



Hosted by
Spain Water
and IWHR, China

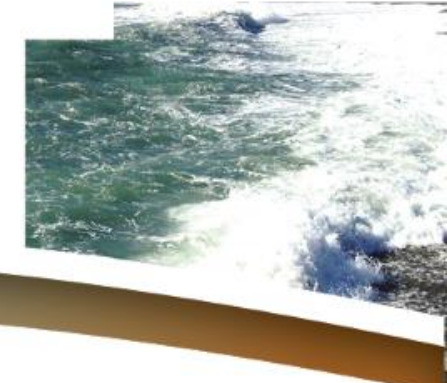
39th IAHR
WORLD CONGRESS
GRANADA, SPAIN 2022

From Snow to Sea

19-24 June 2022



#FromSnowToSea



CoDILE COLLABORATIVE DIGITAL LEARNING

LEON JÄNICKE, FELIX SCHMID, TAYLOR JOHNSON, JAMES SHUCKSMITH, RITA FERNANDES DE CARVALHO, SAUGATA DATTA & JORGE LEANDRO

Organized by:



UNIVERSIDAD
DE GRANADA

www.iahrworldcongress.org

Traditional teaching

- First Spanish University in Palencia in 1386
- Students had to learn (and live) in one place with their lecturers
- The learning experience remained limited to the lecturers of one university
- This has little changed until recently



<https://www.wallpaperflare.com/man-riding-on-horse-carriage-image-painting-nuremberg-middle-ages-wallpaper-wsaw>

Pandemic situation

- Traditional face-to-face teaching was no longer possible
- Few universities switched to traditional, purely script-based distance learning
- The new standard became digital presence
- It remained difficult to get access to lectures at other universities



Hatice EROL / Pixabay.com

Our research question

- Students still have to travel to other universities as in 1386
- Is there an easy and uncomplicated way to access lecturers from other universities ?



Daniel Abadia / unsplash.com

Our solution



Water challenges in a changing world



UNIVERSITY OF GHANA



Our solution

- Every lecturer provides a video lecture and selected literature of their expertise:
 - High-quality standard
 - Wide range of topics
- Every lecturer gets full access to all lectures

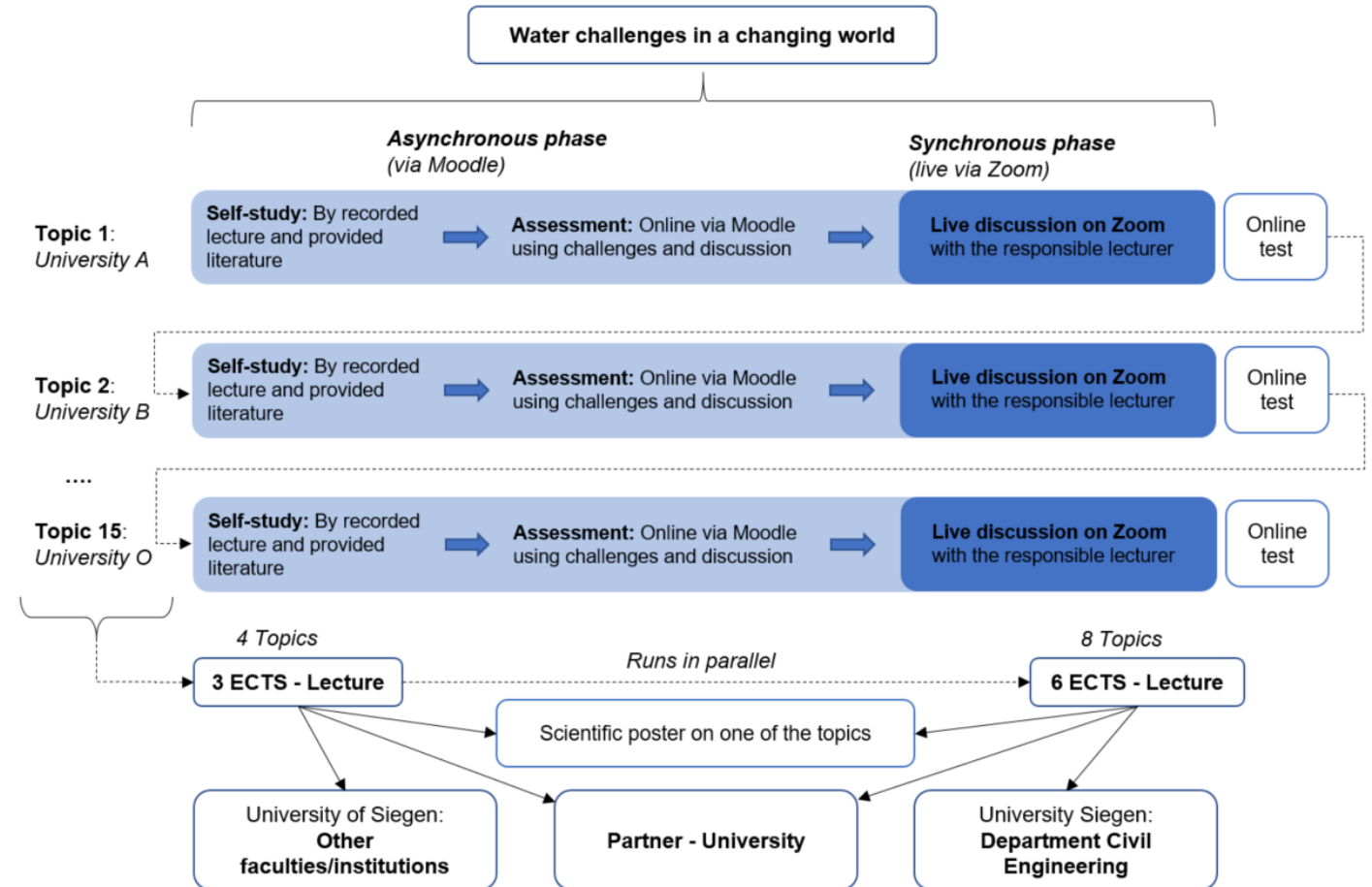
Table 1. Participating universities and lecturers.

