

## Short CV dr. ir. Vincent Wolfs

PERSONAL INFO	Vincent Wolfs Born in Hasselt (Belgium), 25/07/1988		
CONTACT	Probabilitas, Sluisstraat 79 b3.01 3000 Leuven, Belgium	Phone: +32 (0)474422003 E-mail: <a href="mailto:vincent.wolfs@probabilitas.be">vincent.wolfs@probabilitas.be</a>	
EXPERTISE	Conceptual modelling, Urban drainage systems, Hydrological and Hydraulic Models, Geospatial applications, Flood risk management, High-resolution hydrodynamic modeling, Hydrological time series analysis, Large dataset management and processing, Machine Learning, Climate variability and Climate change, Big Data, Project management		
BRIEF BIO	<p>Dr. ir. Wolfs' research focuses on decision support for water management through analysis, modelling and optimization of hydrology, rivers, floodplains and urban drainage systems. He is specialized in river and urban drainage modelling using a broad gammut of approaches, ranging from highly detailed hydrodynamic methods to very fast and conceptual approaches. For the latter, he developed new conceptual modelling approaches and software tools merging process-based and data-driven (machine learning) model structures.</p> <p>He published his research findings in over 40 international peer-reviewed journal and conference articles, and supervised over 20 Master theses. Dr. ir. Wolfs is particularly interested in bridging the gap between academia and practice, and valorizing innovative technologies. In this context, he is co-founder and general manager of Sumaqua. In addition, Vincent is managing director of the company Probabilitas, which delivers in-house built software tools for flood and quake risk analyses for the insurance and reinsurance sector. Also, he is chairman of the working group "concept and design of sewer and source control systems" within VLARIO (the knowledge platform of sewers in Flanders) and expert for various Flemish committees on water system design.</p>		
EDUCATION	<b>KU Leuven (University of Leuven)</b> , Leuven, Belgium		
	Ph.D.	Civil Engineering	January 2016
	M.Sc.	Civil Engineering	June 2011
	B.Sc.	Civil Engineering	June 2009
PROFESSIONAL EXPERIENCE	<b><u>Sumaqua</u></b> , Leuven, Belgium <span style="float: right;"><b>March 2017 to present</b></span>		
	<b>Managing director</b>		
	<ul style="list-style-type: none"> <li>• Business developer and project acquisition</li> <li>• Coordinator of strategic R&amp;D</li> <li>• Sole developer of the software "Sirio", now being used by 100+ organisations</li> <li>• Coordinator of the following projects:               <ul style="list-style-type: none"> <li>○ "Impactmonitoring of the Blue Deal" – Flemish Government, 2021-2023.</li> <li>○ "Water balance study and integrated water planning of the Oudlandpolder" – Flemish Environment Agency, Province West-Vlaanderen, Vlaamse Landmaatschappij, 2021-2022.</li> <li>○ "Quantification and mapping of droughts in Flanders through hydrological modelling" – Flemish Environment Agency, 2018-2020</li> <li>○ "PEREX: development and implementation of an operational flood forecasting system for all navigable waterways in the Walloon region" – S.P.W., 2019-2022</li> <li>○ "Brussels Airport - Strategic Vision 2040" - Brussels Airport Company, 2019-2022.</li> <li>○ "Development of the rainwater management of the Hertogensite, Leuven" – Resiterra, 2021</li> <li>○ "Development of a sustainable and future proof rainwater management plan for the Raghenos site, Mechelen" – City of Mechelen, 2021-2022.</li> <li>○ "Development and operationalization of the "Blauwgroenpeil" – VLARIO, Departement Omgeving, Vlaamse Confederatie Bouw, 2020-2021.</li> </ul> </li> </ul>		

- "Climate impact and risk analysis, and climate adaptation planning for the region Meetjesland" - Province Oost-Vlaanderen, Veneco, 2018-2019
- "Climate impact and risk analysis, and climate adaptation planning for the historical city of Bruges" - City of Bruges, 2018-2019; 2019 – 2021.
- "Guidance committee for the Water+Land+Schap program, responsible for aspects water", 2019-2022
- "Guidance committee for the Water+Land+Schap 2.0 program, responsible for aspects water", 2022
- "Update ground water indicator (Grondwaterstandsindicator)", 2019-2020; 2021-2022.
- "Impact of the new Flanders Spatial Policy Plan ("Beleidsplan Ruimte Vlaanderen") and climate change on sewer infrastructure in Flanders" – VLARIO, 2017-2018
- "Development of the drought plan of the city of Ghent" – City of Ghent, 2020-2021
- "Development of the drought plan of the city of Leuven" – City of Leuven, 2019-2020
- "RainBrain: the intelligent green roof – deployment in Antwerp (BE) and Eindhoven (NL)" – SynchroniCity, 2019
- "Conceptual flood modelling of the city of 's Hertogenbosch: rivers Aa en Vossenbeemd" – Waterschap Aa en Maas, 2019; 2021-2022
- "FORWARD: Operational monitoring and forecasting system for resilience of agriculture and forestry under intensification of the water cycle: a Big Data approach." - ERA-NET WaterWorks, 2017-2019
- "Integration of conceptual models in the hydrological modelling instrumentarium of iFramework", 2020-2021.

