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## CURRICULUM VITAE

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### PERSONAL DATA

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Name: **Ioana Ileana POPESCU**

Current Employer: IHE Delft Institute for Water Education

Years with current employer: 2001 – present

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address: Westvest 7, 2611 AX Delft, The Netherlands

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### KEY QUALIFICATIONS

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I have extensive experience in the areas of mathematical modelling and ICT. This foundation has led to my current research interest and expertise in the development and application of modelling systems for water related areas. Particularly I have experience in the area of numerical methods (theory and application), decision support systems, river system modelling, hydropower, reservoir operation and use of water related tools for aquatic environment.

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### MAIN DISCIPLINE / SPECIALISATION

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River Systems, River System Modelling Computational Hydraulics, Hydraulics, Physically based modelling, Flood modelling, Decision Support Systems for Water Resources.

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### EDUCATION

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**March 2015** Habilitation thesis for PhD promotion in the field of Civil Engineering in Romania

**2011** University Teaching Qualification (UTQ), Delft University of Technology, Delft, The Netherlands (Qualification: Very good)

**1992-1998** Ph.D. degree awarded by “Politehnica” University of Timisoara, in *Computational Hydraulics* (Thesis title: “Application of numerical methods to the determination of hydrodynamic pressures on dams”)

**1995-1997** M.Sc degree in River Engineering (with Distinction) at International Institute for Hydraulics, Infrastructure and Environment, Delft, The Netherlands.

**1989-1994** Graduate of Mathematics, Major: *Applied Mathematics and informatics*, Faculty of Mathematics, West University of Timisoara, Romania.

**1982-1987** Graduate Civil Engineering, Major: *Hydraulic engineering*, (with Distinction), Faculty of Civil Engineering, Polytechnical Institute "Traian Vuia", Timisoara, Romania

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## EMPLOYMENT RECORD and PROFESSIONAL EXPERIENCE

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<b>May 2015</b>	Zero-appointment at Politechnica University of Timisoara, Faculty of Civil Engineering
<b>2013 - present</b>	Associate Professor of Hydroinformatics, Department of Integrated Water Systems and Governance, UNESCO-IHE Institute for Water Education, Delft, The Netherlands.
<b>2004 - 2012</b>	Senior Lecturer in Hydroinformatics, Department of Integrated Water Systems and Governance, UNESCO-IHE Institute for Water Education, Delft, The Netherlands.
<b>2001 - 2003</b>	Lecturer in Hydroinformatics, Department of Hydroinformatics and Knowledge Management, UNESCO-IHE Delft, The Netherlands.
<b>2000</b>	Post Doctoral Researcher at National Research Council Canada, Institute for Research in Construction, Ottawa, Canada
<b>1998 - 2000</b>	Associate Professor of Hydraulics and Hydraulic Structures, Department of Hydraulic Structures, Faculty of Hydrotechnics, Polytechnical University of Timisoara, Romania
<b>Sept, 1990 - 1997</b>	Senior lecturer, Department of Hydraulic Structures, Faculty of Hydrotechnics, Polytechnical University of Timisoara, Romania
<b>Sept, 1989 - Aug, 1990</b>	Hydraulic Engineering Designer, Institute for Research and Design in Hydraulic Engineering (ISPH), Timisoara, Romania – Seconded from Hidroconstructia S.A.
<b>Sept, 1987 - Aug, 1989</b>	Hydraulic Engineer, on Hydrotechnical Construction works of Bistra Poiana Marului, Caransebes, Romania

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## EXPERIENCE (In Education and Projects at IHE Delft)

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**(a) EDUCATION:** I have in total 31 years of teaching experience, out of which 21 at IHE Delft Institute for Water Education. Since 2011 I have a University Teaching Qualification (UTQ) issued by Delft University of Technology. The experience gained in coordination, development of programmes, teaching and guiding Master of Science students is detailed below:

***(a1) Coordination and Development of programs***

- **2020-2021** - Member in IHE Delft Programme Design Committee for Master of Science Programme (1 year) and Research master (2 years) in Water for Sustainable Development
- **2018**- Development and coordination of the Training course "*Hydrological and Hydraulic modelling*", for Rwanda water professionals, as part of TMT Rwanda project Oct-Nov, 2018.

