

Andreas Scheidegger

Statistician \cup Data Scientist



personal

Swiss and German citizen,
19th June 1983

contact

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Switzerland
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research



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ResearchGate



GitHub
<https://github.com/scheidan>

homepage
<http://tinyurl.com/hg4jblj>

software

R, Julia, Python,
C, Fortran, SQL,
Stan, Maxima,
L^AT_EX, Emacs, Git

experience

- 2018–now **Statistician & Scientist** Eawag: Swiss Federal Institute of Aquatic Science and Technology
Department Systems Analysis, Integrated Assessment and Modelling
Selection of tasks:
- Provide and coordinate statistical consulting and method development across research departments at Eawag
 - Contributing to scientific publications (→ see list of publications below)
 - Teaching statistics, machine learning, Bayesian inference, hierarchical models (→ see also lecturing below)
 - Presenting at international scientific conferences (→ see list of presentations below)
- 2011–2018 **Statistician & Scientist** Eawag: Swiss Federal Institute of Aquatic Science and Technology
Department of Urban Water Management
Selection of tasks:
- Statistical consulting and method development
 - Coordination of data management activities in the department
 - Bayesian uncertainty analysis of environmental models
 - Development of a generic data assimilation approach for rain sensors
 - Various software implementations in R, Julia and Python
- 2008–2009 **Research Assistant** Eawag: Swiss Federal Institute of Aquatic Science and Technology
Department of Urban Water Management
(7 month as part of civil service)
Main tasks:
- Development of a benchmark for sewer deterioration models
 - Development of landscape metrics to characterize network infrastructures
 - Various programming tasks
- 2005–2008 **Draftsman** Suter•von•Känel•Wild•AG
during semester breaks
- 2004–2005 **Internship as urban and regional planner** Suter•von•Känel•Wild•AG

education

- 2020–ongoing **CAS Didactic for University Teaching** Zurich University of Teacher Education
Official program name: *CAS Hochschuldidaktik*
- 2010 **Master of Applied Statistics** Australian National University, Canberra
Average mark: 78 of 100; highest average of the year, see *Ian Castles Prize* below.
- 2005–2008 **Bachelor in Engineering: Data Analysis and Process Design** Zurich University of applied Sciences, Winterthur
Bachelor thesis: *Classification of feeding behavior of dairy cattle*
Average mark: 5.62 of 6, within the top 10%.
- 1999–2003 **Apprenticeship as electronic technician** RUAG Aerospace, Dübendorf

further education

2018	Engaging students through Design Thinking Center of University Teaching and Learning	ETH Zurich
2017	Big Data Analysis in Earth Sciences Summer School	University of Aegean, Greece
2016	Backward course design: a learner-centred approach to course design and lesson planning Center of University Teaching and Learning	ETH Zurich
2016	Copula: Theory and Application in Natural Hazard and Risk Research	University Stuttgart
2015	International Winter School on Big Data	Universitat Rovira i Virgili, Spain

honors/awards

2017	Bronze winner on water track Most innovative ideas to support the UN Sustainable Development Goals	Unleash Lab, Copenhagen
2017	Selected as SDG talent “Selected to attend the first UNLEASH event through a highly competitive global search process”	Unleash Lab, Copenhagen
2010	Ian Castles Prize For highest aggregated mark in the program <i>Master of Applied Statistics</i> in 2010.	Australian National University, Canberra

lecturing

2016–2020	Models for Water Infrastructure Management Lectures and tutorials. Part of the <i>Infrastructure Systems in Urban Water Management</i> course.	ETHZ
2013–2019	Summer School of Environmental Systems Analysis Various Lectures on <i>Bayesian Computation, Likelihood functions, probability calculus, Sensitivity Analysis</i> .	Eawag

civil service

2008–2009	Research assistance Seven month, see work experience above.	Swiss Federal Institute of Aquatic Science and Technology, Eawag
2004	Support of asylum seekers Four month	Asylkoordination Winterthur

publications

articles peer-reviewed

- Andriessen, N., A. Scheidegger, L. Strande, J. M. Tembo, and J. Kabika (2020). “Faecal Sludge Quantities and Qualities (Q&Q) in Lusaka”.
- Gold, M. et al. (2020). “Estimating Black Soldier Fly Larvae Biowaste Conversion Performance by Simulation of Midgut Digestion”. en. *Waste Management* 112, pp. 40–51. ISSN: 0956053X. DOI: [10.1016/j.wasman.2020.05.026](https://doi.org/10.1016/j.wasman.2020.05.026).

