

# João P. Leitão

Curriculum Vitae, November 2023

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

- 2023 **Agregação (Habilitation) in Civil Engineering** at Instituto Superior Técnico, University of Lisbon, Portugal. Seminar: *Flood data sources and data-driven flood prediction: insights on novel tools*
- 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 (10 ECTS credits), Windisch, Switzerland
- 2018 *Leadership for group leaders*, BISHOF Management, coaching, training, consulting (<https://www.bischofmanagement.com/home.html>), 07-08 November, Zurich, Switzerland
- 2017 2<sup>nd</sup> *W.A.T.E.R.: Workshop on Advanced measurement Techniques and Experimental Research*, 02-06 October, Oostende, Belgium

## GRANTS AND AWARDS

- 2022, 2023 **Top cited Article 2020-2021, Top cited Article 2021-2022** (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*

- 2012 *Outstanding Paper Award 2013* (supported by the JBA Trust)  
**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 Dr Nuno E. Simões. *IWA/IAHR Joint Committee on Urban Drainage*
- 2007 **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 and management; Geographic Information Systems (GIS) as a tool to support urban hydrology and urban hydraulic analysis; Data-driven tools to support urban water systems and flood management

#### 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)
- 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 – 2022 **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)
- 2017 – 2022 **Guest lecturer.** Department of Integrated Water Systems & Governance, IHE Delft Institute for Water Education, the Netherlands (3 h lecture on *Performance and Risk analysis of urban water systems* in the Urban Water Systems course)
- 2022 **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 **UrbanTwin: An urban digital twin for climate action: Assessing policies and solutions for energy, water and infrastructure (PI).** Joint initiative project funded by the ETH Domain (Funding: 1 Postdoc for 12 months)
- 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 – 2025 **Co-UDlabs: Innovating the Urban Drainage System: a new collaborative approach (Co-PI with Dr Jörg Rieckermann; coordinated by Jose Anta (Universidade de A Coruña)).** Project funded by the European Union Horizon 2020 research and innovation programme (Funding: 1 PhD student for 36 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)
- 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

- 2023 – to date Chavarria, A. (co-mentor with Dr Jörg Rieckermann). *Urban drainage data harmonisation*. Eawag: Swiss Federal Institute of Aquatic Science and Technology, Switzerland
- 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 (BGLs) 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

- 2023 Galliker, J. *Urban drainage: assessing measures for the reduction of surface water flooding*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 2023 Gericke, E. *Flood Modelling With Neural Cellular Automata*. Master in Applied Computational Life Sciences, ZHAW: Zurich University of Applied Sciences, Switzerland
- 2022 Donauer, T. *Improving medium-term urban pluvial flood prediction with deep learning methods*. Master in Environmental Engineering, ETH Zurich: Swiss Federal Institute of Technology Zurich, Switzerland
- 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

- 2023 **Invited speaker** at the *Water Resources Seminars* of the Master of Advanced Studies on Sustainable Water Resources, ETH Zurich. Switzerland. 7 November 2023
- 2023 **Invited speaker** at the *Seminar of the Institute of Water and River Basin Management – Hydraulic Engineering and Water Resources Management*, Karlsruhe Institute of Technology. Karlsruhe, Germany. 27 October 2023
- 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 *13<sup>th</sup> 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 *14<sup>th</sup> Swiss Geosciences Meeting (Hydrology, limnology and hydrogeology symposium)*, Geneva, Switzerland, 18-19 November 2016
- 2016 **Invited speaker** in *12<sup>th</sup> International Conference on Hydroscience & 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 *5<sup>th</sup> 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 Scientific Committee** for the *UrbanRain: International Workshop on Precipitation in Urban Areas*

2024 **Member of the International Scientific Committee** for the *8<sup>th</sup> IAHR Europe Congress*

2023 **Lead organizer of the workshop** on *Workshop fast models for urban flood simulations: future perspectives in the era of ubiquitous data*. Included in 11<sup>th</sup> Novatech Conference, Lyon, France, 3 July

2023 **Member of the Scientific Committee** for the *11<sup>th</sup> IWA Symposium on Modelling and Integrated Assessment (Watermatex2023)*

2023 **Member of the organising committee** of the *Second Swiss National Workshop on Nature-Based Solutions for meteo-hydrological risk mitigation*. Dübendorf, Switzerland, 18 April

2022 **Member of the selection committee** for the EPFL *Professorship* position on Environmental Sensors

2022 **Member of the organising committee** of the *1<sup>st</sup> Swiss National Workshop on Nature-Based Solutions*. Dübendorf, Switzerland

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 *11<sup>th</sup> 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 *2<sup>nd</sup> International CCWI / WDSA Joint Conference*

2019 **Member of the organising committee** of the 1<sup>st</sup> 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 17<sup>th</sup> International Computing & Control for the Water Industry Conference*

2018 **Member of the International Scientific Committee** for the *13<sup>th</sup> HIC: International Conference on Hydroinformatics*

2017 **Member of the International Scientific Committee** (theme: drainage impacts) for the *14<sup>th</sup> 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 9<sup>th</sup> Urban Drainage Modelling Conference, Belgrade, Serbia, 3-7 September ([http://hikom.grf.bg.ac.rs/9UDM/PreconferenceWorkshop\\_ToRC.html](http://hikom.grf.bg.ac.rs/9UDM/PreconferenceWorkshop_ToRC.html)).

#### EXAMINATION OF PhD THESES (external)

- 2023 Université Laval, Canada
- 2023 University of Newcastle, UK
- 2023 TU Delft, the Netherlands
- 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)

#### PUBLIC OUTREACH ACTIVITIES

- 2023 Interview *Mit Grün und Blau gegen die Hitze* in SRF Radio 2 programme *Wissenschaftsmagazin*, 30 September (from 21' 40"). Available from: <https://www.srf.ch/audio/wissenschaftsmagazin/hirn-aus-dem-computer?id=12459444>
- 2017 Interview *Forschung am Hochwasserschutz* in SRF television programme *Schweiz aktuell*, 11 July (from 5' 25"). Available from: <https://www.srf.ch/play/tv/schweiz-aktuell/video/forschung-am-hochwasserschutz?urn=urn:srf:video:a557b621-7b2a-41ac-be77-17819749f10e&startTime=11>