- **2016** - Development and coordination of the Summer school "*Hydroinformatics approaches for river basin related problems*", for EU H2020 project Data4Water, as a follow up of a tailor made course Summer school took place at Politechnica University of Bucharest, Romania, in June-July 2016.
- **2016** – Development and coordination of a tailor made course on "*Water quality modelling of lakes using flow cytometer data*" for Capacity Development of professionals of Taihoe Basin Authority, in China
- **2014** - Development of the course "*Water resources modelling: Numerical models, methods, and applications*" for Capacity Development of Higher Education on Integrated Water Resources Management at Chittagong University of Engineering & Technology, Bangladesh;
- **2013** - Development and coordination of the course "*Introduction to river system modeling using Mike 11, with particular focus on floods*" for Department of Engineering Services, Ministry of Works and Human Settlement in Bhutan;
- **2012-2014** - Development and coordination of a series of 8 courses on "*Hydrological and hydrodynamic modelling for Iraqi water professionals*", at special request of UNDP Iraq.
- **2010-2012** - Development of the *Hydroinformatics specialisation* as part of the Master of Science Programme in Technology Management & Integrated Modeling in Natural Resources, at AinShams University, Cairo, Egypt.
- **2010-2011** - Programme coordinator for Water Science and Engineering Master of Science Programme
- **2009-2016** - Coordinator of the International Master in Hydroinformatics at Universidad del Valle, Cali Colombia
- **2009-2015** - Module coordinator for "*Modelling and operation of River Systems*" (HERBD specialisation)
- **2005-2007** - Coordinating and development of a series of courses in "*Hydroinformatics theory and applications*" for water professionals in South Korea;
- **2004-2007** - Specialization coordinator for Hydroinformatics
- **2002-present** - Module coordination for "*Modelling Theory and Computational Hydraulics*" (HI specialisation)
- **2006-present** - Module coordinator for "*River flood analysis and modelling*"(HI specialisation)
- **2006-present** - Module coordinator for online course "*Flood modelling for management*"

## **(a2) Teaching**

### **Courses in regular Masters Programmes**

- 2005-present - Review of Mathematics (taught every academic year, 2ECTS)
- 2002-2008 - Programming (Pascal, Matlab)
- 2001 – 2004 - Collaborative Engineering and River modelling for groups located at a distance, as part of Hydroweb (<https://www.iahr.org/index/detail/107>)
- 2001-2007 - Groupwork for Water Science and Engineering Master of Science Programme
- 2005 - present – coordinating Modelling Theory and Computational Hydraulics module (5 ECTS), in which the I lecture the following topics:
  - 2005- present – Numerical schemes for Differential equations – part I (2ECTS)
  - 2015 – present - Equations of Fluid Flow (2 ECTS)
- 2002 - present – contributing to the module Modelling System development module (5 ECTS), with the following topics
  - 2002 – present - River systems modelling (taught every academic year in February, 1ECTS)
  - 2005- present – Numerical schemes for Free surface flow- theory and applications (2ECTS)
- 2005 - present – coordinating River Flood Analysis and modelling module (5 ECTS), in which the I lecture the following topics:
  - 2005 - present – 1D/2D modelling of floods and mapping (0.5 ECTS)
  - 2008 – present - Modelling river systems with HEC-RAS (2.5 ECTS)
- 2008 - present – contributing to the module Flood risk management Systems (5 ECTS) with the following topics
  - 2010 - present – 1D/2D flood mapping (0.5 ECTS)
  - 2008 – 2016 - Modelling 2D river floods with Sobek (1 ECTS)
- 2010 – contributing to the module Hydroinformatics for Decision Support Systems module (5 ECTS) with the following topics
  - 2010 – present - Multicriteria analysis applications (1ECTS)

### **Topics in various short, tailor-made and online courses**

#### Online courses:

- Hydraulics of river flow;
- Methods and techniques for modelling river flow;
- Flood processes, Flood routing;
- Decision Support Systems Applications;
- Water allocation theory and special applications using RIBASIM;
- Open Courseware: Computational Hydraulics

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Tailor-made (TM) and short courses (SC):