- Hadengue, B., **A. Scheidegger**, E. Morgenroth, and T. A. Larsen (2020). “Modeling the Water-Energy Nexus in Households”. *Energy and Buildings* 225, p. 110262. ISSN: 0378-7788. DOI: [10.1016/j.enbuild.2020.110262](https://doi.org/10.1016/j.enbuild.2020.110262).
- Spuhler, D., **A. Scheidegger**, and M. Maurer (2020). “Comparative Analysis of Sanitation Systems for Resource Recovery: Influence of Configurations and Single Technology Components”. *Water Research*, p. 116281. ISSN: 0043-1354. DOI: [10.1016/j.watres.2020.116281](https://doi.org/10.1016/j.watres.2020.116281).
- Strande, L., M. Englund, N. Andriessen, J. P. Carbajal, and **A. Scheidegger** (2020). “Estimating Quantities and Qualities (Q&Q) of Faecal Sludge at Community to Citywide Scales”.
- Wielinski, J., F. F. Marafatto, A. Gogos, **A. Scheidegger**, A. Voegelin, C. R. Müller, E. Morgenroth, and R. Kaegi (2020). “Synchrotron Hard X-Ray Chemical Imaging of Trace Element Speciation in Heterogeneous Samples: Development of Criteria for Uncertainty Analysis”. *Journal of Analytical Atomic Spectrometry*.
- Blumensaat, F., J. P. Leitão, C. Ort, J. Rieckermann, **A. Scheidegger**, P. A. Vanrolleghem, and K. Villez (2019). “How Urban Storm- and Wastewater Management Prepares for Emerging Opportunities and Threats: Digital Transformation, Ubiquitous Sensing, New Data Sources, and Beyond - A Horizon Scan”. *Environmental Science & Technology*. ISSN: 0013-936X. DOI: [10.1021/acs.est.8b06481](https://doi.org/10.1021/acs.est.8b06481).
- Hadengue, B., **A. Scheidegger**, E. Morgenroth, and T. A. Larsen (2019). “The Waterhub Modules: Material and Energy Flow Analysis of Domestic Hot Water Systems”. *Proceedings of the 13th international modelica conference* 157, pp. 639–646. ISSN: 1650-3740. DOI: [10.3384/ecp19157639](https://doi.org/10.3384/ecp19157639).
- Mutzner, L., E. L. M. Vermeirssen, S. Mangold, M. Maurer, **A. Scheidegger**, H. Singer, K. Booiij, and C. Ort (2019). “Passive Samplers to Quantify Micropollutants in Sewer Overflows: Accumulation Behaviour and Field Validation for Short Pollution Events”. *Water Research* 160, pp. 350–360. ISSN: 0043-1354. DOI: [10.1016/j.watres.2019.04.012](https://doi.org/10.1016/j.watres.2019.04.012).