#### LANGUAGE SKILLS

**Portuguese:** native speaker

**English:** speaking, reading, and writing fluently

**German:** intermediate level of speaking, comprehension and reading

**Spanish:** regular level of speaking and comprehension and reading

**French:** basic level of comprehension and reading

## João P. Leitão

List of publications, November 2023

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

### PEER-REVIEWED SCIENTIFIC JOURNAL ARTICLES

#### *Accepted or Published*

- J59 Nascimento, N., Armitage, N., Rodriguez Sanches, J.P., **Leitão, J.P.** (2023). Editorial: UWJ special edition on water management in developing countries. *Urban Water Journal*. doi: 10.1080/1573062X.2023.2266635
- J58 Gobatti, L., Bach, P., Scheidegger, A., **Leitão, J.P.** (2023). Using satellite imagery to investigate Blue-Green Infrastructure establishment time for urban cooling. *Sustainable Cities and Society*, 97, 104768. doi: 10.1016/j.scs.2023.104768
- J57 Devanand, V.B., Mubeen, A., Vojinović, Z., Sanchez Torres, A., Paliaga, G., Abdullah, A.F., **Leitão, J.P.**, Manojlović, N., Fröhle, P. (2023). Nature-based solutions for hydrometeorological risk reduction: Towards innovative methods for mapping suitability of land-slide risk reduction measures. *Land*, 12(7), 1357. doi: 10.3390/land12071357
- J56 Tondera, K., Brelot, E., Fontanel, F., Cherqui, F., Nielsen, J.E., Brüggemann, T., Naismith, I., Goerke, M., López, J.S., Rieckermann, J., **Leitão, J.P.**, Clemens, F., Rodenas, A.M., Anta, J. (2023). Transitioning of Urban Drainage Systems – needs and visions from different stakeholders. Stakeholder Visions on Transitioning of Urban Drainage Systems. *Urban Water Journal*. doi: 10.1080/1573062X.2023.2211559
- J55 Peleg, N., Torelló-Sentelles, H., Mariéthoz, G., **Leitão, J.P.**, Marra, F. (2023). Brief communication: the potential use of low-cost acoustic sensors in short-term flood warnings. *Natural Hazards and Earth System Sciences*. doi: 10.5194/nhess-2022-257
- J54 Figueroa, A., Hadengue, B., **Leitão, J.P.**, Blumensaat, F. (2023). A framework for modelling in-sewer heat budget anomalies driven by stormwater runoff and seasonal effects. *Water Research*, 229, 119492. doi: 10.1016/j.watres.2022.119492
- J53 Jato-Espino, D., Charlesworth, S., **Leitão, J.P.**, Rodríguez Sánchez, J.P. (2023). Editorial: Urban drainage in a context of climate and land cover changes. *Frontiers in Water*, 4, 1118338. doi: 10.3389/frwa.2022.1118338
- J52 Probst, N., Bach, P.M., Cook, L., Maurer, M., **Leitão, J.P.** (2022). Blue Green Systems for urban heat mitigation: mechanisms, effectiveness and research directions. *Blue Green Systems*. doi: 10.2166/bgs.2022.028
- J51 Langeveld, J.G., Cherqui, F., Tschekner-Gratl, F., Mutanna, T.M., **Leitão, J.P.**, Roghani, B., Kerres, K., Almeida, M.C., Wery, C., Rulleau, B. (2022). Asset management for blue-green infrastructures: a scoping review. *Blue Green Systems*. doi: 10.2166/bgs.2022.019
- 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., Haghghat, 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
- J37 Cheng, T., Xu, Z., Yang, H., Hong, S., **Leitão, J.P.** (2020). Analysis of the effect of rainfall patterns on the urban flood process by coupled hydrological and hydrodynamic modelling. *Journal of Hydrologic Engineering*, 25(1). doi: 10.1061/(ASCE)HE.1943-5584.0001867
- J36 Tscheikner-Gratl, F., Caradot, N., Cherqui, F., **Leitão, J.P.**, Ahmadi, M., Langeveld, J.G., Le Gat, Y., Scholten, L., Roghani, B., Rodriguez, J.P., Lepot, M., Stegeman, B., Heinrichsen, A., Kropp, I., Kerres, K., Almeida, M.C., Bach, P.M., Moy de Vitry, M., Sá Marques, A., Simões, N.E., Rouault, P., Hernandez, N., Torres, A., Werey, C., Rulleau, B., Clemens, F. (2019). Sewer asset management – State of the art and research needs. *Urban Water Journal*, 16(9), 662-675. doi: 10.1080/1573062X.2020.1713382
- J35 Muñoz, D.F., Simões, N.E., de Sousa, L.M., Maluf, L., Sá Marques, A., **Leitão, J.P.** (2019). Generalizing Multi-Reward Functions aimed at Identifying the Best locations to Install Flow Control Devices in Sewer Systems. *Urban Water Journal*, 16(8), 564-574. doi: 10.1080/1573062X.2019.1700284
- J34 Boller, D., Moy de Vitry, M., Wegner, J.D., **Leitão, J.P.\*** (2019). Automated localization of sewer infrastructure from public-access street-level images. *Urban Water Journal*. doi: 10.1080/1573062X.2019.1687743
- J33 Moy de Vitry, M., Kramer, S., Dirk Wegner, J., **Leitão, J.P.** (2019). Scalable Flood Level Trend Monitoring with Surveillance Cameras using a Deep Convolutional Neural Network. *Hydrology and Earth Systems Science*. doi: 10.5194/hess-2018-570
- J32 Moy de Vitry, M., Schneider, M.Y., Wani, O., Manny, L., **Leitão, J.P.**, Eggimann, S. (2019). Smart urban water systems: What could possibly go wrong? *Environmental Research Letters*, 14, 081001. doi: 10.1088/1748-9326/ab3761
- J31 Blumensaat, F., **Leitão, J.P.**, Ort, C., Rieckermann, J., Scheidegger, A., Vanrolleghem, P., Villez, K. (2019). How Urban Water Management Prepares for Emerging Opportunities and Threats: Digital Transformation, Ubiquitous Sensing, New Data Sources, and Beyond – a Horizon Scan. *Environmental Science & Technology*, 53(15), 8488-8498. doi: 10.1021/acs.est.8b06481
- J30 Chaudhary, P., D’Aronco, S., Moy de Vitry, M., **Leitão, J.P.**, Wegner, J.D. (2019). Flood-water level estimation from social media images. In *ISPRS Annals Photogrammetry, Remote*