- **2008 – present** – “*Hydrodynamic modelling using HEC-RAS*” within Short Course on “Data Acquisition, Preprocessing and Modelling using HEC-RAS” (every year September, Delft, The Netherlands)
- **2021** – “*Transient Flow*” within Short course “Hydropower water conduit design”, (March 2021, online)
- **2020** – “*Water allocation using RIBASIM*” and “*Simulation optimization*” within a series of tailor made trainings for Iraqi water professionals (Sept-Nov, 2020, online))
- **2018** – “*Hydrological and Hydraulic modelling using HEC-HMS and HEC-RAS*” within a series of tailor made trainings for Rwanda water professionals (November, 2018, Kigali, Rwanda)
- **2016** – “*Hydroinformatics approaches for river basin related problems*” within a series of tailor made trainings for faculty of Computer Science, Politechnical University of Bucharest as a set of trainings for H2020 project Data4Water
- **2015** - “*Hydraulic modelling and optimization of pump scheduling for water supply distribution networks*” within a series of three tailor made courses for dissemination of ICeWater project results (Timisoara, Romania and Milan, Italy);
- **2014** - “*Hydraulic modelling of selected Iraqi catchments using HEC-RAS modelling system*” within a series of eight UNDP tailor made courses for Iraqi water professionals. (Istanbul, Turkey)
- **2014** - “*Decision Support Systems as Tools for Water Management and Adaptation to Climate Change*” within the TM course for Capacity Building of Vietnam's Centre of Water Management and Climate Change (at Centre of Water Management and Climate Change in Ho Chi Minh City, Vietnam)
- **2014,2015** - “*Flood inundation modelling*” for SC “Using Open Source Software for GIS and Hydrological Modelling” (at UNESCO-IHE, Delft, The Netherlands)
- **2013** - “*Hydrological modelling of selected Iraqi catchments using HEC-HMS modelling system*” within a series of eight UNDP tailor made courses for Iraqi water professionals. (in Istanbul, Turkey)
- **2013** - “*Catchment modelling using MikeSHE/Mike11*” for a TM course for Bhutan water professionals. (Two phases: March 2013 at UNESCO-IHE, Delft, The Netherlands and May 2013 in Timphu City, Bhutan)
- **2013** - “*Modelling large river systems*” for TM course “Modelling tools and their use for decisions regarding flood adaptation” for Huaihe river Basin Commission (at UNESCO-IHE, Delft, The Netherlands)

- **2012** - "*Hydrological and hydraulic modelling theory and applications using HEC-HMS and HEC-RAS modelling systems*" within a series of eight UNDP tailor made courses for Iraqi water professionals. (in Istanbul, Turkey);
- **2012** - "*Reservoir simulation (using RESSIM) and decision support systems*" within a series of eight UNDP tailor made courses for Iraqi water professionals. (in Istanbul, Turkey);
- **2012** - "*Catchment modelling using MikeSHE/Mike11*" within a series of eight UNDP tailor made courses for Iraqi water professionals. (in Amman, Jordan);
- **2011** - "*Decision Support Systems*" in TM course Advanced training in modeling and information management applications for water, environmental management and climate change issues. (Two phases May 2011 at UNESCO-IHE, Delft, The Netherlands and June 2011 in Ho Chi Minh City, Vietnam);
- **2007** – "*River systems modelling*" in TM course Hydroinformatics for practitioners (at ITAIPU Binacional Brazil / Paraguay)
- **2006** – "*Managing water information systems*" in SC course Knowledge management for Iraqi water managers. (at UNESCO-IHE, Delft, The Netherlands)
- **2005, 2006, 2007** – "*Computational Hydraulics*", "*Free surface modelling*" and "*Reservoir operation*" in TM course Hydroinformatics theory and applications for water professionals from KWater, South Korea (8 weeks every year) (at UNESCO-IHE, Delft, The Netherlands);
- **2005** – "*Managing water information systems*" in SC course Knowledge management for Chinese groundwater professionals (at UNESCO-IHE, Delft, The Netherlands);
- **2003** – "*Knowledge mapping of water information*" in SC course Knowledge management for ESCWA water professionals (in Cairo, Egypt)

### **(a3) MSc guidance**

In the last 21 years I have guided 80 students for their MSc research work (45 by myself and 35 in co-supervision with colleagues). Students were part of Water Science and Engineering Master of Science programme, Hydroinformatics, River Basin Development, Hydrology and Land and Water development specializations; and from Water Management programme.

