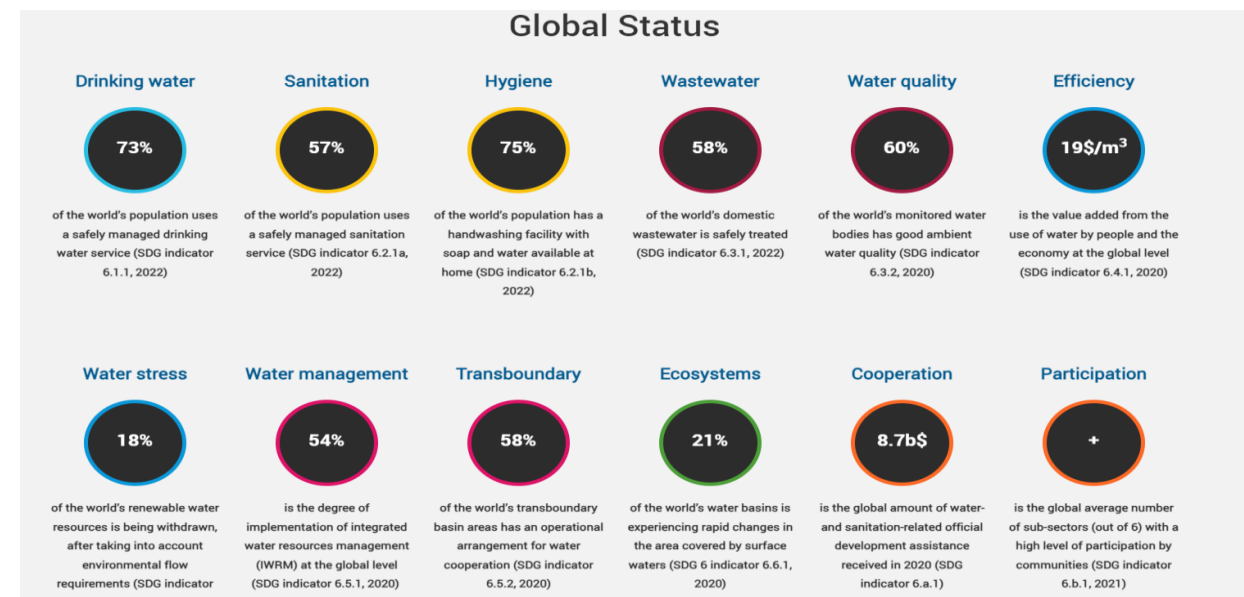


ADDRESSING THE PROBLEM

- **Skill and Infrastructure Shortage:**
 - *Ageing workforce and assets*
 - *Population Growth, Climate Change*

- **Opportunities & Drivers for Change:**
 - *Investing and Resourcing*
 - *Partnerships and Networking*

- **Potential Barriers:**
 - *Open access to opportunities*
 - *Empowering Young Professionals*



MY EXPERIENCES IN THE WATER SECTOR



Cranfield Water

1,939 followers

1mo · 🌐

Our MSc in Water and Wastewater Engineering students took part in a day long laboratory practical session on **#AdvancedOxidation** as one of the conventional **#drinkingwater** treatment processes for the removal of natural organic matter. The aim of the practical is to investigate the influence of **#hydrogenperoxide** (H₂O₂) and UV wavelength on the degradation of humic acids.

During the session, the students divided themselves into groups of two and carried out experimental work on how to produce hydroxyl radicals and oxidise a contaminant, record the obtained results and learned about data interpretation collected during the practical and discussed the findings.

**#CranfieldWater #mastersprogram Hacer Sakar Priya
Dharwadkar Irene Carra Francis Sankah Jr**



Heather Smith (She/Her) · 1st

Senior Lecturer in Water Governance at Cranfield University

3mo · 🌐

Another field trip for **Cranfield Water** students! Thanks so much to **Graeme Kasselmann** and the team at Mogden sewage works for showing us around this interesting and historical **Thames Water** sewage treatment site in London. Such a simple yet complicated site! A great setting for understanding the pressures facing our **#wastewater** systems.