- Sensing and Spatial Information Sciences*, IV-2/W5, 5-12. doi: 10.5194/isprs-annals-IV-2-W5-5-2019
- J29 **Leitão, J.P.\***, Peña-Haro, S., Lüthi, B. Scheidegger, A., Moy de Vitry, M. (2018). Urban runoff velocity measurement with consumer-grade surveillance cameras and surface structure image velocimetry. *Journal of Hydrology*, 565, 791-804. doi: 10.1016/j.jhydrol.2018.09.001
- J28 Moy de Vitry, M., Schindler, K., Rieckermann, J., **Leitão, J.P.** (2018). Sewer Inlet Localization in UAV Image Clouds: Improving Performance with Multiview Detection. *Remote sensing*, 10(5). doi: 10.3390/rs10050706
- J27 Carvalho, G., Amado, C., Brito, R.S., Coelho, S.T., **Leitão, J.P.\*** (2018). Analysing the importance of variables for sewer failure prediction. *Urban Water Journal*. doi: 10.1080/1573062X.2018.1459748
- J26 **Leitão, J.P.\***, de Sousa, L.M. (2018). Towards optimal fusion of Digital Elevation Models for detailed flood assessment in urban areas. *Journal of Hydrology*, 561, 651-661. doi: 10.1016/j.jhydrol.2018.04.043
- J25 de Sousa, L.M., **Leitão, J.P.** (2018). HexASCII: a file format for cartographical hexagonal grids. *Transactions in GIS*, 2, 217-232. doi: 10.1111/tgis.12304
- J24 **Leitão, J.P.\***, Carbajal, J.P., Rieckermann, J., Simões, N.E., Sá Marques, A., de Sousa, L.M. (2018). Identifying the best locations to install flow control devices in sewer networks to enable in-sewer storage. *Journal of Hydrology*, 556, 371-383. doi: <https://doi.org/10.1016/j.jhydrol.2017.11.020>
- J23 **Leitão, J.P.\***, Simões, N.E., Pina, R., Ochoa, S., Sá Marques, A. (2017). Stochastic evaluation of sewer inlet capacity impact on urban pluvial flooding. *Stochastic Environmental Research and Risk Assessment*, 31(8), 1907-1922. doi: 10.1007/s00477-016-1283-x
- J22 Moy de Vitry, M., Dicht, S., **Leitão, J.P.** (2017). floodX: Urban flash flood experiments monitored with conventional and alternative sensors. *Earth System Science Data*, 9, 657-666. doi: 10.5194/essd-9-657-2017
- J21 Nariné Torres, M., Rodríguez, J.P., **Leitão, J.P.** (2017). Geostatistical analysis to identify characteristics involved in sewer pipes and urban tree interactions. *Urban Forestry & Urban Greening*, 25, 36-42. doi: 10.1016/j.ufug.2017.04.013
- J20 Carbajal, J.P., **Leitão, J.P.**, Albert, C., Rieckermann, J. (2017). Emulation of nonlinear urban hydrodynamic drainage simulators. *Environmental Modelling and Software*, 92, 17–27. doi: 10.1016/j.envsoft.2017.02.006
- J19 Girão, L.F.O., Simões, N.E., Sá Marques, J., **Leitão, J.P.**, Pina, R.D. (2017). Modelação hidráulica e de qualidade da água de sistemas de drenagem em meios urbanos. *Engenharia Sanitária e Ambiental*, 22(2), 351-360. doi: 10.1590/s1413-41522016161318
- J18 Santos, P., Amado, C., Coelho, S.T., **Leitão, J.P.\*** (2017). Stochastic data mining tools for pipe failure prediction. *Urban Water Journal*, 14(4), 343–353. doi: 10.1080/1573062X.2016.1148178
- J17 **Leitão, J.P.\***, Moy de Vitry, M., Scheidegger, A., Rieckermann, J. (2016). Assessing the quality of Digital Elevation Models obtained from mini-Unmanned Aerial Vehicles for overland flow modelling in urban areas. *Hydrology and Earth Systems Science*, 20, 1637-1653. doi: 10.5194/hess-20-1637-2016
- J16 **Leitão, J.P.\***, Prodanović, D., Maksimović, Č. (2016). Improving merge methods for grid-based digital elevation models. *Computers & Geosciences*, 88, 115–131. doi: 10.1016/j.cageo.2016.01.001
- J15 **Leitão, J.P.\***, Coelho, S.T., Alegre, A., Cardoso, M.A., S. Silva, M., Ramalho, P., Ribeiro, R., Covas, D., Poças, A., Vitorino, D., Almeida, M.C., Carriço, N. (2016). Moving urban water Infrastructure Asset Management from science into practice. *Urban Water Journal*, 13(2), 133–141. doi: 10.1080/1573062X.2014.939092
- J14 Tokarczyk, P., **Leitão, J.P.**, Rieckermann, J., Schindler, K., Blumensaat, F. (2015). High-quality observation of surface imperviousness for urban runoff modelling using UAV imagery.

- Hydrology and Earth System Sciences*, 19, 4215–4228. doi: 10.5194/hess-19-4215-2015
- J13 Scheidegger, A., **Leitão, J.P.**, Scholten, L. (2015). Statistical failure models for water supply pipes – a review from a unified perspective. *Water Research*, 83, 237–247. doi: 10.1016/j.watres.2015.06.027
- J12 Simões, N.E., Ochoa-Rodríguez, S., Wang, L.-P., Pina, R.D., Sá Marques, S., **Leitão, J.P.** (2015). Contribution of Spatial-Temporal Stochastic Rainfall Events to the Generation of Stochastic Urban Pluvial Flood Hazard Maps. *Water*, 7(7), 3396–3406; doi: 10.3390/w7073396
- J11 Martins, A., **Leitão, J.P.**, Amado, C. (2013). A Comparative Study of Three Stochastic Models for Prediction of Pipe Failures in Water Supply Systems. *Journal of Infrastructure Systems*, 19(4), 442–450. doi: 10.1061/(ASCE)IS.1943-555X.0000154
- J10 **Leitão, J.P.\***, Almeida, M.C., Simões, N.E., Martins, A. (2013). Methodology for qualitative urban flood risk assessment. *Water Science and Technology*, 68(4), 829–838. doi: 10.2166/wst.2013.310
- J09 Leandro, J., **Leitão, J.P.**, de Lima, J.L.M.P. (2013). Quantifying the uncertainty in the Soil Conservation Service (SCS) flood hydrographs: a case study in the Azores islands. *Journal of Flood Risk Management*, 6, 279–288. doi: 10.1111/jfr3.12010
- J08 **Leitão, J.P.\***, Prodanović, D., Boonya-aroonnet, S., Maksimović, Č. (2013). Enhanced DEM-based flow path delineation methods for urban flood modelling. *Journal of Hydroinformatics*, 15(2), 568–579. doi: 10.2166/hydro.2012.0175
- J07 Carriço, N., Covas, D.I.C., Almeida, M.C., **Leitão, J.P.**, Alegre, H. (2012). Prioritization of rehabilitation interventions for urban water assets using multiple criteria decision-aid methods. *Water Science and Technology*, 66(5), 1007–1014. doi: 10.2166/wst.2012.274
- J06 Hurford, A.P., Maksimović, Č., **Leitão, J.P.** (2010). Urban pluvial flooding in Jakarta: applying state-of-the-art technology in a data scarce environment. *Water Science and Technology*, 62(10), 2246–2255. doi: 10.2166/wst.2010.485
- J05 **Leitão, J.P.\***, Simões, N. E., Maksimović, Č., Ferreira, F., Prodanović, D., Matos, J.S., Sá Marques, A. (2010). Real-time forecasting urban drainage models: full or simplified networks? *Water Science and Technology*, 62(9), 2106–2114. doi: 10.2166/wst.2010.382
- J04 Simões, N.E., **Leitão, J.P.**, Maksimović, Č., Sá Marques, A., Pina, R. (2010). Sensitivity analysis of surface runoff generation in urban flood forecasting. *Water Science and Technology*, 61(10) 2595–2601. doi: 10.2166/wst.2010.178
- J03 **Leitão, J.P.\***, Boonya-aroonnet, S., Prodanović, D., Maksimović, Č. (2009). The influence of Digital Elevation Model resolution on overland flow networks for modelling urban pluvial flooding. *Water Science and Technology*, 60(12), 3137–3149. doi: 10.2166/wst.2009.754
- J02 Maksimović, Č., Prodanović, D., Boonya-aroonnet, S., **Leitão, J.P.**, Djordjević, S., Allitt, R. (2009). Overland flow and pathway analysis for modelling of urban pluvial flooding. *Journal of Hydraulic Research*, 47(4), 512–523. doi: 10.1080/00221686.2009.9522027
- J01 **Leitão, J.P.\***, Matos, J.S., Gonçalves, A. B., Matos, J.L. (2005). Contribution of Geographic Information Systems and location models to planning of wastewater systems. *Water Science and Technology*, 52(3), 1–8

#### BOOK CHAPTERS

Carriço, N., Almeida, M.C., **Leitão, J.P.** (2022). Management of Urban Drainage Infrastructure. In Bolognesi, T., Silva Pinto, F., Farrelly, M. (Eds.), *Routledge Handbook of Urban Water Governance*. Routledge, UK. ISBN: 9781003057574

Ugarelli, R., Almeida, M.C., **Leitão, J.P.**, Bruaset, S. (2015). Overview of Climate Change Effects which May Impact the Urban Water Cycle. In Hulsmann, A., Grützmacher, G., van den Berg, G., Rauch, W., Jensen, A.L., Popovych, V., Rosario, M., Vamvakieridou-Iyroudia, L.S., Savić, D.A. (Eds.),

*Climate Change, Water Supply and Sanitation: risk assessment, management, mitigation and reduction*. IWA Publishing, London, UK. ISBN: 9781780404998

