

João P. Leitão

Curriculum Vitae, November 2022

Eawag: Swiss Federal Institute of Aquatic Science and Technology
Department of Urban Water Management; Urban Flood Risk Analysis group
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EDUCATION

- 2006 – 2009 **PhD in Civil and Environmental Engineering** at Imperial College London, University of London, UK. Thesis: *Enhancement of Digital Elevation Models and Overland Flow Path Delineation Methods for Advanced Urban Flood Modelling*. Supervisors: Prof Dr Čedo Maksimović and Prof Dr Dušan Prodanović
- 2001 – 2004 **MSc in Geographic Information Systems** at Instituto Superior Técnico, Technical University of Lisbon, Portugal. Dissertation: *Geographic Information Systems contribution to delineation and location of wastewater systems* (in Portuguese). Supervisor: Prof Dr José de Saldanha Matos
- 1996 – 2001 **Licenciatura (5-year undergraduate degree) in Environmental Engineering** at Instituto Superior Técnico, Technical University of Lisbon, Portugal. Final project report: *Treatment, transport and final disposal of wastewater treatment plant sludge – a case study* (in Portuguese). Supervisor: Prof Dr José de Saldanha Matos

TRAINING

- 2022-2023 *Certificate of Advanced Studies in Leadership in science*, University of applied Sciences and Arts Northwestern Switzerland, Windisch, Switzerland
- 2018 *Leadership for group leaders*, BISHOF Management, coaching, training, consulting (<https://www.bischofmanagement.com/home.html>), 07-08 November, Zurich, Switzerland
- 2017 *2nd W.A.T.E.R.: Workshop on Advanced measurement Techniques and Experimental Research*, 02-06 October, Oostende, Belgium

GRANTS AND AWARDS

- 2022 **Top cited Article 2020-2021** (doi: 10.1111/jfr3.12684). *Journal of Flood Risk Management*
- 2019 **Best Paper** (doi: 10.5194/isprs-annals-IV-2-W5-5-2019). *ISPRS Geospatial Week 2019*
- 2019 **Top downloaded Paper** (doi: 10.1111/tgis.12304). *Transactions in GIS*
- 2018 **Most Innovative New Technology of the Year**. *UK Water Industry Awards*. As member of the CENTAUR development (project) team
- 2015 **Commended Paper** (doi: 10.1111/jfr3.12010). *Journal of Flood Risk Management Outstanding Paper Award 2013* (supported by the JBA Trust)
- 2012 **Post-doctoral Fellowship** (3+3 years). *FCT: Portuguese Science and Technology Foundation*, Portugal (Fundação para a Ciência e a Tecnologia)
- 2011 **Co-author of the paper submitted to the Poul Harremões prize** awarded to

- 2007 Dr Nuno E. Simões. *IWA/IAHR Joint Committee on Urban Drainage Young Persons' Paper Competition (runner-up)*. UK Section of the International Association of Hydraulic Engineering and Research (IAHR)
- 2006 **PhD Scholarship** (4 years). FCT: Portuguese Science and Technology Foundation, Portugal (Fundação para a Ciência e a Tecnologia)

RESEARCH INTERESTS

Urban flood modelling; Urban water cycle, namely urban hydrology and urban water systems modelling; Urban water systems management; Geographic Information Systems (GIS) as a tool to support urban hydrology and urban hydraulic analysis