- Penn, R., M. Maurer, F.-G. Michalec, **A. Scheidegger**, J. Zhou, and M. Holzner (2019). “Quantifying Physical Disintegration of Faeces in Sewers: Stochastic Model and Flow Reactor Experiments”. *Water research* 152, pp. 159–170. DOI: [10.1016/j.watres.2018.12.037](https://doi.org/10.1016/j.watres.2018.12.037).
- Popp, A. L., **A. Scheidegger**, C. Moeck, M. S. Brennwald, and R. Kipfer (2019). “Integrating Bayesian Groundwater Mixing Modeling With On-Site Helium Analysis to Identify Unknown Water Sources”. *Water Resources Research*. DOI: [10.1029/2019WR025677](https://doi.org/10.1029/2019WR025677).
- Wani, O., **A. Scheidegger**, F. Cecinati, G. Espadas, and J. Rieckermann (2019). “Exploring a Copula-Based Alternative to Additive Error Models—for Non-Negative and Autocorrelated Time Series in Hydrology”. *Journal of Hydrology* 575, pp. 1031–1040. ISSN: 0022-1694. DOI: [10.1016/j.jhydrol.2019.06.006](https://doi.org/10.1016/j.jhydrol.2019.06.006).
- Leitão, J. P., S. Peña-Haro, B. Lüthi, **A. Scheidegger**, and M. Moy de Vitry (2018). “Urban Overland Runoff Velocity Measurement with Consumer-Grade Surveillance Cameras and Surface Structure Image Velocimetry”. *Journal of Hydrology* 565, pp. 791–804. ISSN: 0022-1694. DOI: [10.1016/j.jhydrol.2018.09.001](https://doi.org/10.1016/j.jhydrol.2018.09.001).
- Spuhler, D., **A. Scheidegger**, and M. Maurer (2018). “Generation of Sanitation System Options for Urban Planning Considering Novel Technologies”. *Water Research* 145, pp. 259–278. ISSN: 0043-1354. DOI: [10.1016/j.watres.2018.08.021](https://doi.org/10.1016/j.watres.2018.08.021).
- Wani, O., **A. Scheidegger**, J. P. Carbajal, J. Rieckermann, and F. Blumensaat (2017). “Parameter estimation of hydrologic models using a likelihood function for censored and binary observations”. *Water Research* 121 (Supplement C), pp. 290–301. ISSN: 0043-1354. DOI: [10.1016/j.watres.2017.05.038](https://doi.org/10.1016/j.watres.2017.05.038).
- Leitão, J. P., M. Moy de Vitry, A. Scheidegger, and J. Rieckermann (2016). “Assessing the Quality of Digital Elevation Models Obtained from Mini Unmanned Aerial Vehicles for Overland Flow Modelling in Urban Areas”. *Hydrol. Earth Syst. Sci.* 20.4, pp. 1637–1653. ISSN: 1607-7938. DOI: [10.5194/hess-20-1637-2016](https://doi.org/10.5194/hess-20-1637-2016).