Cranfield University



WHAT MAKES CRANFIELD UNIVERSITY UNIQUE



- **Industry-relevant training**
- **Postgraduate Only University:** 1:8 Teaching Staff to Students ratio
- **Unique Course Structure:** Taught Modules, Group Design Projects, Individual Thesis
- **World-leading research, academics and facilities:** State-of-the-art facilities, labs and treatment works, diverse and reputable academic community
- **Sustainable Development Goals Oriented**
- **Global reputation and industrial partnerships**

ADDITIONAL RESOURCES



MSc Water Courses



My Cranfield Blog



Brian Meredith
Scholarships



Chat with me as a
Student Ambassador



SWEE Course Excellence
Scholarships



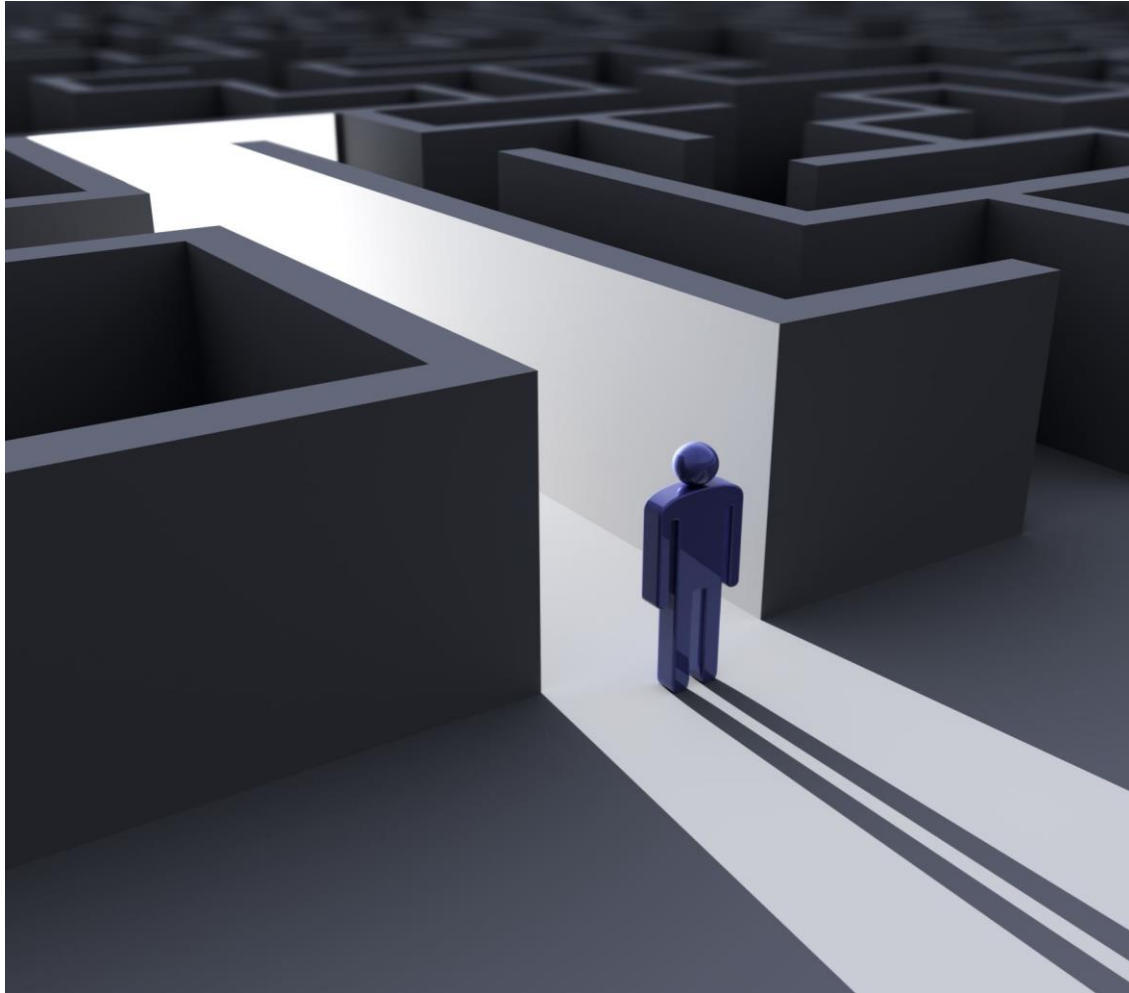
Research/PhD
opportunities

JOB PATHWAYS IN THE WATER SECTOR



- **Consultancy:** AECOM, Atkins, Jacobs, Mott MacDonalds, Veolia, etc
Environmental Consultant, Water Resources Planner, Asset Management, Projects
- **Water Utilities:** Thames Water, Scottish Water, Severn Trent Water, etc.
Process/Design Engineer, Project Engineer, Hydrologist, etc
- **Governmental Organisations/NGO:** IWA, UNICEF, WHO, EA, OFWAT, DEFRA, etc.
Programme Coordinator, IWA Officer, Consultant, etc
- **Academia:** Researcher, Doctoral Studies, Lecturer, Postdoctoral Research Fellow, etc