PROFESSIONAL EXPERIENCE

- 2018 – to date **Senior scientist (Group leader)**. Urban Flood Risk Analysis Group, Department of Urban Water Management, *Eawag: Swiss Federal Institute of Aquatic Science and Technology*, Switzerland
- 2019 (1 month) **Visiting Researcher**. Department of Civil Engineering (collaboration with Prof Dr Giuseppe T. Aronica), *University of Messina*, Italy
- 2014 – 2018 **Scientist (Group leader on tenure track)**. Urban Flood Risk Analysis Group, Department of Urban Water Management, *Eawag: Swiss Federal Institute of Aquatic Science and Technology*, Switzerland
- 2013 – 2014 **Research Associate**. Department of Urban Water Management, *Eawag: Swiss Federal Institute of Aquatic Science and Technology*, Switzerland
- 2010 – 2013 **Postdoctoral Fellow**. Urban Water Unit, Department of Hydraulics and Environment, *LNEC: National Laboratory for Civil Engineering*, Portugal
- 2006 – 2009 **PhD student/ Postgraduate Researcher**. Environmental and Water Resource Engineering Section (EWRE), Department of Civil and Environmental Engineering, *Imperial College London*, UK
- 2005 – 2006 **Research Assistant**. CEHIDRO – Centro de Estudos de Hidrossistemas, Department of Civil Engineering and Architecture, *IST: Instituto Superior Técnico, Technical University of Lisbon*, Portugal
- 2004 – 2005 **Graduate Engineer**. *EAPS: Empresa de Análise, Prevenção e Segurança, S.A. (currently Safemode)*, Portugal
- 2000 – 2004 **Research Assistant**. ICIST – Instituto de Engenharia de Estruturas, Território e Construção. Department of Civil Engineering and Architecture, *IST: Instituto Superior Técnico, Technical University of Lisbon*, Portugal

TEACHING EXPERIENCE

- 2019 – to date **Lecturer**. Department of Civil, Environmental and Geomatic Engineering, ETH Zurich, Switzerland (Responsible for the 102-0248-00L: *Infrastructure Systems in Urban Water Management* course)
- 2017 – to date **Lecturer**. Department of Civil, Environmental and Geomatic Engineering, ETH Zurich, Switzerland (4 h lecture on *Flood Risk Assessment* in the 102-0250-00L: Urban Drainage Planning and Modelling course)
- 2022 – to date **Guest lecturer**. Department of Civil, Environmental and Geomatic Engineering, ETH Zurich, Switzerland (4 h lecture on *Climate-adapted water management: dealing with surface runoff and using blue-green infrastructure* in the Certificate of Advanced Studies on Natural Hazard - Risk Management)
- 2017 – to date **Guest lecturer**. Department of Integrated Water Systems & Governance, IHE Delft Institute for Water Education, the Netherlands (3 h lecture on *Performance and*

- 2022 *Risk analysis of urban water systems* in the Urban Water Systems course)
Guest lecturer. Department of Architecture, ETH Zurich, Switzerland (6 h lecture on *Flood Simulation* in the 052-1127-22U: Architectural Design V-IX: Madagascar Hand Made course)
- 2022 **Guest lecturer.** Department of Architecture, ETH Zurich, Switzerland (6 h lecture on *Pluvial Flood Simulation* in the 061-0120-00L: Digital Design Methods III course)
- 2016 – 2017 **Guest lecturer.** Department of Civil, Environmental and Geomatic Engineering, ETH Zurich, Switzerland (3 h lecture on *Performance and Risk analysis of urban water systems* and *Comparative analysis of alternatives* in the 102-0248-00L: Infrastructure Systems in Urban Water Management course)
- 2011 – 2013 **Lecturer.** Department of Hydraulics and Environment, LNEC: National Laboratory for Civil Engineering, Portugal (courses: Hydraulic and water quality simulation in water supply systems; Hydraulic modelling of domestic and pluvial urban drainage systems)
- 2007 – 2009 **Graduate Teaching Assistant.** Department of Civil and Environmental Engineering, Imperial College London, UK. (Courses: *Fluid mechanics*; *Water supply and distribution*)

RESEARCH PROJECTS

Awarded projects as PI (Principal Investigator) or Co-PI (Co-Principal Investigator)

