

LARS SCHÖBITZ

I am developing data science trainings¹ and provide consulting services for managing the world's poop. My work experience includes every sector under the sun, which has formed me into a highly adaptable and empathetic individual. In my free time I like to crochet, bake, cook, run, play, and code.

View this CV online with links at lse.de/cv



ME

now
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2012

- **Loving life in Zurich**
Zurich, Switzerland
 - Just Switzerland
- **Multi-cultural work experience**
Mother Earth
 - South Africa, Uganda, Vietnam, India, Tanzania, Haiti, USA, Bhutan, Senegal
- **Loved life in London**
London, UK
 - So much fun
- **Sanitation enthusiast**
Durban, South Africa
 - Living with, and learning from Prof. CA Buckley
- **German citizen**
Haemelhausen, Germany
 - Raised in a town of 600 people, I grew up with two generations, a large vegetable and fruit garden, animals and a christmas tree farm.

📍 Wollyhood

📍 Global

📍 Brixton

📍 49 Essex Grove

📍 Flat plains of Lower Saxony



EDUCATION

2020
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2019

- **RStudio Instructor Programme**
www
 - Certified as an RStudio Instructor²
- **Environmental and Hygiene Engineering (Dipl. Ing.)**
Giessen, Germany
 - Thesis³: Performance Evaluation of a full-scale DEWATS plant in South Africa

📍 RStudio

2012
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2008

CONTACT

✉ lars@lse.de

🐦 [larnsce](#)

🔗 [github.com/larnsce](#)

🔗 [lse.de](#)

🔗 [LinkedIn](#)

LANGUAGE SKILLS

R tidyverse

R Shiny

Git / GitHub

SQL

HTML / CSS

Made with the R package
[pagedown](#).

The source code is available on
github.com/larnsce/cv.

Last updated on 2021-02-21.

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|-------------------|--|--------------------|
| 2010 2010 | Scholarship with ERASMUS (European Exchange Program) Umea, Sweden | Umea University |
| | • Main subject: Northern Aquatic Systems, including sampling of different surface water and analysis of DOC, COD, main nutrients, heavy metals | |
| 2009 2009 | Change and Project Management Mikkeli, Finland | Mikkeli University |
| 2006 2003 | General qualification for university entrance Verden, Germany | Gymnasium am Wall |

WORK EXPERIENCE

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|-------------------|--|--|
| now 2018 | Director, Founder Zurich, Switzerland | Lars Schoebitz GmbH |
| | • Teaching Data Science with R | |
| | • Consultant for city-wide faecal sludge management systems | |
| | • Supporting organisations in establishing strong monitoring and evaluation frameworks | |
| now 2018 | Data and Impact Expert Essex, UK | Aquaconsult Limited |
| | • Venture Advisor for Transition to Scale Program in Urban Sanitation by Grand Challenges Canada | |
| | • Support to Clean Team, Ghana; Eau&Vie, Bangladesh; Safi Sana, Ghana | |
| 2020 2020 | Data Science Intern Zurich, Switzerland | Statistical Office of the Canton of Zurich |
| | • Developed R Shiny Dashboard ⁴ for analytics of incoming data analysis requests | |
| | • Developed R package for web analytics with Matomo ⁵ | |
| | • Published fully reproducible news article ⁶ | |
| | • Supported activities on COVID19 monitoring ⁷ and data analysis | |
| | • Organised a session at DINACON 2020 ⁸ | |
| | • Responded to data analysis requests from civil society, politics, universities, private and public sector | |
| 2020 2020 | Consultant Duebendorf, Switzerland | Eawag/Sandec |
| | • Supported the preparation of fact sheets for a publication on city-wide inclusive sanitation (CWIS) approaches and tools | |

I believe in the opportunity of the human rights based approach to water and sanitation above the belief in a billion dollar sanitation economy.