Santos, B.F., Leandro, J., Gama, M., Melo, N., **Leitão, J.P.** (2012). Evacuation planning in case of extreme rainfall events: A case study in Azores, Portugal. In Klijn, F., Schwerckendiek, T. (Eds.), *Comprehensive Flood Risk Management: Research for Policy and Practice*. CRC Press/Taylor & Francis Group, London, UK. ISBN: 978-0-415-62144-1

Wang, L., Simões, N., Rico-Ramirez, M., Ochoa, S., **Leitão, J.P.**, Maksimović, Č. (2012) Radar-based pluvial flood forecasting over urban areas: Redbridge case study. In Moore, R. J., Cole, S.J., Illingworth, A.J. (Eds.), *Weather Radar and Hydrology*. IAHS Red Book Series, 351, 632-637. ISBN: 978-1-907161-26-1

Almeida, M.C., **Leitão, J.P.**, Coelho, S.T. (2011). Gestão do risco em infraestruturas urbanas de água: Aplicação a sistemas de águas e de águas residuais. In Almeida, B., *Gestão da Água, Incertezas e Riscos: Conceptualização operacional*. Esfera do Caos, Lisbon, Portugal. ISBN: 978-989-680-044-4

**Leitão, J.P.\***, Boonya-aroonnet, S., Maksimović, Č., Allitt, R., Prodanović, D. (2008). Modelling of flooding and analysis of pluvial flood risk - demo case of UK catchment. In Samuels, P., Huntington, S., Allsop, W., Harrop, J. (Eds.), *Flood Risk Management: Research into Practice*. CRC Press/Balkema, Leiden, the Netherlands. ISBN: 978-0-415-48507-4

#### TECHNICAL PUBLICATIONS

**Leitão, J.P.** (2021). Modellierung der städtischen hitze und des effekts bestehender Blau-grüner infrastrukturen. In Bach, P.M., Probst, N., Maurer, M. Urbane strategien Zur hitzeminderung: wie wirksam sind blau-grüne infrastrukturen? *Aqua & Gas*, 10, 20-25

Peña-Haro, S., Carrel, M., Lüthi, B., Wang, L., Dicht, S., **Leitão, J.P.** (2019). Abflussmessungen mittels Videos. Einsatz von Webcams und Smartphones. *Aqua & Gas*, 99(10), 42-45

Peña-Haro, S., Lüthi, B., Carrel, M., Scheidegger, A., Moy de Vitry, M., **Leitão, J.P.** (2019). Oberflächenabflussmessungen im urbanen raum mittels videomaterial von überwachungskameras. *Aqua & Gas*, 99(5), 44-50

Tokarczyk, P., **Leitão, J.P.**, Rieckermann, J., Schindler, K., Blumensaat, F. (2015). Nutzung von Drohnen und Luftbildern in der Siedlungswasserwirtschaft. *Fachzeitschrift Geomatik Schweiz*, 9, 346-350

Coelho, S., Alegre, H., **Leitão, J.P.**, Cardoso, M.A., Silva, M.S., Ramalho, P., Ribeiro, R., Almeida, M.C. (2015). iGPI and PGPI: national-scale cooperative R&D rollout of IAM planning methods and tools. *Water Asset Management International*, 11(1), 07-10

Marques, J., Saramago, A.P., Silva, M.H., Paiva, C., Coelho, S., Pina, A., Oliveira, S.C., Teixeira, J.P., Camacho, P.C., **Leitão, J.P.**, Coelho, S.T. (2012). Rehabilitation in Oeiras & Amadora: a practical approach. *Water Asset Management International*, 8(3), 19-24

**Leitão, J.P.**, Prodanović, D., Maksimović, Č., Matos, J.S. (2009). Enhancement of Digital Elevation Models for overland flow network delineation on urban catchments. *Water and Sanitary Technology*, 39(6), 19-28

## REFEREED INTERNATIONAL CONFERENCES

Cache, T., Gomez, M.S., Beucler, T., **Leitão, J.P.**, Peleg, N. (2023). Improving the generalizability of urban pluvial flood emulators to untrained cities and rainfall. In *12<sup>th</sup> International Workshop on Precipitation in Urban Areas*, 29 November-2 December, Pontresina, Switzerland (Oral presentation)

Li, S., **Leitão, J.P.**, Wang, Z., Bach, P.M. (2023). A Flood Impact Matrix To Support Sustainable, Targeted Blue-Green-Grey Stormwater Management Solutions. In *11<sup>th</sup> IWA Symposium on Modelling and Integrated Assessment (Watermatex 2023)*, 23-27 September, Quebec city, Canada

Fappiano, F., Maurer, M., **Leitão, J.P.** (2023). Correcting 1D Hydraulic, and 2D Hydrological Data to enable successful 1D-2D Model Coupling. In *11<sup>th</sup> Novatech Conference*, 3-7 July, Lyon, France (Oral presentation)

Bach, P., Kunz, V., Könz, A.-L., Valero Castaneda, A., Molné, F., Donati, G., Buri, N., Molnar, P., Maurer, M., **Leitão, J.P.** (2023). A palette of modelling to support a planning narrative for multi-functional Blue-Green Infrastructures. In *11<sup>th</sup> Novatech Conference*, 3-7 July, Lyon, France (Oral presentation)

Tondera, K., Brelot, E., Fontanel, F., Cherqui, F., Nielsen, J.E., Brüggemann, T., Naismith, I., Goerke, M., López, J.S., Rieckermann, J., **Leitão, J.P.**, Clemens-Meyer, F., Rodenas, A.M., Anta, J., Tait, S., Anta, J. (2023). European stakeholders' visions and needs for stormwater in future urban drainage systems. In *11<sup>th</sup> Novatech Conference*, 3-7 July, Lyon, France (Oral presentation)

Langeveld, J.G., Cherqui, F., Tscheikner-Gratl, F., Mutanna, T.M., **Leitão, J.P.**, Roghani, B., Kerres, K., Almeida, M.C., Wery, C., Rulleau, B. (2023). Asset management for blue-green infrastructures: a scoping review. In *11<sup>th</sup> Novatech Conference*, 3-7 July, Lyon, France (Oral presentation)

Aronica, G.T., **Leitão, J.P.**, Candela, A. (2022). Influence of storm drain inlet locations on urban pluvial flooding hazard at local scale. In *7<sup>th</sup> IAHR Europe Congress*, 7-9 September, Athens, Greece (Oral presentation)

Franz Tscheikner-Gratl, F., Caradot, N., Cherqui, F., **Leitão, J.P.**, Ahmadi, M., Langeveld, J.G., Le Gat, Y., Scholten, L., Roghani, B., Rodriguez, J.P., Lepot, M., Stegeman, B., Heinrichsen, A., Kropp, I., Kerres, K., Almeida, M.C., Bach, P.M., Moy de Vitry, M., Sá Marques, A., Simões, N.E., Rouault, P., Hernandez, N., Torres, A., Wery, C., Rulleau, B., Clemens, F. (2022). Urban drainage asset management – now and future. In *LESAM 2022: 9<sup>th</sup> Leading Edge Conference on Strategic Asset Management*, 11-13 May, Bordeaux, France (Oral presentation)

Peleg, N., **Leitão, J.P.**, Paschalis, A., Fatichi, S., Molnar, P., Burlando, P., (2022). Parameterizing the spatial structure of torrential rain for flood impact assessments. In *XI Scientific Assembly of the International Association of Hydrological Sciences (IAHS 2022)*, 29 May-3 June, Montpellier, France (Oral presentation)

**Leitão, J.P.**, Peña-Haro, S. (2022). Leveraging video data to assess urban pluvial flood hazard. In *12<sup>th</sup> International Conference on Urban Drainage Modelling*, 10-12 January, Costa Mesa (California), USA (Remote oral presentation)