- 2022 – 2026 **Heat-down: Integrated Modelling of Stormwater and Urban Heat for cooling Cities** (PI). Project funded by the Swiss National Science Foundation (SNSF) (Funding: 1 Postdoc for 24 months and 1 PhD student for 48 months)
- 2021 – 2025 **Resilient blue-green infrastructures – enabling transformation towards liveable and climate-resilient flood-prone landscapes of tropical cities** (Co-PI with Prof Dr Max Maurer). Project funded by the ETH Zurich Future Cities Lab Global program (Funding: 1 PhD student for 48 months)
- 2021 – 2024 **Exploring the Potential of Nature-Based Solutions in Mitigating Pluvial Floods in Nepal** (Co-PI with Prof Dr Max Maurer). Project funded by the ETH for development (ETH4D) program (Funding: 1 PhD student for 36 months)
- 2021 – 2024 **Urban flood modelling at speed and scale** (Co-PI; coordinated by Prof Dr Ana Dedić (The University of New South Wales, Australia)). Project funded by the Australian Research Council (Funding: 1 Postdoc for 36 months)
- 2020 – 2022 **4Real: real-time urban pluvial flood forecasting** (Co-PI with Dr Jan D. Wegner (ETH Zurich, Switzerland)). Project funded by the Swiss Data Science Centre (Funding 1 Postdoc for 24 months)
- 2020 – 2022 **StormHeatX: Distributed stormwater-heat flux estimation for cooler, more liveable cities** (Co-PI with Dr Frank Blumensaat and Dr Jörg Rieckermann). Eawag discretionary funding (Funding: 1 Postdoc for 24 months)
- 2019 – 2020 **DeepSewer** (Co-PI with Mr Dominik Boller). Project funded by the Bridge - Proof of Concept programme of the Swiss National Science Foundation (SNSF) (Funding: 1 Research Assistant for 12 months)
- 2018 – 2024 **RECONNECT: Nature-based solutions for hydro-meteorological risk rEduCTION** (Co-PI with Prof Dr Mario Schirmer; Coordinated by Prof Dr Zoran Vojinović (IHE Delft, the Netherlands)). Project funded by the European Union Horizon 2020 research and innovation programme (Funding: 1 Postdoc for 24 months)
- 2016 – 2019 **CALICO: Calibration of Coupled Urban Flood Models with experimental surface runoff data** (PI). Project funded by the Swiss National Science Foundation (SNSF) (Funding: 1 PhD student for 36 months)
- 2016 **Boosting the development of urban pluvial flood modelling in the data age** (PI). Eawag discretionary funding (Funding: 1 PhD student for 12 months)

- 2016 – 2017 **Efficient Urban Pluvial Flood Simulation** (*Co-PI*; Coordinated by Dr Martin Schüle (ZHAW, CH). Project funded by the Zurich University of Applied Sciences (Funding: 1 Research Associate for 3 months)
- 2015 – 2018 **CENTAUR: Cost Effective Neural Technique for Alleviation of Urban Flood Risk** (*Co-PI*; Coordinated by Prof Dr Simon Tait (Sheffield University, UK)). Project funded by the European Union Horizon 2020 research and innovation programme (Funding: 2 Postdocs for 30 months total)
- 2011 – 2013 **iGPI: Iniciativa Nacional para a Gestão Patrimonial de Infraestruturas** (*PI*). Project funded by 19 Portuguese urban water utilities (Funding: 1 Postdoc for 24 months)
- 2010 – 2011 **Rainfall spatial variation in urban areas and its effect on pluvial flooding** (*PI*). Project funded by the British Council - Treaty of Windsor: Anglo-Portuguese Joint Research Programme (U19) (Funding: travel expenses)