- McCall, A.-K., **A. Scheidegger**, M. M. Madry, A. E. Steuer, D. G. Weissbrodt, P. A. Vanrolleghem, T. Krämer, E. Morgenroth, and C. Ort (2016). "Influence of different sewer biofilms on transformation rates of drugs". *Environmental Science & Technology* 50.24, pp. 13351–13360.
- Albert, C., H. R. Künsch, and **A. Scheidegger** (Nov. 2015). "A simulated annealing approach to approximate Bayes computations". *Statistics and Computing* 25.6, pp. 1217–1232. ISSN: 0960-3174, 1573-1375. DOI: [10.1007/s11222-014-9507-8](https://doi.org/10.1007/s11222-014-9507-8).
- Helbling, D. E., D. R. Johnson, T. K. Lee, **A. Scheidegger**, and K. Fenner (2015). "A framework for establishing predictive relationships between specific bacterial 16S rRNA sequence abundances and biotransformation rates". *Water Research* 70, pp. 471–484. ISSN: 0043-1354.
- Scheidegger, A.**, J. P. Leitão, and L. Scholten (Oct. 15, 2015). "Statistical failure models for water distribution pipes – A review from a unified perspective". *Water Research* 83, pp. 237–247. ISSN: 0043-1354. DOI: [10.1016/j.watres.2015.06.027](https://doi.org/10.1016/j.watres.2015.06.027).
- Gulde, R., D. E. Helbling, **A. Scheidegger**, and K. Fenner (2014). "pH-Dependent Biotransformation of Ionizable Organic Micropollutants in Activated Sludge". *Environmental Science & Technology* 48.23, pp. 13760–13768. ISSN: 0013-936X. DOI: [10.1021/es5037139](https://doi.org/10.1021/es5037139).
- Honti, M., A. Scheidegger, and C. Stamm (2014). "Importance of hydrological uncertainty assessment methods in climate change impact studies". *Hydrology and Earth System Sciences Discussions* 11.1, pp. 501–553.
- Ort, C., J. Eppler, A. Scheidegger, J. Rieckermann, M. Kinzig, and F. Sörgel (2014). "Challenges of surveying wastewater drug loads of small populations and generalizable aspects on optimizing monitoring design". *Addiction* 109.3, pp. 472–481. ISSN: 0965-2140. DOI: [10.1111/add.12405](https://doi.org/10.1111/add.12405).
- Scholten, L., **A. Scheidegger**, P. Reichert, M. Mauer, and J. Lienert (2014). "Strategic rehabilitation planning of piped water networks using multi-criteria decision analysis". *Water research* 49, pp. 124–143.
- Del Giudice, D., M. Honti, **A. Scheidegger**, C. Albert, P. Reichert, and J. Rieckermann (2013b). "Improving uncertainty estimation in urban hydrological modeling by statistically describing bias". *Hydrol. Earth Syst. Sci.*
- Egger, C., A. Scheidegger, P. Reichert, and M. Maurer (2013). "Sewer deterioration modeling with condition data lacking historical records". *Water Research* 47.17, pp. 6762–6779. ISSN: 0043-1354. DOI: [10.1016/j.watres.2013.09.010](https://doi.org/10.1016/j.watres.2013.09.010).
- Maurer, M., **A. Scheidegger**, and A. Herlyn (2013). "Quantifying costs and lengths of urban drainage systems with a simple static sewer infrastructure model". *Urban Water Journal* 10.4, pp. 268–280. ISSN: 1573062X. DOI: [10.1080/1573062X.2012.731072](https://doi.org/10.1080/1573062X.2012.731072).
- O'Brien, J. W., P. K. Thai, G. Eaglesham, C. Ort, **A. Scheidegger**, S. Carter, F. Yin Lai, and J. F. Mueller (2013). "A model to estimate the population contributing to the wastewater using samples collected on census day". *Environmental science & technology*.
- Scheidegger, A.**, L. Scholten, M. Maurer, and P. Reichert (2013). "Extension of pipe failure models to consider the absence of data from replaced pipes". *Water Research* 47.11, pp. 3696–3705. ISSN: 0043-1354. DOI: [10.1016/j.watres.2013.04.017](https://doi.org/10.1016/j.watres.2013.04.017).
- Scholten, L., **A. Scheidegger**, P. Reichert, and M. Maurer (2013). "Combining expert knowledge and local data for improved service life modeling of water supply networks". *Environmental Modelling & Software* 42, pp. 1–16. ISSN: 1364-8152. DOI: [10.1016/j.envsoft.2012.11.013](https://doi.org/10.1016/j.envsoft.2012.11.013).
- Sikorska, A. E., A. Scheidegger, K. Banasik, and J. Rieckermann (2013). "Considering rating curve uncertainty in water level predictions". *Hydrol. Earth Syst. Sci.* 17.11, pp. 4415–4427. ISSN: 1607-7938. DOI: [10.5194/hess-17-4415-2013](https://doi.org/10.5194/hess-17-4415-2013).
- Derlon, N., M. Peter-Varbanets, **A. Scheidegger**, W. Pronk, and E. Morgenroth (2012). "Predation influences the structure of biofilm developed on ultrafiltration membranes". *Water Research* 46.10, pp. 3323–3333. ISSN: 0043-1354. DOI: [10.1016/j.watres.2012.03.031](https://doi.org/10.1016/j.watres.2012.03.031).
- Scheidegger, A.** and M. Maurer (2012). "Identifying biases in deterioration models using synthetic sewer data." *Water Science and Technology* 66.11, pp. 2363–2369. ISSN: 0273-1223.

