

# LARS SCHÖBITZ

I am developing data science training and provide consulting services to manage the world's poop. My work experience includes every sector under the sun, which has formed me into a highly adaptable and empathetic individual. I like to crochet, bake, cook, run, code, and play in my free time. I am a 101% type of person.

View this CV online with links at [lse.de/cv](https://lse.de/cv)

## ME

- now | 2012 **Loving life in Zurich**  
Zurich, Switzerland
  - Just Switzerland
- 2020 | 2011 **Multi-cultural work experience**  
Mother Earth
  - South Africa, Uganda, Vietnam, India, Tanzania, Haiti, USA, Bhutan, Senegal
- 2018 | 2017 **Loved life in London**  
London, UK
  - So much fun
- 2012 | 2011 **Sanitation enthusiast**  
Durban, South Africa
  - Living with, and learning from Prof. CA Buckley
- 1986 | 1986 **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

## CONTACT

✉ [lars@lse.de](mailto:lars@lse.de)

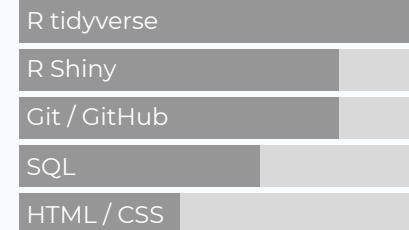
🐦 [larnsce](#)

🔗 [github.com/larnsce](#)

🔗 [lse.de](#)

🔗 [LinkedIn](#)

## LANGUAGE SKILLS



## EDUCATION

- 2020 | 2019 **RStudio Instructor Programme**  
www
  - Certified as an RStudio Instructor<sup>7</sup>
- 2012 | 2008 **Environmental and Hygiene Engineering (Dipl. Ing.)**  
Giessen, Germany
  - Thesis<sup>2</sup>: Performance Evaluation of a full-scale DEWATS plant in South Africa

📍 RStudio

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

The source code is available on  
[github.com/larnsce/cv](https://github.com/larnsce/cv).

Last updated on 2021-08-10.

2010   2010	<b>Scholarship with ERASMUS (European Exchange Program)</b> 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	<b>Change and Project Management</b> Mikkeli, Finland	 Mikkeli University
2006   2003	<b>General qualification for university entrance</b> Verden, Germany	 Gymnasium am Wall

## WORK EXPERIENCE

now   2021	<b>Open Science Specialist</b> Zurich, Switzerland	 ETH Zurich	I believe in the opportunity of the human rights based approach to water and sanitation above the belief in a billion dollar sanitation economy.
now   2021	<b>Data Science Instructor</b> Zurich, Switzerland	 Statistical Office of the Canton of Zurich	
now   2021		• Teaching a data science with R course to civil servants • Course website: <a href="https://rstatszh.github.io/website/">https://rstatszh.github.io/website/</a>	
now   2021	<b>Data Science Instructor</b> Boulder, USA	 Colorado University	
now   2018		• Developing and teaching an online module to teach R	
2021   2018	<b>Director, Founder</b> 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		
2021   2018	<b>Data and Impact Expert</b> 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<sup>3</sup> for analytics of incoming data analysis requests
  - Developed R package for web analytics with Matomo<sup>4</sup>
  - Published fully reproducible news article<sup>5</sup>
  - Supported activities on COVID19 monitoring<sup>6</sup> and data analysis
  - Organised a session at DINAccon 2020<sup>7</sup>
  - 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 factsheets for a publication on city-wide inclusive sanitation (CWIS) approaches and tools

2020  
|  
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  
|  
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  
|  
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  
|  
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  
|  
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
- **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

2012  
|  
2011

## 💼 TEACHING EXPERIENCE

2021  
|  
2021

- **R Instructor**  
www 📍 Statistical Office of the Canton of Zurich
  - Developing a training for Data Science with R for<sup>8</sup> civil servants

2017  
|  
2017

- **Lecturer**  
Giessen, Germany 📍 Mittelhessen University of Applied Sciences
  - Introduction to Faecal Sludge Management<sup>9</sup> for environmental engineering students

2016  
|  
2013

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

2016  
|  
2016

- **Lecturer**  
Switzerland 📍 Massive Open Online Course: Planning & Design of Sanitation Systems and Technologies
  - Prepared module on Shit Flow Diagrams<sup>10</sup>

now  
|  
2018

## 💼 PRO BONO

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

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

2020  
|  
2017

- **R Instructor**  
Zurich, Switzerland
  - Teaching employees of Eawag/Sandec in using R for statistical computing software
  - Started out with lectures in 2017<sup>11</sup> and continued individual one-to-one support to date

2020  
|  
2018

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

## 👤 TEACHING EXPERIENCE

## 💻 PUBLICATIONS

2020

- **Corona veraendert Alltagssorgen nur wenig<sup>12</sup>** 📍 Web article
  - Published source code and data as GitHub repository<sup>12</sup>

2020

- **Hotel-Tourismus in Zuerich – Geschaeftstouristen und auslaendische Gaeste hinterlassen Luecke<sup>13</sup>**

I support open science principles.