Covered topics for MSc are:

- *River*: River Hydrodynamics, Flood modelling and inundation mapping, Flood analysis; Flood vulnerability under Climate Change; Water quality;
- *Decision Support systems* for: water quality of lakes, water systems, energy saving through pump scheduling for water supply networks;
- *Reservoirs*: reservoir operation and optimization, dam break analyses, sediment flushing strategies; Water quality and recovering strategies;

- *Hydropower*: assessment of hydropower potential, current availability and vulnerability for large scale basins;
- *Numerical approaches*: Smooth Particle Hydrodynamics; Finite Volume approaches, flexible meshes, benchmarking;
- *Sediment transport*: comparisons of applicability of numerical methods for assessing sediment transport in rivers and/or for scouring at bridge piers.

**(b) PROJECTS:** I have in total 35 years of working experience, out of which 21 years at IHE Delft, mainly in research and capacity building projects related to applications of mathematical methods to problems of aquatic environment. The projects where I have been involved as researcher, principal investigator and project leader are detailed below.

**(b1) Main Research grants**

- **EIFFEL (2021-2024)** - REvealing the role oF GEOSS as the deFault digital portal for building climatE change adaptation & mitigation appLications. EU H2020 funded project (will start on 1<sup>st</sup> June 2021) Task: researcher
- **DUPC2-Sudan Roseires dam risk evaluation (2021)**- Dutch Programatic Cooperation for capacity building, Research study on risks involved due to Roseires dam when climate changes affect the filling of the dam reservoir. Dutch funded project; Task: researcher and project coordinator
- **SCENT (2016-2019)**- Smart Toolbox for Engaging Citizens into a People-Centric Observation Web, EU H2020 funded project (<http://scent-project.eu/>); Task: researcher
- **ICeWater (2012-2015)**- Improving water and energy efficiency in water distribution networks using novel sensor network technologies and simulation, optimisation and decision support components, EU FP7 funded project (<http://www.icewater-project.eu>); Task: researcher
- **ProACCII (2012-2014)**- Post-graduate Research programme on Adaptation to Climate Change, with special focus on Mekong river basin; DUPC funded project (<http://proacc.unesco-ihe.org/about-proacc>); Task: researcher
- **ProACCI (2010-2012)**- Post-Doctoral Research Programme on Adaptation to Climate Change (PRoACC) with Special Focus on the Mekong River Basin, DUPC funded project, (<http://proacc.unesco-ihe.org/about-proacc>); Task: researcher
- **LENVIS (2008-2011)**- Localised environmental and health information services. Specific research on development of localised information services (water-related) for water quality on lakes and dissemination through web infrastructure accessible via mobile phone interfaces, EU FP7 funded project; ([www.lenvis.eu](http://www.lenvis.eu)); Task: researcher and project coordinator at UNESCO-IHE

- **EnviroGRIDS (2009-2013)** - Building Capacity for a Black Sea Catchment Observation and Assessment System supporting Sustainable Development ; EU FP7 funded project ([www.envirogrids.net](http://www.envirogrids.net)); Task: *researcher*
- **WetWin (2010-2013)** - Enhancing the role of Wetlands in integrated water resources management; EU FP7 funded project; ([www.wetwin.net](http://www.wetwin.net)), Task: *provide training in WEAP for the project partners*;
- **TENCompetence (2005-2009)**- Building European Network for Life long learning Competence development; EU FP7 funded project(<http://tencompetence-project.bolton.ac.uk/>); Task: *researcher*, responsible with the implementation of the "Flood Modelling for management" pilot.
- **FloodSITE (2004-2008)** - Integrated flood risk analysis and management methodologies; EU FP7 funded project ([www.floosite.net](http://www.floosite.net)); Task: *researcher*
- **DSS-Romania (2006-2007)** - DSS Flood for Romania: Feasibility study and market analysis of a Decision Support System; Partners for Water funded project; Task: *project leader and researcher*
- **DC-WFD (2005-2008)**- Delft Cluster project on Water Framework Directive; Delft Cluster funded project; Task: *researcher*
- **I-learning (2003-2005)**- PoWER I-learning module "Flood management for modelling"; Task: *Project developer and content provider*
- **SaltIntrusion (2004-2005)**- Internal IHE Research funded project on Salinity intrusion in the Antwerp estuary; Task: *researcher*
- **DataNet (2007)**- Integrated Urban waste Water System Data Network; DUPC funded project; 2007; Task: *project leader and researcher*
- **WQCauca (2004)** - Water Quality Modelling of the river Cauca in Colombia; ALBAN funded project; Task: *researcher*
- **HydroplanEU (2002-2005)** - An integrated approach for sewer water management; EU FP5 funded project; Task: *researcher*