Awarded projects as member of the research team

- 2022 – 2030 **Living Lab Bern**. Project supported by Eawag discretionary funding
- 2022 – 2026 **Benefit: Blue-Green Stormwater Infrastructure Meets Biodiversity in the City**. Funded by the an Eawag-WSL Blue Green Biodiversity Research Initiative
- 2013 **MOLINES: Modelling floods in estuaries. From the hazard to the critical management**. Project funded by the Portuguese Science and Technology Foundation
- 2011 – 2013 **TRUST: Transitions to the Urban Water Services of Tomorrow**. Project funded by the European Union Seventh Framework Programme
- 2010 – 2013 **PREPARED: enabling change**. Project funded by the European Union Seventh Framework Programme
- 2010 – 2012 **AWARE-P: Advanced Water Asset Rehabilitation – Portugal**. Project funded by the financial mechanism of the European Economic Area, by ERSAR - Water and Waste Services Regulator (Portugal), and by the project's end-user partners: AdP Serviços S.A., AGS S.A., SMAS Oeiras & Amadora and Veolia Águas de Mafra
- 2009 – 2012 **SIMAI: Monitoring and warning systems in urban drainage sewer infrastructures**. Project funded by the Portuguese Science and Technology Foundation
- 2008 – 2009 **FRMRC 2: Flood Risk Management Research Consortium**. Project funded by the Engineering and Physical Research Council (EPSRC), with additional funding from the EA/Defra (Joint Defra/EA Flood and Coastal Erosion Management R&D Programme), the Northern Ireland Rivers Agency (DARDNI) and Office of Public Works (OPW), Dublin
- 2007 – 2009 **Flood Risk Management Demonstration Projects**. Project funded by the UKWIR
- 2006 – 2008 **FRMRC 1: Flood Risk Management Resource Consortium**. Project funded by the Engineering and Physical Research Council (EPSRC), Defra/EA Joint R&D programme on Flood and Coastal Defence, NERC, the Scottish Executive and UKWIR

MENTORING OF Postdoctoral RESEARCHERS

- 2020 – to date Figueroa, A. (co-mentor with Dr Frank Blumensaat and Dr Jörg Rieckermann). *Heat and mass transfer of urban stormwater*. Eawag: Swiss Federal Institute of Aquatic Science and Technology, Switzerland
- 2016 – 2017 de Sousa, L.M. (main mentor). *Geographic information science/ Network analysis in urban drainage systems*, Eawag: Swiss Federal Institute of Aquatic Science and Technology, Switzerland

SUPERVISION OF PhD STUDENTS AND RESEARCH ASSISTANTS

- 2022 – to date Gobatti, L. (*PhD student, main supervisor*). *Integrated Modelling of Stormwater and*

- Urban Heat for Cooling Cities*. PhD in Civil, Environmental and Geomatic Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2022 – to date Chen, J. (*PhD student, main supervisor*). *Urban water management for urban heat mitigation – investigation of different water sources and Blue-Green Infrastructures*. PhD in Civil, Environmental and Geomatic Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2022 – to date Shanshan, L. (*visiting PhD student, co-supervisor with Dr Peter M. Bach and Prof Dr Zhaoli Wang*). *Modelling to support planning multi-functional nature-based solutions for building future Sponge Cities – understanding interactions between green and grey infrastructure*. PhD in Civil Engineering, South China University of Technology, China
- 2021 – to date Fappiano, F. (*PhD student, co-supervisor with Prof Dr Max Maurer*). *A pluvial flood risk assessment framework for the evaluation of large size blue green infrastructures (BGIs) in data-scarce, peri-urban regions*. PhD in Civil, Environmental and Geomatic Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2021 – to date Joshi, P. (*PhD student, co-supervisor with Prof Dr Max Maurer*). *Modelling pluvial flood risk and mitigation options in data scarce regions*. PhD in Civil, Environmental and Geomatic Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2019 – to date Chaudhary, P. (*PhD student, co-supervisor with Prof Dr Konrad Schindler and Prof Dr Jan D Wegner*). *Flood-Water Estimation from Social Media Images* (title to be confirmed). PhD in Civil, Environmental and Geomatic Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2018 – 2021 Guo, Z. (*PhD student, co-supervisor with Prof Dr Ludger Hovestadt and Prof Dr Biao Li*). *From Simulation to Synthesis: Architecture modelling with context-based encoding using data-driven computational machines*. PhD in Architecture, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2019 – 2020 Wang, W. (*visiting PhD student, co-supervisor with Prof Dr Dong Wang*). *Hydro-metric network design and flood risk assessment based on information theory*. PhD in Earth Sciences and Engineering, Nanjing University, China
- 2016 – 2019 Moy de Vitry, M. (*PhD student, main supervisor*). *Urban flood model calibration with alternative data sources*. PhD in Civil, Environmental and Geomatic Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2019 – 2020 Boller, D. (*Research Assistant, main supervisor*). *DeepSewer: development of deep learning and computer vision methods for reliable sewer pipe condition scoring*.