Probabilitas, Leuven, Belgium

January 2021 to present

**Managing director**

- Responsible for daily management and client acquisition
- Coordinator of strategic R&D
- Developer of QFLAT and ETB: probabilistic flood and quake risk tools

VLARIO, Genk, Belgium

September 2019 to present

**Chairman of the working group "concept and design of sewer systems and source control measures"**

- Responsible for the coordination of the working group on the concept and design of sewer systems and source control measures, counting 30+ organisations
- Strategic planning of the working group
- Defining topics
- Knowledge dissemination

KU Leuven (University of Leuven), Leuven, Belgium

September 2011 to January 2022

**Research Fellow (PhD and postdoctoral)**

- Development of novel conceptual modelling approaches for river and sewer systems
- Development and application of 2D, 1D-2D and 0D urban flood modelling
- Machine learning and Big Data for water systems
- Decision support in water management
- Climate change impact and adaptation planning
- (International) visiting lectureships, training and workshops
- Principal researcher in the following projects:
  - "BRIGAID project", EU Horizon 2020 - testing and scaling of innovations in disaster resilience
  - "PUCS - Climate-fit.city project", EU Horizon 2020 - 2D urban inundation modelling under current and future climate conditions
  - "Implementation of a non-linear model predictive control system for real-time flood control in the river Demer basin" - Flemish Environment Agency

- “Organisation, infrastructure and proof of concept of a Water Data Infrastructure for Next-Generation e-Water-Services”, Flemish Environment Agency - Development of novel modelling approaches
- “Open modelling system for integrated river basin water management based on conceptual models” - Flanders Hydraulics Research

PHD THESIS

**Wolfs, V.** (2016). “Conceptual model structure identification and calibration for river and sewer systems”, Willems, P. (sup.), KU Leuven – PhD in Civil Engineering.

SELECTED PUBLICATIONS AND REPORTS

- **Wolfs, V.**, (2020). Analyse en optimalisatie hemelwaterhuishouding van de Hertogensite in Leuven. Rapport studie voor Resiterra, november 2020.
- Meert, P., **Wolfs, V.**, Willems, P. (2019). Regionaal klimaatadaptatieplan Meetjesland. Rapport studie voor Veneco en Provincie Oost-Vlaanderen, januari 2019.
- Willems, P., **Wolfs, V.** (2019). Analyse drinkwaterverbruik. Rapport studie voor VMM, januari 2019
- **Wolfs, V.**, Willems, P. (2019). Analyse historische droogte en ontwerprichtlijnen bronmaatregelen onder klimaatverandering. Rapport studie voor VMM, januari 2019
- Meert, P., **Wolfs, V.**, Willems, P. (2018). Risico- en kwetsbaarheidsanalyse voor het Meetjesland onder klimaatverandering. Rapport studie voor Veneco en Provincie Oost-Vlaanderen, september 2018
- **Wolfs, V.**, Ntegeka, V., Willems, P., Francken, W. (2018). Impact van klimaatverandering op rioleringen. Rapport studie voor VLARIO, november 2018
- **Wolfs, V.**, Meert, P., Willems, P. (2018). Potentieel ondergrondse waterbuffer onder het Koning Albertpark. Nota voor Stad Brugge
- **Wolfs, V.**, Ntegeka, V., Willems, P., Francken, W. (2018). Impact van het Beleidsplan Ruimte Vlaanderen op rioleringen. Rapport studie voor VLARIO, april 2018

See the attached full publication list for a complete overview of publications.

VARIA

- Member of the multidisciplinary expert panel “Flood protection Flanders” of the Flemish Government, chaired by the Minister for Mobility and Public Works and the Minister for Environment, since 2021.
- Member of the advisory committee of VLARIO – Knowledge platform of the urban water sector in Flanders, since 2019.
- Board member of Life ACLIMA – EU Life project to improve water availability in the agricultural and horticultural sectors, since 2021.
- Chairman working group on the “concept and design of sewers and source control measures” within VLARIO, since 2019.
- Expert in various working groups within the Coordination Commission Integrated Water Management (CIW) Flanders.
- Participation in expert panels for various national and international R&D projects, including BRIGAD (EU – H2020; 2016-2020); FORWARD (ERA-NET; 2016-2019); DIGIWATER (EU – Erasmus+ Knowledge Alliance; 2020-2023), OP-PEIL (VLAIO) and Digistuw (VLAIO).
- Member of the EGU Division on Hydrological Sciences (HS).
- Prijs New Scientist Wetenschapstalent 2019: nominated by KU Leuven SET group.
- International visiting lectureships: guest lectures in Hanoi, Vietnam on urban water systems (2018); and TU Delft on conceptual models (2016).
- Practice instructor of various courses, including Sanitaire Bouwwerken (urban drainage; 2011-2021), Probabilistic design (2011-2021), Hydraulics (2014), Hydrological measurements in practice (2011-2017) at KU Leuven, and
- Granted a personal IWT (VLAIO) scholarship for his PhD “Semi-automatic model structure identification and calibration for river and sewer systems”, 2011-2015.
- Granted a personal VLAIO scholarship “Innovatiemandaat” to found Sumaqua, 2016-2017.

- Nominated ie-prijs for his Master-thesis 2011, entitled "Adaptieve maatregelen tegen overstromingen in het Denderbekken" (adaptive measures against flooding in the Dender basin).