Lecturer	Institution	Country	Topic
Prof. Ahadzie	University of Ghana (Accra)	Ghana	Assessing the capacity of communities to flood resilience in greater Kummsi, Ghana
Prof. Aronica	University of Messina	Italy	Flood risk maps and dissemination of information to the public
Prof. Bhattacharya	KTH Royal Institute of Technology (Stockholm)	Sweden	Groundwater pollution - Arsenic fate
Prof. Carvalho	University of Coimbra	Portugal	Detailed flow through and around hydraulic infrastructures
Prof. Chen	University of Exeter	United Kingdom	Water and Public Health
Dr. Datta	UTSA Texas	United States	Water resources and quality
Prof. Disse	TU Munich	Germany	Pre-screening hazard-maps for Flash floods in Bavaria
Ralf Engels	City of Bochum	Germany	Resilience and adaptivity in strategic urban drainage planning
Prof. Fröhle	TU Hamburg	Germany	Climate Change and Future Options for Adapted Protection against Flooding
Prof. Jüpner	TU Kaiserslautern	Germany	Coping with extreme flood events
Prof. Leandro	University of Siegen	Germany	Urban flood forecasting
Dr. Pant	University of Oxford	United Kingdom	System-of-systems risk assessments of large-scale transport networks
Prof. Sanders	UCI California	United States	Modelling and Mapping compound (pluvial, fluvial and coastal) flood hazards
Prof. Schüttrumpf	RWTH Aachen University	Germany	The transport and fate of microplastics in fluvial and marine ecosystems
Dr Shucksmith	University of Sheffield	United Kingdom	Introduction to Flood risk modelling

Our solution

There are three learning phases...