SUPERVISION AND CO-SUPERVISION OF Master STUDENTS

- 2022 Niederhauser, L. *Effects of Blue Green Infrastructure on Surface Runoff in Adliswil*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2022 Chavez, P. *Evaluating the effects of solid waste management on the performance of urban drainage systems*. Master in Urban Water Systems, IHE Delft, Delft, the Netherlands
- 2022 Yang, Y. *Assessing the impacts of superblocks on urban building energy demands on city-scale in Switzerland*. Master in Environmental Sciences, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2021 Chen, J. *Planning-support urban water systems for urban microclimate improvement*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland

- 2020 Hsu, S.-C. *Hex-Urban: Investigating the adoption of hexagonal grids to represent the total urban water cycle within a distributed water balance model*. Master in Civil Engineering and Water Management, TU Delft, the Netherlands
- 2019 Bislin, S. *Input-based model for cost estimation of drinking water piping as infrastructure replacement*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2019 Duarte, B. *Análise do impacto da resolução espacial dos modelos digitais do terreno na modelação de cheias pluviais em meio urbano*. Master in Environmental Engineering, University of Coimbra, Portugal
- 2018 Kramer, S. *Probabilistic flood trend analysis from CCTV videos with convolutional neural networks and Markov chain methods*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2018 Hauss, V. *Integrated stormwater modelling and management in Wangental (Köniz, Bern)*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2018 Chaudhary, P. (2018). *Floodwater level estimation through semantic image interpretation*. Master in Informatics, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2018 Boller, D. (2018). *Google Street View based sewer network mapping using deep learning*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2017 Duarte, B. (2017). *Novas tecnologias para a caracterização da ocupação do solo e melhoria da modelação de cheias pluviais em meio urbano*. Master in Environmental Engineering, University of Coimbra, Portugal
- 2017 Ribeiro, G. (2017). *Influência de modelos digitais de terreno na simulação do comportamento hidráulico de sistemas de drenagem urbana*. Master in Civil Engineering, University of Coimbra, Portugal
- 2016 Keller, C. (2016). *Understanding the urban drainage system of Fehraltorf*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2016 Freitas, F. (2016). *Drones e Modelos de Drenagem Urbana: Classificação Automática de Imagens para Identificação dos Usos do Solo*. Master in Environmental Engineering, University of Coimbra, Portugal
- 2016 FitzGerald, D. (2016). *Taking future uncertainty into account when designing urban water supply systems: a flexible approach*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2015 Nariné Torres, M. (2015). *Analysis of the relation between sewer system failures and urban trees*. Master in civil and Environmental Engineering, University of Los Andes, Bogotá, Colombia
- 2014 Moy de Vitry, M. (2014). *Improving urban flood management with autonomous mini-UAVs*. Master in Energy Science and Technology, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2013 Santos, P. (2013). *Decision support tools for urban drainage system management*. Master in Applied Mathematics, IST: Technical University of Lisbon, Portugal
- 2011 Martins, A. (2011). *Stochastic models for prediction of pipe failures in water supply systems*. Master in Applied Mathematics, IST: Technical University of Lisbon, Portugal

SEMINARS AND KEYNOTES

- 2022 **Invited speaker** in Environmental Engineering Seminar at University of California Berkeley. Remote event. 28 January 2022