- Sikorska, A. E., **A. Scheidegger**, K. Banasik, and J. Rieckermann (2012). “Bayesian uncertainty assessment of flood predictions in ungauged urban basins for conceptual rainfall-runoff models”. *Hydrol. Earth Syst. Sci.* 16.4, pp. 1221–1236. ISSN: 1607-7938. DOI: [10.5194/hess-16-1221-2012](https://doi.org/10.5194/hess-16-1221-2012).
- Stauffer, P., **A. Scheidegger**, and J. Rieckermann (2012a). “Assessing the performance of sewer rehabilitation on the reduction of infiltration and inflow”. *Water Research*.
- Rieckermann, J., J. Anta, **A. Scheidegger**, and C. Ort (2011a). “Assessing Wastewater Micropollutant Loads with Approximate Bayesian Computations”. *Environ. Sci. Technol.* 45.10, pp. 4399–4406. ISSN: 0013-936X. DOI: [10.1021/es1030432](https://doi.org/10.1021/es1030432).
- Scheidegger, A.**, T. Hug, J. Rieckermann, and M. Maurer (2011). “Network condition simulator for benchmarking sewer deterioration models”. *Water Research* 45, pp. 4983–4994.

articles submitted

- Popp, A., A. Pardo-Alvarez, O. Schilling, S. Musy, **A. Scheidegger**, M. Peel, R. Purtschert, D. Hunkeler, P. Brunnner, and R. Kipfer (submitted). “A Framework for Untangling Transient Groundwater Mixing and Travel Times”. *Water Resources Research*.
- Rehberger, K., B. Escher, **A. Scheidegger**, I. Werner, and H. Segner (submitted). “Evaluation of an in Vitro Assay to Screen for the Immunotoxic Potential of Chemicals to Fish”. Scientific Reports.

articles in preparation

- Caradoma, B., **A. Scheidegger**, J. Brodersen, and N. Schuwirth (in preparation). “Bridging Mechanistic Conceptual Models and Statistical Species Distribution Models of Freshwater Fish in Switzerland”.
- Dejanic, S., **A. Scheidegger**, J. Rieckermann, D. Kavetski, and C. Albert (in preparation). “Appraisal of Jump Distributions in Ensemble Based Sampling Algorithms”. *Proceedings of the National Academy of Sciences*.
- Spuhler, D., **A. Scheidegger**, and M. Maurer (in preparation). “Ex-Ante Quantification of Nutrient, Total Solids, and Water Flows in Sanitation Systems”. *Journal of Environmental Management*.
- Ward, B., N. Andriessen, M. Grau, **A. Scheidegger**, J. M. Tembo, J. Kabika, E. Morgenroth, and L. Strande (in preparation). “Predictive Models from Cheap and Easy Field Measurements: Can They Fill a Gap in Fecal Sludge Characterization and Monitoring?”

reports and book chapters

- Andriessen, N., **A. Scheidegger**, L. Strande, J. M. Tembo, and J. Kabika (2020). “Faecal Sludge Quantities and Qualities (Q&Q) in Lusaka”.
- Strande, L., M. Englund, N. Andriessen, J. P. Carbajal, and **A. Scheidegger** (2020). “Estimating Quantities and Qualities (Q&Q) of Faecal Sludge at Community to Citywide Scales”.

non peer-reviewed articles

- Mutzner, L., S. Mangold, S. Dicht, C. Bohren, E. L. M. Vermeirssen, **A. Scheidegger**, H. Singer, and C. Ort (2019). “Mikroverunreinigungen Aus Siedlungen”. *Aqua und Gas* 10, pp. 28–35.
- Peña-Haro, S., B. Lüthi, M. Carrel, **A. Scheidegger**, M. Moy de Vitry, and J. P. Leitão (2019). “Es überschwemmt und keiner sieht zu?!” *Aqua und Gas* 5, pp. 44–50.
- Spuhler, D. and **A. Scheidegger** (2019). “From Innovative Sanitation Technologies to Sustainable Sanitation Concepts”. *The Source*, p. 60.
- Egger, C., **A. Scheidegger**, and M. Maurer (2015). “Bestimmung von Alterungsparametern von Kanalisationsleitungen”. *Aqua und Gas*.

- Maurer, M. and **A. Scheidegger** (2015). “Prognosen zum Sanierungsbedarf der Schweizer Kanalisation”. *der bauingenieur* 1.
- Scholten, L., M. Maurer, and **A. Scheidegger** (2014). “Zustandsmodellierung kleiner Versorgungsnetze”. *Aqua und Gas* 6, pp. 51–58.
- Scheidegger, A.**, P. Beutler, and M. Maurer (2013). “Prognosen zum Sanierungsbedarf der Schweizer Kanalisation”. *Aqua und Gas* 93.1, pp. 16–20.