Harpaz, C., Russo, S., **Leitão, J.P.**, Penn, R. (2022). Potential of machine learning for estimating the impact of water efficient scenarios on solids accumulation in sewers. In *12<sup>th</sup> International Conference on Urban Drainage Modelling*, 10-12 January, Costa Mesa (California), USA (Remote oral presentation)



presentation)

Bach, P.M., **Leitão, J.P.**, Maurer, M. (2021). 'Roses are red, water is blue, multi-functional green spaces are for you' – An integrated model for strategic liveability planning. In *ICUD: International Conference on Urban Drainage*, 24-29 October, Melbourne, Australia (Remote oral presentation)

Vurgaft, A., **Leitão, J.P.**, Penn, R. (2021). Effect of user-defined parameters on the characteristics of automatically generated drainage networks with DrainNetGen. In *ICUD: International Conference on Urban Drainage*, 24-29 October, Melbourne, Australia (Remote oral presentation)

Back, Y., Funke, F., Bach, P.M., **Leitão, J.P.**, Rauch, W., Kleidorfer, M. (2021). Comparing urban sub-catchment delineation approaches for dynamic hydrological modelling. In *EGU General Assembly 2021*, EGU21-12004. doi: 10.5194/egusphere-egu21-12004 (Oral presentation)

Probst, N., **Leitão, J.P.**, Bach, P.M. (2020). Temporal and spatial variability of urban heat and insights into blue, green and grey mitigation strategies. In *Closed Cycles and the Circular Society Symposium*, 2-4 September, Wädenswil, Switzerland (Remote oral presentation)

Peleg, N., **Leitão, J.**, Ban, N., Chen, A., Burlando, P. (2020). Projected changes to the structure of sub-hourly extreme storms in Switzerland and its potential impacts on flooding in urban areas. In *ERAD 2020: European Conference on Radar in Meteorology and Hydrology* (Book of abstracts)

Peña-Haro, S., Carrel, M., Wang, L., Dicht, S., Lüthi, B., **Leitão, J.** (2019). Innovative Abflussmessungen in Entwässerungssystemen mittels Videos von Webcams und Smartphones. In *Aqua Urbanica 2019 Conference*, 9-10 September, Rigi Kaltbad, Switzerland

**Leitão, J.P.\***, Zaghoul, M., Moosavi, V. (2018). Modelling overland flow from local inflows in "almost no-time" using Self-Organizing Maps. In *11<sup>th</sup> International Conference on Urban Drainage Modelling*, 23-26 September, Palermo, Italy (Oral presentation)

Moy de Vitry, M., Kramer, S., Villez, K., Dirk Wegner, J., **Leitão, J.P.** (2018). Calibrating urban flood models with qualitative probabilistic flooding information extracted from CCTV footage. In *11<sup>th</sup> International Conference on Urban Drainage Modelling*, 23-26 September, Palermo, Italy (Oral presentation)

Simões, N., Girão, L., Maluf, L., Shepherd, W., Ostojin, S., Sá Marques, A., Mounce, S., Skipworth, P., Tait, S., **Leitão, J.P.** (2018). Real-time CSO spill control using existing in-sewer storage. In *11<sup>th</sup> International Conference on Urban Drainage Modelling*, 23-26 September, Palermo, Italy (Oral presentation)

Rieckermann, J., Blumensaat, F., **Leitão, J.P.**, Ort, C., Scheidegger, A., Vanrolleghem, P.A., Villez, K. (2018). Frontiers in Urban Drainage - How will Ubiquitous Sensing Change Urban Drainage Management? In *11<sup>th</sup> International Conference on Urban Drainage Modelling*, 23-26 September, Palermo, Italy (Oral presentation)

Moy de Vitry, M., Dirk Wegner, J., **Leitão, J.P.** (2018). Automatic flood level trend estimation from CCTV videos with a convolutional neural network classifier. In *13<sup>th</sup> International Conference on Hydroinformatics*, 1-6 July, Palermo, Italy (Oral presentation)

**Leitão, J.P.\***, Peña, S., Lüthi, B., Moy de Vitry, M. (2018). Ermittlung von Oberflächenabflüssen im urbanen Raum mittels Videomaterial von Überwachungskameras. In *Aqua Urbanica 2018*, 18-19 October, Landau in der Pfalz, Germany (Poster presentation)

Boller, D., Moy de Vitry, M., Wegner, J.D., **Leitão, J.P.** (2018). Automatisierte Erfassung von Siedlungsentwässerungsinfrastruktur mittels Straßenbildern und eines künstlichen neuronalen Netzwerks. In *Aqua Urbanica 2018*, 18-19 October, Landau in der Pfalz, Germany (Poster presentation)

de Sousa, L., **Leitão, J.P.** (2018). Improvements to DEM merging with r.mblend. In *GISTAM 2018: 4<sup>th</sup> International Conference on Geographical Information Systems Theory, Application and Management*, 42-49, 17-19 March, Funchal, Portugal. doi: 10.5220/0006672500420049 (Oral presentation)

Bellos, V., Carbajal, J. P., **Leitão, J.P.** (2017). Boosting flood warning schemes with fast emulator of detailed hydrodynamic models. In *2017 AGU Fall Meeting*, 11-15 December, New Orleans, USA (Oral presentation)

Moy de Vitry, M., **Leitão, J.P.** (2017). floodX: open access urban flooding experiments data set. In *14<sup>th</sup> ICUD: International Conference on Urban Drainage*, 10-15 September, Prague, Czech Republic (Poster presentation)

de Sousa, L.M., Gibson, M.J., Chen, A.S., Savić, D.A., **Leitão, J.P.\*** (2017). Exploring the advantages of hexagonal rasters for flood modelling using cellular automata. In *14<sup>th</sup> ICUD: International Conference on Urban Drainage*, 10-15 September, Prague, Czech Republic (Oral presentation)

Pina, R.D.; **Leitão, J.P.**; Simões, N.E.; Sá Marques, J.A. (2017). The impact of time-varying sewer inlet capacity on surface flooding. In *14<sup>th</sup> ICUD: International Conference on Urban Drainage*, 10-15 September, Prague, Czech Republic (Oral presentation)

Maluf, L. Shepherd, W., Ostojin, S., Simões, N., Sá Marques, A., Mounce, S., Skipworth, P., **Leitão, J.P.** (2017). Real time flow control to utilise existing in-sewer storage. In *14<sup>th</sup> ICUD: International Conference on Urban Drainage*, 10-15 September, Prague, Czech Republic (Oral presentation)

de Sousa, L.M., **Leitão, J.P.** (2017). Introducing hex-utils: an hexagonal raster tool-kit. In *FOSS4G-Europe 2017*, 18-22 July, Paris, France (Oral presentation)

de Sousa, L.M., **Leitão, J.P.** (2017). Hex-utils: A Tool Set Supporting HexASCII Hexagonal rasters. In *GISTAM 2017: 3<sup>rd</sup> International Conference on Geographical Information Systems Theory, Application and Management*, 117-183, 27-28 April, Porto, Portugal. doi: 10.5220/0006275801770183 (Oral presentation)

**Leitão, J.P.\*** (2016). New data sources as new opportunities for urban flood modelling. In *14<sup>th</sup> Swiss Geoscience Meeting – Symposium 13: Hydrology, Limnology and Hydrogeology*, 18-19 November, Geneva, Switzerland (Oral presentation; Invited keynote speaker)

**Leitão, J.P.\*** (2016). Effects of merging Digital Elevation Models on flood modelling results. In *12<sup>th</sup> ICHE (2016): International Conference on Hydrosience & Engineering*, 6-10 November, Tainan, Taiwan (Oral presentation; Invited speaker)