### ***(b2) Capacity building and educational projects***

- **WaterForCE (2021-2023)** - Water scenarios For Copernicus Exploitation; Eu H2020 funded project; Task: *IHE project leader and content developer*
- **Refresher course Colombia (2021)** – A course for IHE alumni on Importance of data for modelling the environment. Dutch funded. Task: *lecturer* "The challenge of modelling and citizen observatories"
- **DUPC2-Training on modelling for Iraqi water professionals (2020)** - Dutch Programatic Cooperation for capacity building of Iraqi water professionals for adaptive planning tools approaches in view of climate change conditions; Task: *content developer, delivery of training*



- **TMT Rwanda (2018)** – Development of a series of training courses for Rwanda Water professionals; Task: project leader and content developer, teaching material
- **TMT flowcytometers (2017)** - Development of a series of training courses for professionals from Taihoe Basin Authority, China, for using Flowcytometers; Task: project leader
- **DANUBIUS –PPP (2016-2019)** – Preparatory phase for the pan-European Research Infrastructure DANUBIUS–RI "The International Centre for advanced studies on river-sea systems" (<http://www.danubius-ri.eu/>); Task: project leader
- **Data4Water (2016-2019)** – Excellence in Smart Data and Services for Water Management (<http://d4w-twinn.pub.ro/>); Task: project leader and content developer for summer schools, teaching material
- **DANCERS (2013-2015)** - Building Excellence in the Danube Region; EU FP7 funded (<http://www.dancers-fp7.eu/>); Task: researcher;
- **NICHE Bangladesh (2014-2017)** - Scenario development for Integrated Water Resources Management: coping with future challenges in Bangladesh. This capacity building project aims at enhancing capacity in scenario thinking of four key research institutions in Bangladesh through a combination of trainings, curriculum development and joined research; Nuffic funded; Task: researcher, PhD guidance of J. Akter;
- **NICHE Vietnam (2012-2014)** - Capacity Building of Centre of Vietnam's Centre of Water Management and Climate Change; The Netherlands Initiative for Capacity development in Higher Education; Nuffic funded; 2012-2014; Task: teaching material and providing training;
- **TMT Bhutan (2013)** - Introduction to river system modelling for Bhutan professionals (using Mike 11) with particular focus on floods; Nuffic funded; Task: teaching material and providing training; project leader
- **TMT Egypt (2012-2013)** - Upgrading of Training staff and Course management, with an emphasis on the Regular Training course on "Hydraulic Engineering In River Basins" and Related Capacities; Egypt; Nuffic funded; Task: developing curricula and teaching material
- **Vietnam facility (2009-2011)** - Advanced training in modeling and information management applications for water, environmental change management and climate change adaptation issues; EVD funded; Task: developing curricula, teaching material and providing training
- **TMIM Egypt (2009-2012)** - Technology Management & Integrated Modeling in Natural Resources: A University-Enterprise Win-Win Partnership; EU TEMPUS; Task: project leader and curricula development

- **HHMI (2012-2013)**- Hydraulic and Hydrological modeling for Iraqi professionals;; UNDP Iraq funded; Task: project leader, providing training and assisting with model developments
- **ETNET21 (2001-2003)** - European Thematic Network for Water and Environment Education and Research; EU SOCRATES funded, Task: project leader and investigator
- **ETNET21 Dissemination (2004)** - Dissemination of the findings of the ETNET21; EU SOCRATES funded, Task: project leader and investigator
- **Kmap ESCWA (2003)**- Knowledge map for water resources in Arab countries; Project funded by ESCWA; Task: Content developer
- **PKS (2001-2002)**- Delft Cluster project Participant Knowledge Systems; project financed by Delft Cluster; Task: researcher and facilitator of the process for both on-line and face to face interactions
- **ISWH (2002)**- International Seminar in Water and Human (In)Security; NWP funded; Task: researcher and facilitator
- **Hydro-resources (2001)** - On line resource for the Hydrology on-line courses; UNESCO funded; Task: project leader and content development

### **(b3) Other projects**

- **Kmap (2003-2005)**- Knowledge map for PoWER, DUPC PoWER funded; Task: project leader, investigator and content development
- **DC KMap (2001-2004)**- Knowledge map for tunneling area within Delft Cluster; Delft Cluster funded; Task: project leader, investigator and content development

### **(b4) PhD Guidance (Research)**

Remark: For each PhD student the country of origin is mentioned in order to show the relevance of their work to their own country.