FUTURE PLANS/AMBITIONS

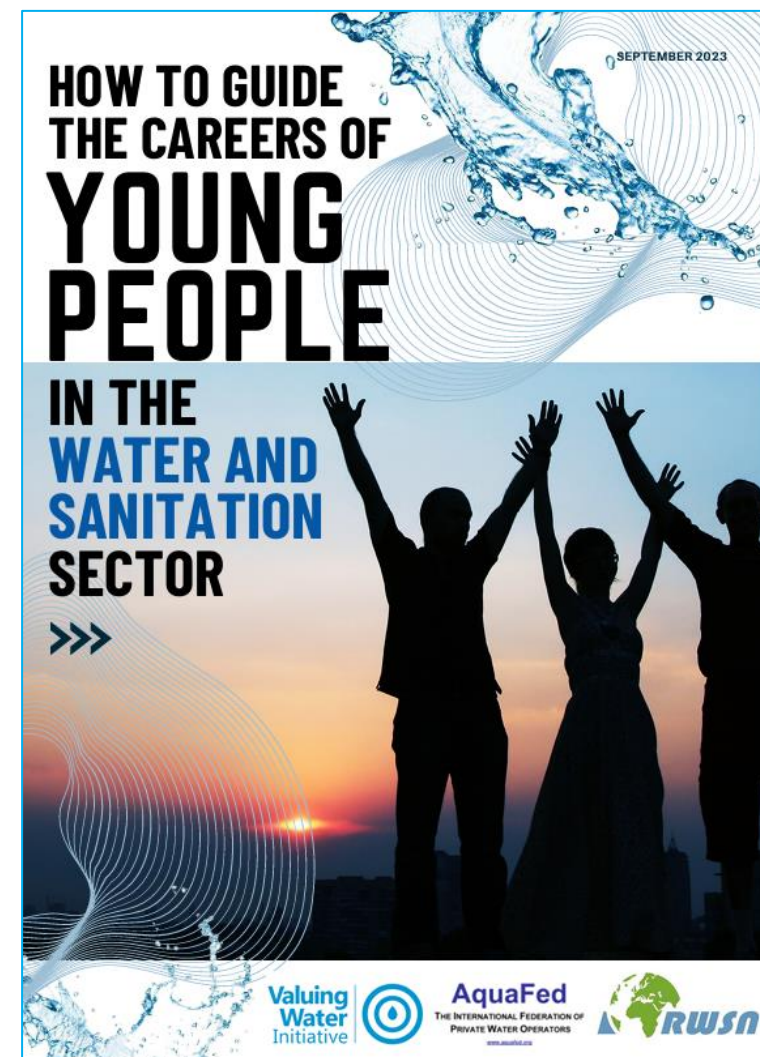


Guiding young people's careers

UNDERSTANDING CAREER PATHS AND HELPING YOUNG PEOPLE TO MANAGE THEM

CAREER PATHWAYS GUIDANCE PROJECT

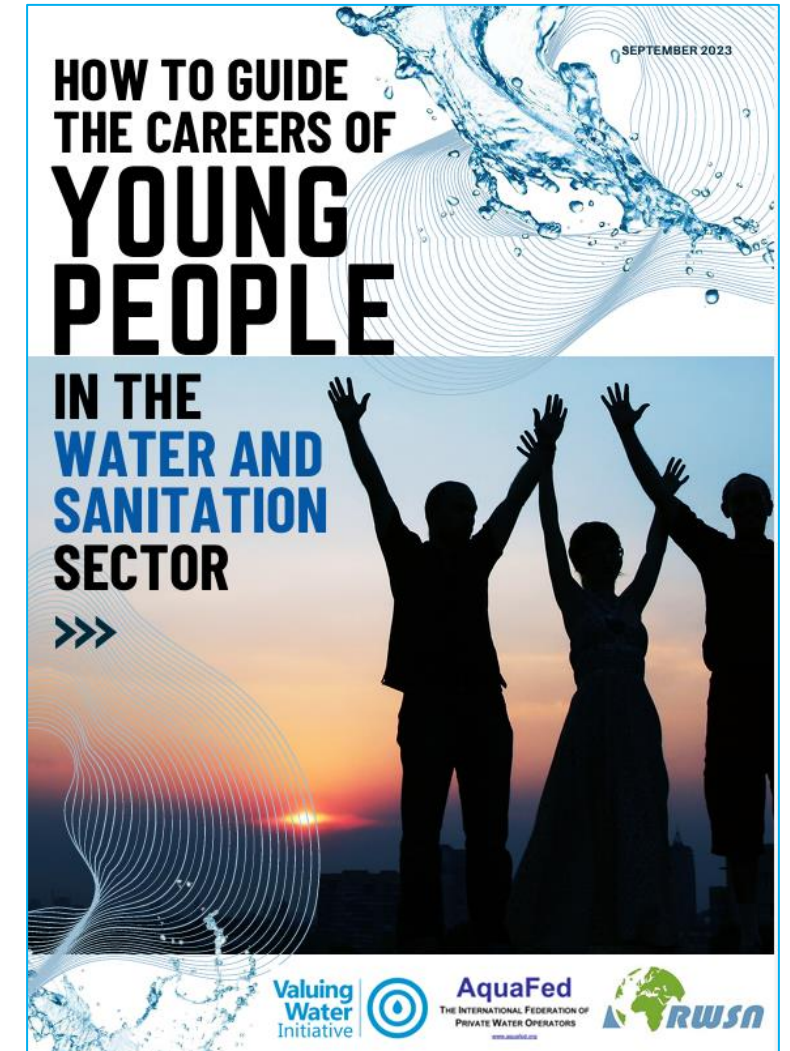
- Aimed at utility managers in global south
- Guidance on how to manage young people better by understanding:
 - Their motivations and career aspirations
 - The opportunities they want
 - Their preferred ways of working
 - The skills they bring
- End ‘products’:
 - Clear and up to date research and recommendations
 - Career guidance ‘pathways’ for utility and service managers.



CAREER PATHWAYS GUIDANCE PROJECT

Research showed:

- 40% of employers have less than 20% of staff under 25.
- 40% no plans or strategy to recruit young people.
- 50% of job opportunities for young people not advertised.
- 33% of employers say their training and development of young people is not satisfactory.
- 66% of young people interviewed looking for a job in the sector.
- 50% are self-employed because of lack of job opportunities.



SOLUTIONS

1. WATER SUPPLY AND SANITATION SERVICES ARE AT RISK BECAUSE PROVIDERS ARE FAILING TO ATTRACT AND LEVERAGE THE POTENTIAL OF YOUNG PEOPLE



- Growing private operator in Philippines.
- Dynamic young woman President.
- Partnerships in universities and now schools.
- On the job training ‘taster sessions’ students – to apply their knowledge.
- Job fairs at universities and colleges.



- Senegalese urban utility Sen'Eau vocational training diploma - 'Plumbers' School'
- Partnership with the centre for Public Works Training and the Financing Facility for professional and technical training.
- Free training- targeted at those without qualifications and school drop-outs.
- 20% of the two cohorts so far were women.