- 2021 **Invited keynote speaker** in *Sino-Swiss Symposium on Disasters from “too much water” and solutions for Public Safety*. Remote event. 5-6 November 2021
- 2020 **Invited speaker** in *13th ASCE Women Water Nexus short-conference on Machine learning application in the urban water field*. Remote event. 17 December 2020
- 2019 **Invited speaker** in *Forum on Nature Based solution for flood mitigation – EU cases*. Taipei, Taiwan, 9 October 2019
- 2019 **Invited lecturer** in *UP2019: Urban Physics Winter School 2019*. Ascona, Switzerland, 2-8 February 2019
- 2017 **Invited speaker** in *D-BAUG Workshop on Natural Hazards*, Zurich, Switzerland, 8 June 2017
- 2017 **Invited speaker** in Centre for Water Systems (University of Exeter) workshop on *Water Systems Research and Activities*, Exeter, UK, 24 May 2017
- 2017 **Invited presenter** in *Urban Flood Modelling and Risk Management IWA specialist group Webinar Series*, 12 April 2017
- 2016 **Invited keynote speaker** in *14th Swiss Geosciences Meeting (Hydrology, limnology and hydrogeology symposium)*, Geneva, Switzerland, 18-19 November 2016
- 2016 **Invited speaker** in *12th International Conference on Hydrosience & Engineering*, Tainan, Taiwan, 6-10 November 2016
- 2015 **Invited speaker** in *IGARSS 2015: Remote Sensing – Understanding the Earth for a safer World*, Milan, Italy, 26-31 July 2015
- 2013 **Invited keynote speaker** in *5th LESAM: Leading Edge conference on Strategic Asset Management: strategic asset management of water and wastewater infrastructure*, Sydney, Australia, 10-12 September 2013
- 2013 **Invited speaker** in the workshop *Changes in the Portuguese water services paradigm: from the construction cycle to the cycle of management*, Cantanhede, Portugal, 29 July 2013

ORGANISING AND SCIENTIFIC COMMITTEES

- 2020 – to date **Co-coordinator** of the *Eawag Seminar Series*
- 2018 – to date **Member of the International Scientific Committee** for the *UrbanRain: International Workshop on Precipitation in Urban Areas*
- 2022 **Member of the selection committee** for the EPFL *Professorship* position on Environmental Sensors
- 2022 **Member of the organising committee** of the 1st Swiss National Workshop on Nature-Based Solutions
- 2021 **Member of the International Scientific Committee** for the *Virtual Conference of AQUA≈360: Water for All Emerging Issues & Innovations*
- 2014 – 2020 **Member** of the *Eawag Seminar Series* committee
- 2020 **Moderator** of the *11th ASCE Women Water Nexus short-conference on Sewer Asset Management – Challenges and new data-driven methods*. Remote event. 17 November 2020
- 2020 **Member of the International Scientific Committee** for the *2nd International CCWI / WDSA Joint Conference*
- 2019 **Member of the organising committee** of the 1st Swiss workshop on *Machine Learning for Environmental and Geosciences (MLEG)*. 16-17 January (<https://www.mleg.ethz.ch>)
- 2019 **Member of the International Scientific Committee** for the *CCWI 2019 17th International Computing & Control for the Water Industry Conference*
- 2018 **Member of the International Scientific Committee** for the *13th HIC: International Conference on Hydroinformatics*
- 2017 **Member of the International Scientific Committee** (theme: drainage impacts) for

- the 14th ICUD: *International Conference on Urban Drainage*
- 2017 **Lead organizer of the workshop** on *Vision and learning solutions for aquatic research challenges*. Included in the Eawag seminar series in Urban Water Management, Dübendorf, Switzerland, 10 May
- 2015 **Member of the Eawag interviewing committee** for the candidate selection for the *University of Zurich and Eawag Professorship* tandem position in Remote Sensing
- 2015 **Lead organizer of the workshop** on *Advancing urban pluvial flood modelling*. Included in the Eawag seminar series in Urban Water Management, Dübendorf, Switzerland, 30 November
- 2013 **Member of the organizing committee** of the *iGPI workshop*. Included in the program of the iGPI – Iniciativa Nacional para a Gestão Patrimonial de Infraestruturas project, Foz do Arelho, Portugal, 15-16 April (<http://igpi.aware-p.org/np4/home>)
- 2013 **Member of the organizing committee** of the *Forum iGPI*. Included in the program of the iGPI – Iniciativa Nacional para a Gestão Patrimonial de Infraestruturas project, Lisbon, Portugal, 6 March (<http://igpi.aware-p.org/np4/19/>)
- 2012 **Member of the organizing committee** of the *ToRC workshop – Towards mOre Flood Resilient Cities*. Included in the program of the 9th Urban Drainage Modelling Conference, Belgrade, Serbia, 3-7 September (http://hikom.grf.bg.ac.rs/9UDM/PreconferenceWorkshop_ToRC.html).