1. J. Nham Chung (South Korea), Thesis: *Eco-hydraulic modelling of eutrophication for reservoir management*. (Defended in 2011 at TU Delft)
2. A. Azab (Egypt), Thesis: *Development of a framework fro decision support system for Edko lake in Egypt by integrating GIS techniques and numerical models*. (Defended in 2012 at TU Delft)
3. L. Shengyang (China), Thesis: *Optimisation of reservoir operation, for flood defence on the lower Yellow River*. (Defended in 2013 at TU Delft)
4. C. Wang (China), Thesis: *Numerical Modelling of Ice Floods in the Ning-Meng reach of the Yellow River basin*. (Defended in 2018 at TU Delft)

5. Z. Mousa (Nigeria), Thesis: *Living with sea level rise on a subsiding delta: combining impact assessments to develop mitigation and adaptation options for the Niger delta.* (Defended in 2018 at TU Delft)
6. A. Abdullah (Iraq), Thesis: *Salinity changes in a tidal river for water management improvement in the Shatt al-Arab river, Iraq* – in co-supervision (Defended in 2017 at TU Delft)
7. Q. Pan (China), Thesis: *Multi-stakeholder Decision Support Framework for Optimized Water Quality Assessment and Management of big water bodies with exemplification on the Taihu lake in China* (Scheduled defence: 2021 at TU Delft)
8. J. Akter (Bangladesh), Thesis: *Decade to century-scale geo-morphological development of the Bangladesh delta.* (Defended 2019 - at Wageningen University) in co-supervision, only her first two years when my expertise was relevant for her studies
9. T. Assumption (Brazil), Thesis: *Citizen observatories data processing for flood modelling* (Scheduled defence: 2021 - at Delft University)

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## **EXPERIENCE (In Education and Projects, prior to joining IHE Delft)**

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(c) **EDUCATION:** Prior to joining IHE Delft I have 8 years of teaching experience at former Faculty of Hydrotechnics (current Faculty of Civil Engineering), Politechnical University of Timisoara.

**(c1) Coordination and Development of programs**

- **1990 -1994** : Coordination and development of study tours at dam construction sites in Romania;
- **1999:** Coordination of the Dams and Hydropower 4-th and 5-th year study programme, for transition to Bologna system. Development of the specialization.

**(c2) Teaching**

**Courses at undergraduate level in Hydrotechnics**

- **1997-1999:** Solution of equations using computer programming; Strength of Materials,
- **1990-1995:** Strength of materials; Hydraulics (for English stream), Numerical analysis,

**Courses in regular Masters Programmes**

- **1997-1999:** River systems modelling; Numerical modelling, Hydropower assessment and design, Dam design for environmental engineers; Small Hydropower Design
- **1990-1995:** Design of hydropower systems, Dam design

### **Final project guidance(MSc)**

- 49 students guided for their end of studies final project design work (30 by myself and 18 in co-supervision with colleagues); Covered topics for final project design are:
  - *Reservoirs*: reservoir operation and optimization, dam break analyses;
  - *Hydropower*: assessment of hydropower potential and dam design; rehabilitation of hydropower systems;
  - *Rivers*: River systems restoration and rehabilitation.

**(d) PROJECTS:** Outside IHE Delft I have worked in several projects in Romania related to dams and hydropower, as well as for a project in Canada. Below I am listing a selection of the projects I have worked in Romania and Canada.