2020
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2017

- **Data Scientist**
Putnam, USA  Biomass Controls PBC
 - Building tools for data visualisation and business intelligence using R Shiny framework
 - Support of R&D work and preparation of results for publications and conferences

2020
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2019

- **Lead Consultant**
Cap-Haitien, Haiti  Inter-American Development Bank
 - Team of Consultants: Berta Moya, Anthony Kilbride, Andy Peal
 - Development of city-wide faecal sludge management systems
 - Detailed review of design proposal for faecal sludge treatment plant
 - Preparation of shit-flow-diagram (SFD) for Cap-Haitien

2018
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2018

- **Data Scientist**
London, UK  Gather
 - Supported conceptualization of data dive for urban sanitation data
 - Cleaned and prepared toilet census data set of Kanyama compound (Lusaka, Zambia) for analysis

2018
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2016

- **Consultant**
Geneva, Switzerland  World Health Organization
 - Global Monitoring of the Sanitation Chain: Proof of concept testing for monitoring indicators on safely managed sanitation (Target 6.2) and safely treated wastewater (Target 6.3) in the SDG agenda
 - Production of country files for SDG 6.3.1 Proportion of wastewater safely treated

2016
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2012

- **Research Project Manager**
Duebendorf, Switzerland  Eawag/Sandec
 - Project management with global, multi-disciplinary teams and topics of wide spread interest (RRR Business Models, SFDs Methods and Tools development)
 - Research lead on several projects that aim to develop methods for diagnostic tools in faecal sludge management
 - Mentor, lecturer and effective networker

2012
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2011

- **Research Assistant**
Durban, South Africa  PRG, University of KwaZulu-Natal
 - Drove a 1950s Land Rover on Durban highways to collect water samples from DEWATS plant
 - Emptied pit latrines with spades and shovels
 - Built a snooker-like table to separate pit contents into their individual constituents



TEACHING EXPERIENCE

- 2021 | 2021
- **R Instructor** 📍 Statistical Office of the Canton of Zurich
www
 - Developing a training for Data Science with R for⁹ civil servants

2017 | 2017

 - **Lecturer** 📍 Mittelhessen University of Applied Sciences
Giessen, Germany
 - Introduction to Faecal Sludge Management¹⁰ for environmental engineering students

2016 | 2013

 - **Lecturer** 📍 Lecturer NADEL, ETH Zurich, EPF Lausanne
Switzerland
 - Teaching on basics of Faecal Sludge Management

2016 | 2016

 - **Lecturer** 📍 Massive Open Online Course: Planning & Design of Sanitation Systems and Technologies
Switzerland
 - Prepared module on Shit Flow Diagrams¹¹



PRO BONO

- now | 2018
- **Expert Advisor** 📍 Gather
London, UK
 - Providing support with my passion for open data science and by sharing knowledge on urban sanitation

2020 | 2017

 - **R Instructor** Zurich, Switzerland
 - Teaching employees of Eawag/Sandec in using R for statistical computing software
 - Started out with lectures in 2017¹² and continued individual one-to-one support to date

2020 | 2018

 - **Technical Expert** 📍 ISO Project Committee 318
Global
 - Member of the US Technical Advisory Group for emerging standard ISO/PC318 "Community scale resource oriented sanitation treatment systems"

I am passionate about teaching coding with R to novel users.



TEACHING EXPERIENCE



PUBLICATIONS

I support open science principles.

- 2020 • **Corona veraendert Alltagssorgen nur wenig¹²**
• Published source code and data as GitHub repository¹³
Web article
- 2020 • **Hotel-Tourismus in Zuerich – Geschaeftstouristen und auslaendische Gaeste hinterlassen Luecke¹⁴**
- 2020 • **Estimating Safely Managed Sanitation in Urban Areas; Lessons Learned From a Global Implementation of Excreta-Flow Diagrams¹⁵**
Frontiers in Environmental Science
- 2019 • **City Service Delivery Assessment for Citywide Inclusive Sanitation¹⁶**
Inclusive Sanitation in Practice
• Reviewer
- 2019 • **Towards an off-grid fecal sludge treatment unit: demonstrating energy positive thermal treatment¹⁷**
Gates Open Research
• Prepared fully reproducible research paper¹⁸
- 2018 • **Methods to reliably estimate faecal sludge quantities and qualities for the design of treatment technologies and management solutions¹⁹**
Journal of Environmental Management, 223, 898-907
• Collection and laboratory analysis of 180 faecal sludge samples in Kampala, Uganda
• Data analysis using R
- 2018 • **Remote Sensing, Mobile Applications and Open Data Science Tools for Better Monitoring of Sanitation Systems²⁰**
In HIC 2018. 13th International Conference on Hydroinformatics
• Conference paper
- 2018 • **Resource recovery from waste: business models for energy, nutrient and water reuse in low- and middle-income countries²¹**
Oxon, UK: Routledge; Earthscan. 816p
- 2018 • **Sustainable Development Goal 6 Synthesis Report 2018 on Water and Sanitation²²**
United Nations
- 2018 • **Progress on safe treatment and use of wastewater: piloting the monitoring methodology and initial findings for SDG indicator 6.3.1²³**
World Health Organization and UN-HABITAT
- 2018 • **Country files for SDG 6.3.1 Proportion of wastewater safely treated²⁴**
World Health Organization