**Leitão, J.P.\***, de Sousa, L.M., Carbajal, J.P., Simões, N.E., Rieckermann, J. (2016). Where to install flow control gates in order to maximise in-sewer storage and reduce urban flood risk? In *CCWI 2016: Computer and Control for the Water Industry*, 7-9 November, Amsterdam, the Netherlands (Oral presentation)

Muranho, J., Simões, N.E., Sá Marques, A., Sousa, J., **Leitão, J.P.** (2016). Customisation of SWMM for Automatic Generation of Urban Drainage Networks. In *CCWI 2016: Computer and Control for the Water Industry*, 7-9 November, Amsterdam, the Netherlands (Oral presentation)

Pina, R.D., **Leitão, J.P.**, Simões, N.E., Sá Marques, A. (2016). *Quasi-2D* modelling with SWMM. In *CCWI 2016: Computer and Control for the Water Industry*, 7-9 November, Amsterdam, the Netherlands (Oral presentation)

de Sousa, L.M., Gibson M., Chen A., Savić, D., **Leitão J.P.** (2016). Hexagonal cellular automata for flood modelling. In *CAMUSS 2016: Cellular Automata Modeling for Urban and Spatial Systems Symposium*, 21-23 September, Québec, Canada (Oral presentation)

Torres, M.N., Rodríguez Sánchez, J., **Leitão, J.P.**, de Oliveira Nascimento, N., Granceri, M. (2016). Decision support tools for sustainable urban drainage systems: a systematic quantitative review. In *9<sup>th</sup> Novatech Conference*, 28 June-1 July, Lyon, France (Oral presentation)

Looser, D., Scheidegger, A., Moy de Vitry, M., **Leitao, J.P.**, Rieckermann, J. (2015). The potential of using social media for precipitation and flood assessment. In *10<sup>th</sup> International Workshop on Precipitation in Urban Areas*, 1-5 December, Pontresina, Switzerland (Oral presentation)

**Leitão, J.P.\***, Simões, N.E., Pina, R., Ochoa, S., Sá Marques, A. (2015). Stochastic evaluation of sewer inlet capacity impact on urban pluvial flooding. In *10<sup>th</sup> International Conference on Urban Drainage Modelling*, 20-23 September, Quebec City, Canada (Oral presentation)

**Leitão, J.P.\***, Moy de Vitry, M., Scheidegger, A., Rieckermann, J. (2015). Using drones to improve digital elevation models for urban drainage modelling. In *10<sup>th</sup> International Conference on Urban Drainage Modelling*, Quebec City, Canada (Poster)

Tokarczyk, P., Blumensaat, F., **Leitão, J.P.\***, Rieckermann, J., Wegner, J.D., Schindler, K. (2015). Water run-off modelling based on UAV imagery. In *IGARSS 2015: Remote Sensing – Understanding the Earth for a safer World*, 26-31 July, Milan, Italy (Oral presentation)

Tokarczyk, P., **Leitão, J.P.**, Rieckermann, J., Schindler, K., Blumensaat, F. (2015). Enabling high-quality observations of surface imperviousness for water. In *Geophysical Research Abstracts – EGU General Assembly 2015*, 17, EGU2015-10467, 12-17 April, Vienna, Austria (Oral presentation)

Moy de Vitry, M., **Leitão, J.P.**, Rieckermann, J. (2015). Improving Urban Flood Management with Autonomous Mini-UAVs. In *Drones and Hydraulics, at the service of water professionals*, 8-9 April, Paris-Cachan, France (Poster)

Moy de Vitry, M., **Leitão, J.P.**, Scheidegger, A., Rieckermann, J. (2014). Photogrammetric remote sensing with autonomous mini-drones in urban hydrology. In *Aqua Urbanica 2014*, 23-24 October, Innsbruck, Austria (Oral presentation)

Coelho, S.T., Alegre, H., **Leitão, J.P.**, Cardoso, M.A., Silva, M.S., Ramalho, P., Ribeiro, R., Covas, D., Vitorino, D., Almeida, M.C., Carriço, N. (2014). iGPI: national-scale cooperative R&D rollout of IAM planning methods and tools. In *2014 IWA World Water Congress & Exhibition*, 21-26 September, Lisbon, Portugal (Oral presentation)

Muranho, J., Simões, N.E., Sá Marques, A., Sousa, J., **Leitão, J.P.** (2014). Automatic Generation of Synthetic Urban Drainage Network Models with SWMM. In *13<sup>th</sup> ICUD: International Conference on Urban Drainage*, 7-12 September, Sarawak, Malaysia (Oral presentation)

Simões, N.E., **Leitão, J.P.**, Ochoa Rodríguez, S., Wang, L-P., Sá Marques, A. (2014). Stochastic Urban Pluvial Flood Mapping Based Upon a Spatial-Temporal Stochastic Rainfall Generator. In *13<sup>th</sup> ICUD: International Conference on Urban Drainage*, 7-12 September, Sarawak, Malaysia (Oral presentation)

Torres, M.N., Rodríguez, J.P., **Leitao, J.P.**, Mutis, H.E. (2014). Analysis of the relation between sewer system failures and urban trees. In *13<sup>th</sup> ICUD: International Conference on Urban Drainage*, 7-12 September, Sarawak, Malaysia (Oral presentation)

Torres, M.N., Rodríguez, J.P., **Leitão, J.P.** (2014). Comparison of statistical failure models to support sewer system operation. In *HIC 2014: 11<sup>th</sup> International Conference on Hydroinformatics*, 17-21 August, New York City, USA (Oral presentation)

**Leitão, J.P.\***, Coelho, S.T., Alegre, H., Cardoso, M.A., Silva, M.S., Ramalho, P., Ribeiro, R., Covas, D., Vitorino, D., Almeida, M.C., Carriço, N. (2013). The iGPI collaborative project: moving IAM from science to industry. In *LESAM 2013: 5<sup>th</sup> Leading Edge Conference on Strategic Asset Management*, Sydney, Australia (Oral presentation)

Torres, M.N., Rodríguez, J.P., **Leitão, J.P.**, Coelho, S.T., Díaz-Granados, M.A. (2013). Towards sustainable sewer system operation: a comparison of different statistical models. In *Spatial Statistics 2013*, Columbus, OH, USA (Poster)

**Leitão, J.P.\***, Almeida, M.C., Simões, N.E., Martins, A. (2012). Methodology for qualitative urban flood risk assessment. In *9<sup>th</sup> International Conference on Urban Drainage Modelling*, Belgrade, Serbia (Oral presentation)

Leandro, J., Santos, B., **Leitão, J.P.**, Siekmann, T., Urich, C. (2012). Towards mOre Resilient Cities (ToRC). In *9<sup>th</sup> International Conference on Urban Drainage Modelling*, Belgrade, Serbia (Oral presentation)

Carriço, N., Covas, D., Almeida, M.C., **Leitão, J.P.** (2012). Metodologia de apoio à decisão em sistemas de adução de água: aplicação a um caso de estudo. In *SEREA 2012 – XI Seminário Ibero-Americano sobre Sistemas de Abastecimento e Drenagem*, Coimbra, Portugal (Oral presentation)

**Leitão, J.P.\***, Canholi, A.P., Maksimović, Č. (2011). Assessment of the options for flood attenuation in Anhangabaú catchment (São Paulo, Brazil). In *12<sup>th</sup> International Conference on Urban Drainage*, Porto Alegre, Brazil (Oral presentation)