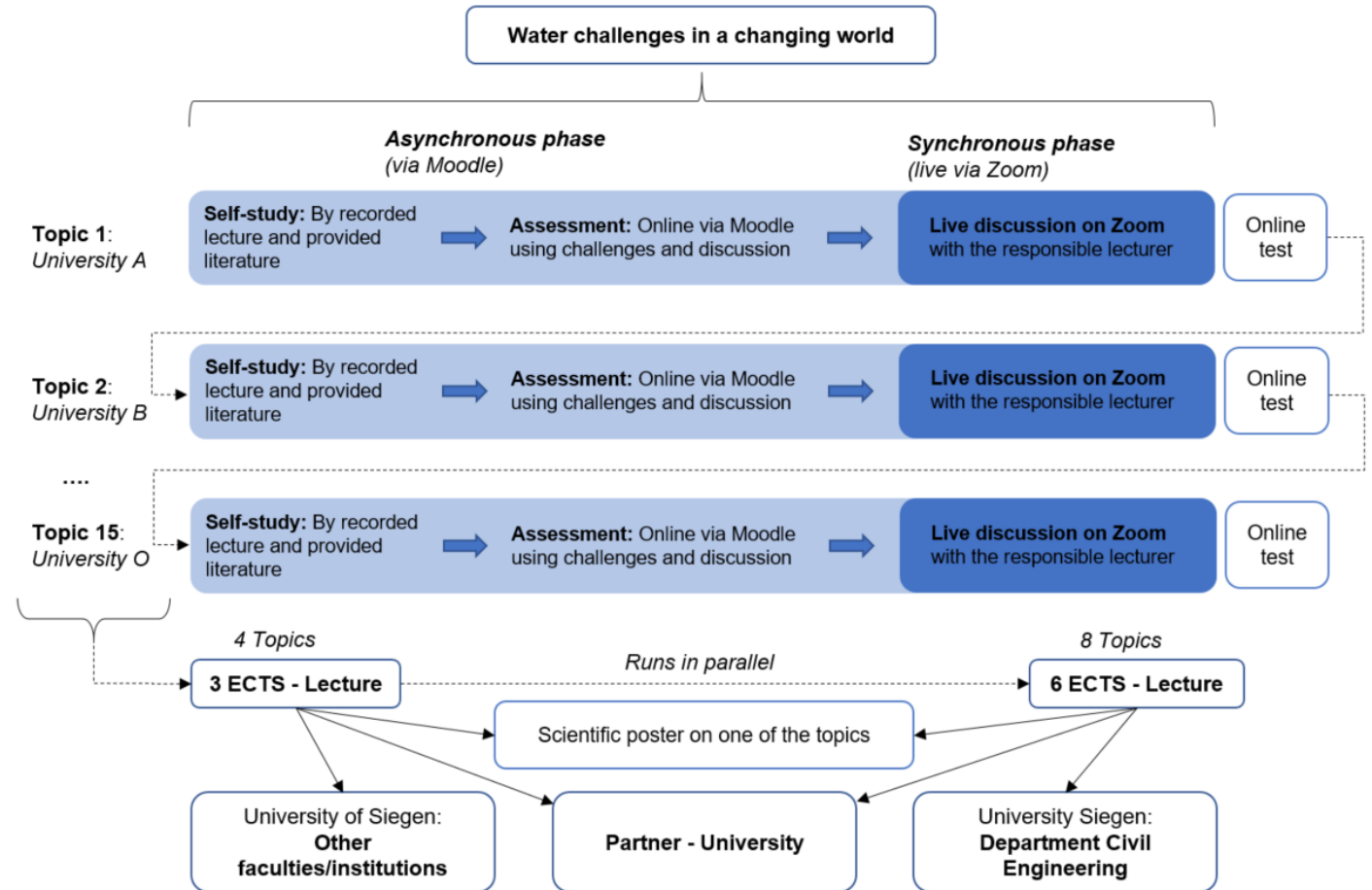
1. Self-study by recorded lecture and provided literature
2. Interactive exchange between students. Using predefined questions, discussions are initiated via Moodle and new questions are collected
3. Live discussion via Zoom with the responsible lecturer



Our solution

...and two examination phases

3. Online tests to deepen the newly acquired skills.
4. Creation of a scientific poster in group work to deepen one specific topic and presentation in front of the other students.



Feedback from students (testing phase just ended last week):

How much do you agree? (...in addition to traditional teaching)

- I find digitally supported courses to be useful 84%
- I find access to lectures from other universities to be useful 96 %
- I will take the course as full module 93 %

What we have learned so far

- The new format is perceived as unfamiliar (need for an introductory event)
- Students prefer to answer the challenges anonymously
- Professional discussions are more likely to happen when initialized by lecturer

Summary and Outlook

- Successful development of a multi-institutional course with 14 international partners
- Students now have easy access to lecturers from these universities
- Great interest and positive feedback from the students
- Starting this year as part of the curriculum at the University of Siegen
- In the next step, the course is to become part of the curricula at partner universities as well



Any questions or comments?

Dr.-Ing. Leon Jänicke

University of Siegen
Research Institute for Water and Environment
Chair of Hydrodynamic and Hydraulic Engineering

Paul-Bonatz-Str. 9-11
57076 Siegen

Leon.jaenicke@uni-siegen.de
www.fwu.uni-siegen.de/wb/



an Open Access Journal by MDPI

Urban Flood Model Developments and Flood Forecasting

[Special Issue \(mdpi.com\)](https://www.mdpi.com/special-issues)