- 2018
 - Guidelines on sanitation and health²⁵
 - 📍 World Health Organization
- 2017
 - GIS analysis and optimisation of faecal sludge logistics at city-wide scale in Kampala, Uganda²⁶
 - 📍 Sustainability, 9(2), 194
- 2017
 - GIS analysis and optimization of faecal sludge logistics at city-wide scale in Kampala, Uganda. Supplementary Report²⁷
- 2017
 - Market driven approach for faecal sludge treatment products²⁸
 - 📍 In WEDC conference papers. WEDC conference 40 (p. 2807 (6 pp.))
- 2014
 - FAQ: faecal sludge quantification and characterization; field trial of methodology in Hanoi, Vietnam²⁹

TECHNICAL REPORTS

- 2016 | 2015
 - Sanitation service delivery context analysis and mapping of excreta flows along the sanitation service chain and throughout the city
 - Download Bignona/Senegal¹²
 - Download Danang/Vietnam¹³
 - Download Dar es Salaam/Tanzania¹⁴
 - Download Durban/South Africa¹⁵
 - Download Hanoi/Vietnam¹⁶
 - Download Kampala/Uganda¹⁷
 - Download Khulna/Bangladesh¹⁸
 - Download Nonthaburi/Thailand¹⁹
 - Download Tikapur/Nepal²⁰

I strive for efficiency and approach life with 'All or Nothing'.

SANDEC NEWS ARTICLE

- 2016 | 2013
 - Sandec News Articles
 - Illustrating the Fate of Excreta: The SFD Methodology in Eight Cities¹²
 - Private Public Partnership Solutions for Faecal Sludge Management¹³
 - FAQ: Faecal Sludge Quantification and Characterization; Kampala¹⁴
 - Waste-based Business Models for Resource Recovery¹⁵

I have a mindset of learning from failures and am a signatory of the [Nakuru Accord](#)

CONFERENCES & SEMINARS

- 2020
 - UN World Data Forum 2020
 - www

I am optimistic, direct, patient and empathetic.

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| 2020 | <ul style="list-style-type: none"> DINAcon WWW <ul style="list-style-type: none"> Session organiser: Unsere Antwort auf COVID19: Ein Beispiel von Kollaboration und Gemeinschaft im Open Data Zeitalter¹² |
| 2019 | <ul style="list-style-type: none"> Latinosan Conference San Jose, Costa Rica <ul style="list-style-type: none"> Invited presenter and moderator of session¹³ on sludge management organized by the Inter-American Development Bank Presentation Slides¹⁴ |
| 2019 | <ul style="list-style-type: none"> 5th Faecal Sludge Management Conference Cape Town, South Africa <ul style="list-style-type: none"> Oral Presentation¹⁵ on Development of Tools for Efficient Remote Monitoring of Faecal Sludge Treatment Units Poster Presentation on Combined Heat and Power with Micro Organic Rankine Cycle for Off-Grid Sanitation Treatment Invited presenter at side meeting organised by Centre for Science and Environment India. Development of a Faecal Sludge Data Repository¹⁶ |
| 2019 | <ul style="list-style-type: none"> WaterLex, 1st World Summit on Leaving No One Behind Geneva, Switzerland <ul style="list-style-type: none"> Finalist for project on human-rights based solutions to water and sanitation. Testing innovative technologies for Menstrual Hygiene Management in humanitarian and public settings Oral Presentation¹⁷ |
| 2018 | <ul style="list-style-type: none"> 2nd meeting of ISO PC 318 WG 1 Toulouse, France <ul style="list-style-type: none"> Technical Expert for emerging standard representing the US technical advisory group |
| 2018 | <ul style="list-style-type: none"> Monitoring, Evidence, and Dissemination for Scale (MEDS) convening Dakar, Senegal <ul style="list-style-type: none"> Hosted by the Bill & Melinda Gates Foundation (BMGF) |
| 2018 | <ul style="list-style-type: none"> 13th International Hydroinformatics Conference Palermo, Italy <ul style="list-style-type: none"> Oral presentation¹⁸ on Remote sensing, mobile applications and open data science tools for better monitoring of sanitation systems |
| 2018 | <ul style="list-style-type: none"> Stakeholder meeting for FSM laboratory of CSE at Anil Agarwal Environment Training Institute (AAETI) Tijara, India <ul style="list-style-type: none"> Invited presenter |