Simões, N., Ochoa, S., **Leitão, J.P.**, Pina, R., Sá Marques, A., Maksimović, Č. (2011). Urban drainage models for flood forecasting: 1D/1D, 1D/2D and hybrid models. In *12<sup>th</sup> International Conference on Urban Drainage*, Porto Alegre, Brazil (Oral presentation)

Wang, L., Simões, N., Ochoa, S., **Leitão, J.P.**, Pina, R., Onof, C., Sá Marques, A., Maksimović, Č., Carvalho, R., David, L. (2011). An enhanced blend of SVM and Cascade methods for short-term rainfall forecasting. In *12<sup>th</sup> International Conference on Urban Drainage*, Porto Alegre, Brazil (Oral presentation)

Simões, N., Wang, L., Ochoa, S., **Leitão, J.P.**, Pina, R., Onof, C., Sá Marques, A., Maksimović, Č., Carvalho, R., David, L. (2011). A coupled SSA-SVM technique for stochastic short-term rainfall forecasting. In *12<sup>th</sup> International Conference on Urban Drainage*, Porto Alegre, Brazil (Oral presentation)

Simões, N., Wang, L., Ochoa, S., **Leitão, J.P.**, Pina, R., Sá Marques, A., Maksimović, Č., Carvalho, R., David, L. (2011). Urban flood forecast based on raingauge networks. In *12<sup>th</sup> International Conference on Urban Drainage*, Porto Alegre, Brazil (Oral presentation)

Carriço, N., Covas, D., Almeida, M. C., **Leitão, J.P.**, Alegre, H. (2011). Rehabilitation interventions in urban water supply assets using the multicriteria decision tool ELECTRE III. In *11<sup>th</sup> International Conference on Computing and Control for the Water Industry*, Exeter, UK (Oral presentation)

Melo, N., Santos, B.F., **Leitão, J.P.**, Ramos, H., Leandro, J. (2011). Accessibility disruptions in urban areas caused by extreme rainfall events. In *11<sup>th</sup> International Conference on Computing and Control for the Water Industry*, Exeter, UK (Oral presentation)

Carriço, N., Covas, D., Almeida, M. C., **Leitão, J.P.**, Alegre, H. (2011). Prioritization of rehabilitation interventions for urban water assets using multiple criteria decision-aid. In *4<sup>th</sup> Leading Edge Conference on Strategic Asset Management*, Mülheim an Der Ruhr, Germany (Oral presentation)

Marques, M.J., Saramago, A.P., Silva, M.H., Paiva, C., Coelho, S., Pina, A., Oliveira, S.C., Teixeira, J.P., Camacho, P.C., **Leitão, J.P.**, Coelho, S. T. (2011). Rehabilitation in Oeiras&Amadora: a practical approach. In *4<sup>th</sup> Leading Edge Conference on Strategic Asset Management*, Mülheim an Der Ruhr, Germany (Oral presentation)

Wang, L., Simões N., Rico-Ramirez M., Ochoa S., **Leitão J.P.**, Maksimović, Č. (2011). Radar-based pluvial flood forecasting over urban areas: Redbridge case study. In *International Symposium of Weather, Radar and Hydrology*, Exeter, UK (Poster)

Wang, L., Simões, N., **Leitão, J.**, Ochoa, S., McDonald, A., Angles, A., Coat, M., Maksimović, Č. (2010). Real-time forecasting of urban pluvial flooding: a case study in Redbridge, London. In *IPC 10 – International Precipitation Conference*, Coimbra, Portugal (Poster)

**Leitão, J.P.\***, Djordjević, S., Prodanović, D., Maksimović, Č. (2009). Spatially distributed rainfall for surface runoff calculations in urban catchments. In *8<sup>th</sup> International Workshop on Precipitation in Urban Areas*, St. Moritz, Switzerland (Oral presentation)

Hurford, A.P., Maksimović, Č., **Leitão, J.P.** (2009). Urban pluvial flooding in Jakarta: applying state-of-the-art technology in a data scarce environment. In *8<sup>th</sup> International Conference on Urban Drainage Modelling*, Tokyo, Japan (Oral presentation)

**Leitão, J.P.\***, Simões, N. E., Maksimović, Č., Ferreira, F., Prodanović, D., Matos, J.S., Sá Marques, A. (2009). Real-time forecasting urban drainage models: full or simplified networks? In *8<sup>th</sup> International Conference on Urban Drainage Modelling*, Tokyo, Japan (Oral presentation)

Simões, N.E., **Leitão, J.P.**, Maksimović, Č., Sá Marques, A. (2009). Sensitivity analysis of surface runoff generation in urban floods forecasting. In *8<sup>th</sup> International Conference on Urban Drainage Modelling*, Tokyo, Japan (Oral presentation)

Papadopoulou, S., Maksimović, Č., **Leitão, J.P.**, Gobović, B. (2009). Modeling and attenuation of torrent stream urban floods caused by forest fires. In *8<sup>th</sup> International Conference on Urban Drainage Modelling*, Tokyo, Japan (Poster)

Li, M., **Leitão, J.P.**, Maksimović, Č. (2009). Surface runoff modelling for pluvial urban flooding under extreme conditions. In *ASFPM 33<sup>rd</sup> Annual National Conference*, Orlando, Florida, USA (Oral presentation)

Simões, N.E., **Leitão, J.P.**, Maksimović, Č., Sá Marques, A., Matos, J. S. (2009). Complete vs. simplified models for urban flood forecast. In *Flood and Coastal Risk Management Conference 2009*, Telford, UK (Oral presentation)

**Leitão, J.P.**, Simões, N.E., Pina, R., Sá Marques, A., Maksimović, Č., Gonçalves, G. (2009). Surface floods in Coimbra: simple and dual-drainage studies. In *11<sup>th</sup> Plinius Conference on Mediterranean Storms*, Barcelona, Spain (Poster)

**Leitão, J.P.\***, Boonya-aroonnet, S., Maksimović, Č., Allitt, R., Prodanović, D. (2008). Modelling of flooding and analysis of pluvial flood risk - demo case of UK catchment. In *FLOODrisk 2008 – The European Conference on Flood Risk Management*, Oxford, UK (Oral presentation)

Adeyemo, O.J., Maksimović, Č., Boonya-aroonnet, S., **Leitão, J.P.** (2008). Sensitivity analysis of surface runoff generation for pluvial urban flooding. In *11<sup>th</sup> International Conference on Urban Drainage*, Edimburgh, UK (Oral presentation)

**Leitão, J.P.\***, Boonya-aroonnet, S., Prodanović, D., Maksimović, Č. (2008). Influence of DEM resolution on surface flow network for pluvial urban flooding and simulations of integrated system. In *11<sup>th</sup> International Conference on Urban Drainage*, Edimburgh, UK (Oral presentation)

Maksimović, Č., **Leitão, J.P.**, Simões, N., Wang, L., McDonald, A. (2008). Monitoring sewer and overland flow in a urban catchment for real-time forecasting of urban pluvial flooding. In *Monitoring Large-Scale Civil Engineering Infrastructure and the Built Environment – 3<sup>rd</sup> Workshop of the Centre for Pervasive Sensing*, London, UK (Poster)

**Leitão, J.P.\***, Gonçalves, A., Matos, J.S., Matos, J. (2004). Aplicação dos Sistemas de Informação Geográfica ao Traçado de Estruturas Lineares. In *4.<sup>a</sup> Assembleia Luso-Espanhola de Geodesia e Geofísica*, Figueira da Foz, Portugal (Oral presentation)