conference proceedings

- Blumensaat, F., A. Scheidegger, C. Ebi, S. Dicht, F. Schaltegger, A. Rüst, U. Schmitt, and M. Maurer (2018). “Digitalization Meets Reality – Concept and Experiences from Long- Term Wireless Data Collection with 50+ Sewer Monitors”. In: *Urban Drainage Modeling*. Palermo, Italy.
- Disch, A., **A. Scheidegger**, O. Wani, and J. Rieckermann (2018). “Impact of Different Sources of Precipitation Data on Urban Rainfall-Runoff Predictions: A Comparison of Rain Gauges, Commercial Microwave Links and Radar”. In: *Urban Rain*. Pontresina, Switzerland.
- Rieckermann, J., F. Blumensaat, J. P. Leitao, C. Ort, **A. Scheidegger**, P. A. Vanrolleghem, and K. Villez (2018). “Frontiers in Urban Drainage - How Will Ubiquitous Sensing Change Urban Drainage Management?” In: *Urban Drainage Modeling*. Palermo, Italy.
- Mutzner, L., S. Mangold, M. Maurer, **A. Scheidegger**, H. Singer, E. Vermeirssen, and C. Ort (2017). “Passive sampling: An efficient way to monitor micropollutants in sewer overflows?” In: ICUD. Prag, Czech Republic.
- Scheidegger, A.** (2016). “Recurrent Neuronal Network Tailored for Weather Radar Nowcasting”. In: GeoMLA. Belgrad, Serbia.
- Wani, O., F. Blumensaat, **A. Scheidegger**, T. Doppler, and J. Rieckermann (2015). “Parameter estimation of urban drainage models using binary observations from low-cost sensors”. In: 10th International Urban Drainage Modelling Conference. Monte-Sainte-Anne.
- Fu, R., D. Del Giudice, **A. Scheidegger**, and J. Rieckermann (2014). “Rainfall estimates from Telecommunications microwave links improve urban runoff predictions”. In: International Symposium Weather Radar and Hydrology. Washington, DC.
- Scheidegger, A.** and J. Rieckermann (2014a). “A generic assimilation method to compute rainfall maps from traditional and novel sensors”. In: 13th International Conference on Urban Drainage. Sarawak, Malaysia.
- Scheidegger, A.** and J. Rieckermann (2014b). “Bayesian assimilation of rainfall sensors with fundamentally different integration characteristics”. In: International Symposium Weather Radar and Hydrology. Washington, DC.
- Del Giudice, D., M. Honti, **A. Scheidegger**, C. Albert, P. Reichert, and J. Rieckermann (2013a). “Berücksichtigung von systematischen Modellabweichungen in der Kanalnetzsimulation”. In: *Gewässerschutz bei Regenwetter – Gemeinschaftsaufgabe für Stadtplaner, Ingenieure und Ökologen*. Aqua Urbanica. Duebendorf, Switzerland.
- Ort, C. and **A. Scheidegger** (2012). “Optimize sampling for micropollutants in urban drainage systems with pump stations – a conceptual hydraulic model”. In: Urban Drainage Modeling Conference, UDM. Belgrad.
- Schatzmann, A., **A. Scheidegger**, J. Rieckermann, and A. Ruckstuhl (2012). “Robust extraction of rain-induced attenuation from microwave link observations using local regression”. In: 9th International Workshop on Precipitation in Urban Areas Urban Challenges in Rainfall Analysis. St. Moritz, Switzerland.
- Sikorska, A. E., **A. Scheidegger**, A. C. Chiaia-Hernandez, J. Hollender, and J. Rieckermann (2012). “Tracing of micropollutants sources in urban receiving waters based on sediment fingerprinting”. In: Urban Drainage Modeling Conference, UDM. Belgrad.
- Stauffer, P., **A. Scheidegger**, and J. Rieckermann (2012b). “Performance evaluation with ANOVA regression models in urban drainage – the example of groundwater infiltration”. In: Urban Drainage Modeling Conference, UDM. Belgrad.

Rieckermann, J., J. Anta, **A. Scheidegger**, and C. Ort (2011b). “Inferring societal characteristics from sewer micropollutant loads using Approximate Bayesian Computations”. In: *Watermatex 2011: Conference Proceedings*. 8th IWA Symposium on Systems Analysis and Integrated Assessment. San Sebastian.