#### **(d1) Main Research grants**

- **Small hydropower potential of Western basins in Romania (1994-1995)**- Assessing the potential for hydropower of small streams on Western part of Romania, especially those for which part of the basin is located in a protected natural area; Romanian Energy Ministry grant; Task: researcher;
- **Rehabilitation of the navigation on Bega Canal between Serbia and Romania (1992-1993)**- Several possible options for rehabilitation of the Bega canal were studied and analysed using multicriteria analysis; Romanian National Water Administration grant; Task: researcher;
- **Optimisation of cross-section of the water conveyance gallery of a hydropower plant (1993-1994)**- Improving and finding, through optimization, the best cross-section shape for a water conveyance gallery of a hydropower plant, so that energy losses are minimum and structural strength is preserved or increased; Romanian Education Ministry research grant; Task: researcher and project leader;
- **Readjustments of rule curves of Surduc reservoir** – Surduc reservoir changes in scope of pointed for studies on development for new rule curves for reservoir operation; Romanian Energy Ministry grant; Task: researcher and project leader;
- **Restoration of utility cuts (2000)** - The development of performance prediction tools for utility cuts on roads that are subjected to both environmental and traffic-induced loading. Research carried out at NRC, Canada; Task: Researcher, developer of a finite element code for testing structural elements;

#### **(d2) Other projects**

- **TEMPUS Hydrology of hazards (1998-1999)**- A collaboration project for development of curricula and teaching materials in collaboration with INSA Lyon, Faculty of Energetics; Task: Developer of a course regarding Application of finite element method for dam design and determination of pressure due to dam-water interaction.

- **TEMPUS Hydropower (1995-1999)**- A collaboration project for exchange of students and development of curricula and teaching materials in collaboration with University of Graz, Faculty of Civil Engineering; Task: Project team member;

### **(d3) PhD Guidance (Research)**

Between 2000 and 2015 I have guided 2 PhD students, at Faculty of Hydrotechnics, Timisoara, Romania. As of June 2015, as per Romanian law, I got the Habilitation for PhD promotion and I am a professor with zero-appointment for PhD promotion at Faculty of Civil Engineering, Politechnica University of Timisoara, where I have two PhD students that I currently supervise .

## **OTHER ACADEMIC HIGHLIGHTS**

### ***Publications (for details please see separate List of publication)***

- Publications: **4 books** and **5 monographs reports, 2 chapters in books**, more than **55 articles** in peer reviewed journals, more than **50 conference papers**, over **30 project reports**.
- H-index = 22 (*ISI web of Knowledge*); 20 (*Scopus*); 26 (*Google Scholar*);

### ***Scientific Committees, Guest -Editor***

- Member of the Scientific Committee of International Council for Science –World Data System ([www.icsu-wds.org/organization/scientific-committee](http://www.icsu-wds.org/organization/scientific-committee))
- IAHR Council member ([www.iahr.org](http://www.iahr.org))
- Past associate Editor of *Journal of River Basin Management* (<http://www.jrbm.net/>) and Editor of IWA Publishing *Water Wiki* (<http://www.iwawaterwiki.org/> )
- Guest Editor of the Special Issue on " Lennis symposium on localized environmental services for all" in *Environmental Engineering and Management Journal*, Volume 11, Issue 5 (May 2012);
- Guest Editor of the Special Issue on " Environmental Research and technology-Ecoimpulse 2012 International Conference" in *Environmental Engineering and Management Journal*, Volume 12, Issue 5 (May 2013);
- Guest Editor of the Special Issue on "IAHR 2013 Eco-hydraulics" in *Journal of Hydro-environment Research* , Volume 9, Issue 2 (June 2015);
- Reviewer for several international scientific journals, such as *Journal of Hydraulic Research*, *Water Resources Research*, *Journal of Hydrology*, *Geophysical Research Letters*, *Hydrological Sciences*, *Journal of Hydroinformatics*, *Water Resources Management*, *Environmental Modelling and Software*, *Journal of Flood risk management*, *Journal of Hydraulic Research*, *Geophysical Letters*, *Journal of Remote Sensing*, *Computer and Fluids*, *Advances in Water Resources*, *Acta Amazonica*, *Aquatic Ecology*, *Climate and Development*. On average I contribute to 12 reviews per year.