**Leitão, J.P.\***, Matos, J.S., Gonçalves, A., Matos, J. (2004). Contribution of Geographic Information Systems and Location models to planning of wastewater systems. In *4<sup>th</sup> International Conference on Sewer Processes and Networks*, 22-24 November, Funchal, Madeira, Portugal (Oral presentation)

#### NATIONAL CONFERENCES

Tokarczyk, P., Rieckermann, J., Blumensaat, F., **Leitão, J.P.**, Schindler, K. (2014). UAV-based mapping of surface imperviousness for water runoff modelling. In *12<sup>th</sup> Swiss Geoscience Meeting*, 21-22 November, Fribourg, Switzerland (Oral presentation)

Torres, M.N., Rodríguez, J.P., **Leitão, J.P.**, Mutis, H.E. (2014). Análisis de la relación entre las fallas en el sistema de alcantarillado y el arbolado urbano de la ciudad de Bogotá. In *XXI Seminario Nacional de Hidráulica e Hidrología*, 25-27 September, Villa de Leyva, Boyaca, Colombia (Oral presentation)

Mamouros, L., Martins, B., Mendes, D., Cardoso, M.C., Santos Silva, M., **Leitão, J.P.**, Almeida, M.C., Brôco, N. (2012). Metodologia AWARE-P para apoio à gestão patrimonial de infraestruturas. Caso de Estudo da SANEST. In *15.<sup>o</sup> Encontro Nacional de Saneamento Básico*, Évora, Portugal (Oral presentation)

Almeida, M.C., **Leitão, J.P.**, Vieira, P., Cardoso, M.A., Santos Silva, M., Reis, M.T. (2012). Gestão do risco em infraestruturas urbanas de água e portuárias. In *Jornadas LNEC, Engenharia para a sociedade, investigação e inovação – cidades e desenvolvimento*, Lisboa, Portugal (Oral presentation)

Alegre, H., Coelho, S.T., **Leitão, J.P.** (2012). Gestão patrimonial de infraestruturas em sistemas urbanos de água. In *Jornadas LNEC, Engenharia para a sociedade, investigação e inovação – cidades e desenvolvimento*, Lisboa, Portugal (Oral presentation)

Simões, N. **Leitão, J.P.**, Ochoa, S., Pina, R., Wang, L., Sá Marques, A., Maksimović, Č. (2012). Modelos de drenagem dual para previsão de cheias urbanas. In *11.º Congresso Nacional da Água*, Porto, Portugal (Oral presentation)

Carriço, N., Covas, D., **Leitão, J.P.**, Almeida, M. C., Alegre, H., Mamouros, L., Lopes, L., Mendes, D. (2012). Seleção de opções de reabilitação em infraestruturas urbanas de água: caso de Estudo. In *11.º Congresso Nacional da Água*, Porto, Portugal (Oral presentation)

Oliveira, F., Almeida, M.C., **Leitão, J.P.** (2012). Aplicação para estudo do aproveitamento de águas pluviais em usos urbanos não potáveis. In *11.º Congresso Nacional da Água*, Porto, Portugal (Oral presentation)

Almeida, M.C., Vieira, P., Smeets, P., **Leitão, J.P.** (2012). Abordagem para a gestão do ciclo urbano da água. In *11.º Congresso Nacional da Água*, Porto, Portugal (Oral presentation)

Almeida, M.C., **Leitão, J.P.**, Silva, M.S. (2011). Avaliação da condição estrutural de colectores: inspecção visual com CCTV, requisitos e uso de dados. In *ENEG 2011 - Encontro Nacional de Entidades Gestoras de Água e Saneamento*, Santarém, Portugal (Oral presentation)

Carriço, N., Covas, D., Alegre, H., Almeida, M.C., **Leitão, J.P.** (2010). Estabelecimento de prioridades de reabilitação em redes de distribuição de água. Uma ferramenta multicritério de apoio à decisão. In *14.º Encontro Nacional de Saneamento Básico*, Porto, Portugal (Oral presentation)

**Leitão, J.P.\***, Matos, J.S., Maksimović, Č., (2008). Modelos de simulação de escoamento superficial em meio urbano - potencialidades e limitações. In *13.º Encontro Nacional de Saneamento Básico*, Covilhã, Portugal (Oral presentation)

**Leitão, J.P.\***, Prodanović, D., Maksimović, Č. (2006). Conditioning of Digital Terrain Model (DTM) for overland flow and urban pluvial floods modelling. In *14 Savetovanje SDHI*, Novi Sad, Serbia (Oral presentation)

**Leitão, J.P.\***, Gonçalves, A., Matos, J.S., Matos, J. (2004). Planeamento e Localização de Sistemas de Águas Residuais – Caso de Estudo. In *VIII Encontro de Utilizadores de Informação Geográfica*, Oeiras, Portugal (Oral presentation)

**Leitão, J.P.\***, Gonçalves, A., Matos, J.S., Matos, J. (2004). Aplicação dos Sistemas de Informação Geográfica à Localização de Sistemas de Águas Residuais. In *7.º Congresso da Água*, Lisboa, Portugal (Oral presentation)

Gonçalves, J., **Leitão, J.P.**, Matos, J.S. (2002). Optimização do Transporte e Destino Final de Lamas de ETAR. Caso de Estudo. In *10.º Encontro Nacional de Saneamento Básico*, Braga, Portugal (Oral presentation)

Gonçalves, J., **Leitão, J.P.**, Carvalho, M., Matos, J.S. (2001). Produção e Destino Final de Lamas de ETAR em Portugal – Situação Actual e Perspectiva de Evolução. In *Encontro Nacional de Entidades Gestoras de Água e Saneamento*, Lisboa, Portugal (Oral presentation)

#### TECHNICAL REPORTS

**Leitão, J.P.**, Carbajal, J.P., de Sousa, L.M, Rieckermann, J. (2016): *Report on redundancy and impacts of data uncertainty*. CENTAUR project report (Deliverable 2.4). Available at: [https://www.sheffield.ac.uk/polopoly\\_fs/1.731900!/file/CENTAUR\\_Deliverable\\_2.4\\_Final161003\\_WithNotApprovedNote.pdf](https://www.sheffield.ac.uk/polopoly_fs/1.731900!/file/CENTAUR_Deliverable_2.4_Final161003_WithNotApprovedNote.pdf)

Almeida, M.C., Cardoso, M.A., **Leitão, J.P.** (2012). *Apoio à elaboração de especificação de ficha de registo de observações de inspeção CCTV em coletores e classificação da sua condição*. LNEC report 177/2012 – DHA/NES, 27, Lisboa, Portugal

Vitorino, D., Coelho, S.T., Alegre, H., Martins, A., **Leitão, J.P.**, S. Silva, M. (2012). *AWARE-P software documentation*.

Almeida, M.C., Strehl, C., **Leitão, J.P.**, Mälzer, H.-J. (2011). *Risk reduction measures. Supporting document for RRDB structure*. PREPARED 2011.025 project report

Almeida, M.C., **Leitão, J.P.** (2011). *Register of historical accidents structure*. PREPARED 2011.024 project deliverable

Almeida, M.C., Ugarelli, R., **Leitão, J.P.**, Vieira, P. (2011). *Preliminary water cycle risk identification database (RIDB)*. PREPARED 2011.023 project deliverable

Almeida, M.C., Ugarelli, R., **Leitão, J.P.**, Vieira, P. (2011). *Risk identification database (RIDB) contents and data structure*. PREPARED 2011.022 project deliverable

Ugarelli, R., **Leitão, J.P.**, Almeida, M.C., Bruaset, S. (2011). *Overview of climate change effects which may impact the urban water cycle*. PREPARED 2011.011 project report