Scheidegger, A. and M. Maurer (2011). “Identifying biases in deterioration models using synthetic sewer data”. In: *Leading Edge Strategic Asset Management (LESAM)*. Mülheim an der Ruhr, Germany.

software

2017	WaMaSim: Water Management Simulator https://github.com/scheidan/WaMaSim	R package
2017	SWMMR: Modify inputs and read SWMM outputs from R https://github.com/scheidan/SWMMR	R package
2016	Deeprecip: Recurrent neuronal network for precipitation predictions based weather radar images https://github.com/scheidan/DeePrecip	Python, Chainer
2014	CAIRS: Continuous Assimilation of Integrating Rain Sensors https://github.com/scheidan/CAIRS.jl	Julia package
2013	SPG: Sewage Pattern Generator, version 1.0 https://github.com/scheidan/SPG	R package
2013	Fast Julia implementation of the “Decentralized Sanitation Model” (DeSaM) https://github.com/scheidan/DeSaM	Julia package
2012	adaptMCMC: Implementation of a generic adaptive Monte Carlo Markov Chain sampler, version 1.3 http://cran.r-project.org/web/packages/adaptMCMC/	R package

presentations

- 2019 **Bayesian end-member mixing analysis with explicit consideration of un-observed end-members and measurement uncertainty** Vienna, Austria
EGU General Assembly
- 2017 **Alte Daten sind Geld wert: Nutzen von Kanalalterungsmodellen** Rapperswil, Switzerland
Invited speaker, Kanalisations Forum
- 2016 **Recurrent Neuronal Network tailored for Weather Radar Nowcasting** Belgrade, Serbia
Conference for Geostatistics and Machine Learning
- 2015 **Experimental design approach for optimal selection and placement of rain sensors** Pontresina, Switzerland
Urban Rain Conference
- 2015 **Kalibrierung von Kanalnetzmodellen mit binären Messdaten** Stuttgart, Germany
Aqua Urbanica Conference
- 2014 **A generic assimilation method to compute rainfall maps from traditional and novel sensors** Sarawak, Malaysia
13th International Conference on Urban Drainage
- 2014 **New information sources for rain fields** Berlin, Germany
5th Water Research Horizon Conferences
- 2014 **Bayesian assimilation of rainfall sensors with fundamentally different integration characteristics** Washington DC, USA
International Symposium Weather Radar and Hydrology
- 2014 **Rainfall estimates from Telecommunications microwave links improve urban runoff predictions** Washington DC, USA
International Symposium Weather Radar and Hydrology
- 2013 **Pipe failure models: Calibration, Prediction and Comparison** Eawag
Seminar on Water Distribution Network Failure Modeling and Rehabilitation Planning
- 2012 **Performance evaluation in urban drainage** Belgrad, Serbia
Urban Drainage Modeling Conference
- 2011 **How to get unbiased estimations from non-representative data?** ETHZ
Seminar of the Institute of Construction and Infrastructure Management
- 2011 **Identifying biases in deterioration models using synthetic sewer data** Mülheim an der Ruhr, Germany
Leading Edge Strategic Asset Management conference

supervision of students

2019	Automatic Differentiation for environmental models Master thesis, Li Wang	ETHZ
2017	Influence of rainfall measurements on the uncertainty of urban runoff predictions Master thesis, Andy Disch	ETHZ
2017	Energy and water in households: Modeling of greywater treatment followed by heat extraction and evaporative cooling Master project, Simon Matter	ETHZ
2016	Spatial Modelling of Rain-Induced Infiltration into Sewers Master thesis, Rachel Barret	ETHZ
2015	Classification of rain periods in based on acoustic measurements Bachelor thesis, Thimo Schuster	ZHAW
2014	Statistical model to predict water consumption Bachelor thesis, Gretler Miriam and Segura Miguel	ZHAW
2013	Robust extraction of rain-induced attenuation from microwave link observations using local regression Master thesis, Anders Schatzmann	ZHAW
2012	Sewer deterioration of Swiss urban drainage systems Internship, Philipp Beutler	TU Dresden
2011	Influence of pumps on sampling errors of cocaine measurement in waste water Bachelor project, Stefan Truong and Daniele Scrugli	ZHAW
2009	Assessment of a Markov sewer deterioration model Bachelor project, Michael Raimann and Marius Rousch	ZHAW

personal interests

hiking, mountaineering, literature, sailing, paragliding, music, cooking, coffee, photography, yoga