### **Organisations of Conferences and Workshops**

- Co-organiser of the International workshop on Planning and design of Observatories Obermann centre (Amana, US, August, 2007);
- Co-organiser at the 33IAHR Congress of the Theme "Education, History, Social/Economic Impacts" (Vancouver, Canada, 9-14 August, 2009);
- Co-Convener at the British Hydrological Society Third International Symposium "Role of Hydrology in Managing Consequences of a Changing Global Environment" for the session: "Integrating Catchment Science" (New Castle, UK, 19-23 July, 2010);
- Convener at the 34IAHR Congress of the session "Education and Life long learning in Hydraulic Engineering " (Brisbane, Australia, 26 June-01July, 2011);
- Co-organiser of Open Water Symposium (Delft, The Netherlands, April, 2012)
- Organiser of LENVIS - Localised ENVironmental Information Systems symposium (Delft, The Netherlands, April, 2012);
- Co-organizer of the Workshop on Decision Support Systems, BALWOIS conference (Ohrid, Macedonia, June, 2012);
- Organizer of the Workshop on Young Professional Network, 35IAHR Congress, Chengdu, China (05-11 September, 2013);
- Co-organiser of Workshop "ICT applications for Water" (Delft, the Netherlands, November 2014)
- Co-organiser (LoC) of the 36IAHR Congress "Delta's of the World" (The Hague, The Netherlands, 28 June-03July, 2015);

### **Conferences Scientific Committees**

- Member of the Scientific Committee of International Scientific Conference People, Buildings and Environment, Cehia (in 2014, 2016, 2018)
- Member of the scientific organizing committee of the 10-th Hydroinformatics International Conference (Hamburg, Germany, 2012)
- Member of the scientific organizing committee of 2nd International Conference Water Across Time in Engineering Research - WATER 2012 (Constanta, Romania, 2012)
- Member of the scientific organizing committee of the 35IAHR Congress (Chengdu, China, 2013) and 36IAHR Congress (The Hague, The Netherlands);
- Member of the scientific organizing committee of the River Flow 2012 (San Jose, Costa Rica) and River Flow 2016 (St. Luis, USA, 2016);
- Invited to be member of the scientific organizing committee of the 38IAHR Congress (Panama City, Panama).

### **Invited speaker**

Invited seminars and keynotes at major universities and research centers in France, Italy, Portugal, Egypt, Romania, Macedonia, China, South Korea, USA, Colombia, Brazil, Germany. A selection of these keynotes are listed below:

- 2019 – Keynote speaker at SCENT show case in environmental monitoring on “Use of crowdsourced data for improvement of food modelling for better decision making” .
- 2016 - Keynote speaker to EGU 2016 Discussion panel “Great Debate on Resource Use”
- 2012 - Keynote speaker at Ecoimpulse 2012 conference, Timisoara, Romania on “Modelling floods in climate change conditions”
- 2012 - Keynote speaker at Water2012 conference, on “Hydroinformatics tools for modeling floods and droughts in climate change conditions”
- 2011 - Invited speaker for Chinese Yellow River Commission, on “Romanian approach to flood management along the Danube” Bucharest, Romania, 2011
- 2011 - Invited speaker on “Hydroinformatics and the use of Technology for Facilitating Sharing of Environmental Services”, at Department of Computer Science, Bicocca University, (Milan, Italy, 2011)
- 2011- Keynote speaker at Agua 2011, Cali, Colombia on “Modeling floods and droughts in a changing climate”;
- 2007 –Invited speaker at Faculty of Hydrotechnics ,Timisoara, Romania, on “Hydroinformatics application for river systems”;
- 2007 – Invited speaker at KWater, Dajeon, South Korea, “Use of 3D models for modelling water quality in deep lakes”;
- 2007 - Keynote speaker at Agua 2007, Cali, Colombia on “How to make use of knowledge from data rich areas to solve water supply problems in data scarce areas”
- 2003 – Invited speaker at CINARA, Universidad del Valle, Cali, Colombia, “Hydroinformatics applications for receiving waters”;

### **Awards**

*Obermann award* of the Obermann Centre (Iowa, US) for setting up the principles of Observatories for large river systems with special applications to Mississippi river.

## **LANGUAGE PROFICIENCY**

<i>Language</i>	<i>Reading</i>	<i>Speaking</i>	<i>Writing</i>
Romanian	Mother tongue	Mother tongue	Mother tongue
English	Excellent	Very Good	Very Good
French	Excellent	Very Good	Good
Dutch	Good	Moderate	Fair

Ioana Popescu  
Delft, 30 April 2021

(May 2021)