EXAMINATION OF PHD THESES (external)

- 2022 University of Lisbon, Portugal
- 2020 Pontificia Universidad Javeriana Bogota, Colombia
- 2019 INSA Lyon, France
- 2019 University of Newcastle, UK
- 2019 Monash University, Australia

EXAMINATION OF MASTER DISSERTATIONS (external)

- 2022 University of São Paulo, Brazil (1x); IHE Delft, The Netherlands (3x)
- 2021 IHE Delft, The Netherlands (2x)

AD-HOC REVIEWER

Research proposals

- 2021 Portuguese national funding agency for science, research and technology (FCT)
- 2017 Research councils UK (RCUK)
- 2016 Netherlands organisation for scientific research (NWO)

Journal articles

Earth Surface processes and Landforms, Wiley; *Environmental Modelling and Software*, Elsevier; *Environmental Research Letters*, IOP Publishing; *Frontiers in Earth Science*, Frontiers; *Geo-spatial information science*, Taylor and Francis; *Journal of Ecological Informatics*, Elsevier; *Journal of Flood Risk Management*, Wiley; *Journal of Hydroinformatics*, Elsevier; *Journal of Hydrology*, Elsevier; *Journal of Water Supply: Research and Technology – AQUA*, IWA Publishing; *Natural Hazards*, Springer; *Remote Sensing*, MDPI; *Urban Water Journal*, Taylor and Francis; *Scientific reports Nature*, Springer; *Sustainability*, MDPI; *Sustainable cities and society*, Elsevier; *Water*, MDPI; *Water Research*, Elsevier; *Water Resources Research*, Wiley; *Water Science and Technology*, IWA Publishing; *Water Science and Technology: water supply*, IWA Publishing

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- 2022 – to date **Head** of the *International Working Group on Data and Models* (IWA/IAHR Joint Committee on Urban Drainage (JCUD))
- 2019 – to date **Associate Editor**, *Urban Water Journal* (Taylor and Francis)
- 2017 – to date **Member**, *Competence centre for urban drainage of the Swiss Water Association (VSA)*
- 2016 – to date **Member of the Editorial Board**, *Infrastructures Journal* (MDPI)
- 2014 – to date **Nominated representative**, *IWA: International Water Association*
- 2001 – to date **Senior member** and **Expert in urban water engineering**, *Portuguese Engineers Association* (Ordem dos Engenheiros)
- 2001 – to date **Member**, *APESB: Portuguese Association of Urban Water and Environmental Engineering*
- 2023 **Guest Editor**, Special Issue on "Urban Water Management in Developing Countries", *Urban Water Journal* (Taylor and Francis)
- 2018 – 2022 **Secretary** of the *International Working Group on Data and Models* (IWA/IAHR Joint Committee on Urban Drainage (JCUD))
- 2021 **Guest Editor**, Special Issue on "Challenges and Perspectives in Flood Risk Management and Resilience", *Water Journal* (MDPI)
- 2020 – 2021 **Research topic Editor**, Research Topic "Urban Drainage in a Context of Climate and Land Cover Changes", *Frontiers in Water* and *Frontiers in Water and Built Environment* (Frontiers Media)
- 2014 – 2019 **Member of the Editorial Board**, *Urban Water Journal* (Taylor and Francis)