 CSE AAETI

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| 2018 | <ul style="list-style-type: none">● Colorado WASH Symposium Boulder, USA |  University of Colorado |
| | | <ul style="list-style-type: none">• Oral presentation¹⁹ on Development of tools for efficient remote monitoring of faecal sludge treatment units |
| 2018 | <ul style="list-style-type: none">● Gather Hub Data Dive London, UK | |
| | | <ul style="list-style-type: none">• Keynote speaker Gather Hub's data dive²⁰ on urban sanitation for Lusaka, Zambia• Presentation Slides²¹ |
| 2017 | <ul style="list-style-type: none">● 4th Faecal Sludge Management Conference Chennai, India | |
| | | <ul style="list-style-type: none">• Monitoring Safely Managed Sanitation on the 2030 Agenda for Sustainable Development; Experience from Uganda• Presentation²²• Abstract²³ |
| 2016 | <ul style="list-style-type: none">● UNC Water and Health Conference Chapel Hill, USA | |
| | | <ul style="list-style-type: none">• Safely-Managed Sanitation: Monitoring higher levels of service in SDG Target 6.2• Event supporthttps://kutt.it/p4toLj) |
| 2016 | <ul style="list-style-type: none">● Sandec Research Seminar Duebendorf, Switzerland | |
| | | <ul style="list-style-type: none">• Shit-Flow-Diagrams and the potential for monitoring of Sustainable Development Goals |
| 2015 | <ul style="list-style-type: none">● UNC Water and Health Conference Chapel Hill, USA | |
| | | <ul style="list-style-type: none">• City level excreta flow analysis; the SFD Promotion Initiative• Poster²⁴ |
| 2015 | <ul style="list-style-type: none">● Stockholm World Water Week, Sweden Stockholm, Sweden | |
| | | <ul style="list-style-type: none">• Side Event²⁵: Liveable Cities for All: Integrated Sanitation and Water Services• Side Event²⁶: SFD, a tool to foster sustainable urban sanitation programming• Sustainable City Sanitation; from planning to implementation. Event support²⁷ |
| 2015 | <ul style="list-style-type: none">● 4th AfricaSan Conference Dakar, Senegal | |
| | | <ul style="list-style-type: none">• Side Event: SFD a tool to boost urban sanitation. Presentation Slides²⁸• Panellist: Public-Private Partnerships to Meet the Sanitation Shortfall |

- 2015 ● **3rd Faecal Sludge Management Conference**
Hanoi, Vietnam
- Quantification of FS by truck counting studies with the Private Emptiers Association in Kampala Abstract pp. 6-8²⁹, Presentation³⁰
 - Scaling-up sanitation businesses in low- and middle-income countries Presentation³¹
 - FSM / Treatment processes for resource recovery / Session 1: Moderation³²
 - Workshop Preparation, Facilitation³³: FSM Systems Approach for Implementation and Operation: Research into Practice: Towards standardization of FS quantification and characterization on a city-wide scale
- 2014 ● **37th WEDC International Conference**
Hanoi, Vietnam
- FAQ: Faecal Sludge Quantification and Characterization: field trial of methodology in Hanoi, Vietnam, Conference Paper³⁴
- 2014 ● **Stockholm World Water Week, Sweden**
Stockholm, Sweden
- Side Event: From Faecal Sludge to Fuel: Safe Sanitation with Business Opportunities
- 2013 ● **36th WEDC International Conference**
Nakuru, Kenya
- Espresso Shot Presentation on Resource, Recovery & Reuse
- 2012 ● **2nd Faecal Sludge Management Conference**
Durban, South Africa
- Business model innovations for scaling-up faecal sludge businesses in developing countries: Abstract³⁵ Presentation³⁶
- 2012 ● **Water Institute of Southern Africa (WISA) conference**
Cape Town, South Africa
- Practical experience and operating data from a full-scale decentralised wastewater treatment plant treating domestic wastewater



REFERENCES

- now ● **Dr. Christian Zurbruegg¹²**
Duebendorf, Switzerland Eawag/Sandec
- Member of the Directorate & Group Leader Solid Waste Management
- now ● **Prof. CA Buckley¹³**
Durban, South Africa PRG, University of KwaZulu-Natal
- Co-Head

now

● **Dr. Kate Medlicott⁴**
Geneva, Switzerland
• Team Leader Sanitation

📍 World Health Organization