2. WATER SUPPLY AND SANITATION PROVIDERS NEED TO REMOVE BARRIERS TO YOUNG PEOPLE'S EMPLOYMENT



- Aims to get 100 million people to work directly on climate by 2030.
- Supports people to learn climate skills, build new professional networks and find new kinds of work in the climate field.
- Terra.do's pillars:
 - career growth (job fairs, job database)
 - education (paid training)
 - community (free networking events, paid consultations with experts).



- Young Sanitation Professionals Programme – Brazil - hosted by ABES.
- Promotes ongoing relationships between young people and seniors and supports career development of young people.
- Technical visits and training in multiple regional JPS hubs across the country.

3. THE WSS SECTOR IS NOT PROVIDING ENOUGH TRAINING AND DEVELOPMENT OPPORTUNITIES FOR YOUNG PEOPLE



- University extension course on the regulation of sanitation services (for engineering, law, economics students).
- Course trains on the regulation, supervision, and standards of sanitation services.
- Course is free-of-charge
- Top students are offered a professional internship at the water and sanitation authority (SUNASS).
- Young Water Professionals Programme provides young graduates in Myanmar (below the age of 35) with well-defined technical and on-the-job training.
- 11-month programme - mentoring, coaching, field visits, and training in various technical, social, economic, political, and decision-making aspects of water projects.
- For students as well as young government employees.
- Carried out in partnership with the Hydro-Informatics Centre (HIC) under Myanmar's National Water Resources Committee (NWRC)

Current employment trends in the sector & personal experience

JOSH NEWTON, JOSH'S WATER JOBS



Q&A Discussion

MODERATOR: FRANCISCA S. BRAGA

UPCOMING IWA WEBINARS & EVENTS



the international
water association

The background of the lecture poster features a blue molecular structure with white and blue spheres connected by lines, set against a dark blue background.

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LECTURE

Unravelling micro & nano-plastics with environmental nanotechnology

A small icon of a calendar with a date circled.

16 April 2024
15:00-16:00 GMT+1

A circular portrait of Prof Mark Wiesner, a man with short grey hair, wearing a light-colored shirt.

Prof Mark Wiesner
Duke University, USA

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The background of the webinar poster shows a laboratory setting with various pieces of equipment, including a large blue cylindrical tank and white pipes, with a blurred background of people working.

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WEBINAR

Managing Disinfection and By-products for Safe Water

A small icon of a calendar with a date circled.

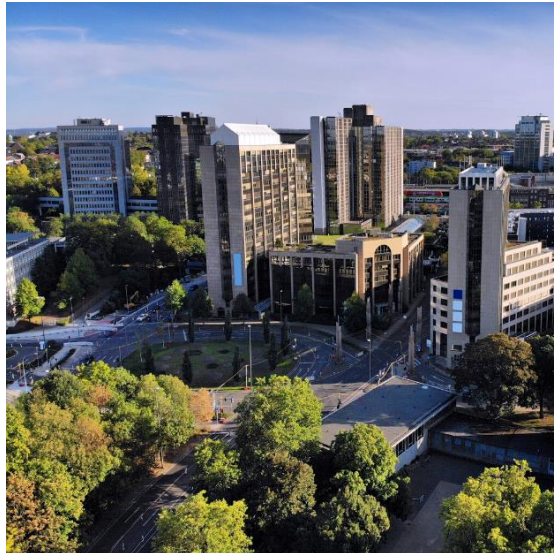
24 April 2024
09:00-10:00 GMT+1

Speakers
Mengting Yang, Shenzhen University,
China
Xin Yang, Sun Yat-Sen University,
China

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UPCOMING IWA WEBINARS & EVENTS



The 19th IWA Leading Edge Conference on
Water and Wastewater Technologies

EXTENDED DEADLINE: 5 JAN

*Closing the water cycle through
efficient and innovative technologies*

24 – 28 June 2024
ESSEN, GERMANY



Shaping our water future

World Water Congress & Exhibition

TORONTO CANADA
11-15 AUGUST 2024

CAWQ ACQE CWWA ACEPU TORONTO

Learn more at
<https://worldwatercongress.org/>

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