LANGUAGE SKILLS

Portuguese: native speaker

English: speaking, reading, and writing fluently

Spanish: regular level of comprehension and reading

German: basic level of comprehension and reading

French: basic level of comprehension and reading

João P. Leitão

List of publications, October 2022

*: corresponding author; underlined: supervised student/ mentored Postdoc

PEER-REVIEWED SCIENTIFIC JOURNAL ARTICLES

Accepted or Published

- J50 Chaudhary, P., **Leitão, J.P.**, D’Aronco, S., Perraudin, N., Obozinski, G., Perez-Cruz, F., Schindler, K., Wegner, J.D., Russo, S. (2022). Flood Uncertainty Estimation using Deep Ensembles. *Water*, 14, 2980. doi: 10.3390/w14192980
- J49 Peleg, N., Ban, N., Gibson, M.J., Chen, A.S., Paschalis, A., Burlando, P., **Leitão, J.P.** (2022). Mapping storm spatial profiles for flood impact assessments. *Advances in Water Resources*, 166, 104258. doi: 10.1016/j.advwatres.2022.104258
- J48 Guo, Z., Moosavi, V., **Leitão, J.P.** (2022). Data-driven rapid flood prediction mapping with catchment generalizability. *Journal of Hydrology*, 609, 127726. doi: 10.1016/j.jhydrol.2022.127726
- J47 Harpaz, C., Russo, S., **Leitão, J.P.**, Penn, R. (2022). Potential of supervised machine learning algorithms for estimating the impact of water efficient scenarios on solids accumulation in sewers. *Water Research*, 216, 118247. doi: 10.1016/j.watres.2022.118247
- J46 Figueroa, A., Hadengue, B., **Leitão, J.P.**, Rieckermann, J., Blumensaat, F. (2021). A distributed heat transfer model for thermal-hydraulic analyses in sewer networks. *Water Research*, 204, 117649. doi: 10.1016/j.watres.2021.117649
- J45 Wang, W., **Leitão, J.P.***, Wani, O. (2021). Is flow control in space-constrained drainage networks effective? A performance assessment for combined sewer overflow reduction. *Environmental Research*, 111688. doi: 10.1016/j.envres.2021.111688
- J44 Jamali, B., Haghighat, E., Ignjatović, A., **Leitão, J.P.**, Deletić, A. (2021). Machine Learning for Accelerating 2D Flood Models: potential and challenges. *Hydrological Processes*. doi: 10.1002/hyp.14064
- J43 Guo, Z., **Leitão, J.P.**, Simões, N.E., Moosavi, V. (2021). Data-driven flood emulation: speeding up urban flood predictions by deep convolutional neural networks. *Journal of Flood Risk Management*, 14(1). doi: 10.1111/jfr3.12684
- J42 Joshi, P., **Leitão, J.P.**, Maurer, M., Bach, P.M. (2021). Not all SUDS are created equal: Impact of different approaches on Combined Sewer Overflows. *Water Research*, 191, 116780. doi: 10.1016/j.watres.2020.116780
- J41 Browne, S., Lintern, A., Jamali, B., **Leitão, J.P.**, Bach, P.M. (2021). Stormwater management impacts of small urbanising towns: the necessity of investigating the “devil in the detail”. *Science of the Total Environment*, 757, 143835. doi: 10.1016/j.scitotenv.2020.143835
- J40 Leite, A.R., **Leitão, J.P.** (2021). The new town of Angra (Terceira, the Azores): Confirming a contested urban planning history using reverse historical analysis and flood modelling tools. *Urban History*, 48(1), 20-36. doi: 10.1017/S0963926819001093
- J39 Chaudhary, P., D’Aronco, S., **Leitão, J.P.**, Schindler, K., Wegner, J.D. (2020). Water level prediction from social media images with a multi-task ranking approach. *ISPRS Journal of Photogrammetry and Remote Sensing*, 167, 252-262. doi: 10.1016/j.isprsjprs.2020.07.003
- J38 Moy de Vitry, M., **Leitão, J.P.** (2020). The potential of trend-like data for urban pluvial flood model calibration. *Water Research*, 175. doi: 10.1016/j.watres.2020.115669
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