2020

- **Estimating Safely Managed Sanitation in Urban Areas; Lessons Learned From a Global Implementation of Excreta-Flow Diagrams<sup>14</sup>** 📍 Frontiers in Environmental Science

2019

- **City Service Delivery Assessment for Citywide Inclusive Sanitation<sup>15</sup>** 📍 Inclusive Sanitation in Practice

- Reviewer

2019

- **Towards an off-grid fecal sludge treatment unit: demonstrating energy positive thermal treatment<sup>16</sup>**  
Gates Open Research
  - Prepared fully reproducible research paper<sup>17</sup>

2018

- **Methods to reliably estimate faecal sludge quantities and qualities for the design of treatment technologies and management solutions<sup>18</sup>** 📍 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 Systems<sup>19</sup>**
  - 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 countries<sup>20</sup>**
  - Oxon, UK: Routledge; Earthscan. 816p
- 2018     • **Sustainable Development Goal 6 Synthesis Report 2018 on Water and Sanitation<sup>21</sup>**
  - United Nations
- 2018     • **Progress on safe treatment and use of wastewater: piloting the monitoring methodology and initial findings for SDG indicator 6.3.1<sup>22</sup>**
  - World Health Organization and UN-HABITAT
- 2018     • **Country files for SDG 6.3.1 Proportion of wastewater safely treated<sup>23</sup>**
  - World Health Organization
- 2018     • **Guidelines on sanitation and health<sup>24</sup>**
  - World Health Organization
- 2017     • **GIS analysis and optimisation of faecal sludge logistics at city-wide scale in Kampala, Uganda<sup>25</sup>**
  - Sustainability, 9(2), 194
- 2017     • **GIS analysis and optimization of faecal sludge logistics at city-wide scale in Kampala, Uganda. Supplementary Report<sup>26</sup>**
- 2017     • **Market driven approach for faecal sludge treatment products<sup>27</sup>**
  - In WEDC conference papers. WEDC conference 40 (p. 2807 (6 pp.)
- 2014     • **FAQ: faecal sludge quantification and characterization; field trial of methodology in Hanoi, Vietnam<sup>28</sup>**



## TECHNICAL REPORTS

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

2016  
|  
2015

- **Sanitation service delivery context analysis and mapping of excreta flows along the sanitation service chain and throughout the city**

- Download Bignona/Senegal<sup>11</sup>
- Download Danang/Vietnam<sup>12</sup>
- Download Dar es Salaam/Tanzania<sup>13</sup>
- Download Durban/South Africa<sup>14</sup>
- Download Hanoi/Vietnam<sup>15</sup>
- Download Kampala/Uganda<sup>16</sup>
- Download Khulna/Bangladesh<sup>17</sup>
- Download Nonthaburi/Thailand<sup>18</sup>
- Download Tikapur/Nepal<sup>19</sup>



## SANDEC NEWS ARTICLE

2016  
|  
2013

- **Sandec News Articles**

- Illustrating the Fate of Excreta: The SFD Methodology in Eight Cities<sup>11</sup>
- Private Public Partnership Solutions for Faecal Sludge Management<sup>12</sup>
- FAQ: Faecal Sludge Quantification and Characterization; Kampala<sup>13</sup>
- Waste-based Business Models for Resource Recovery<sup>14</sup>

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

2020

- **DINAcon**

www

- Session organiser: Unsere Antwort auf COVID19: Ein Beispiel von Kollaboration und Gemeinschaft im Open Data Zeitalter<sup>11</sup>

I am optimistic, direct, patient and empathetic.

2019

- **Latinosan Conference**

San Jose, Costa Rica

- Invited presenter and moderator of session<sup>12</sup> on sludge management organized by the Inter-American Development Bank
- Presentation Slides<sup>13</sup>

2019

- **5th Faecal Sludge Management Conference**

Cape Town, South Africa

- Oral Presentation<sup>14</sup> 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 Repository<sup>15</sup>

- 2019
- **WaterLex, 1st World Summit on Leaving No One Behind**  
Geneva, Switzerland
    - 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 Presentation<sup>16</sup>
- 2018
- **2nd meeting of ISO PC 318 WG 1**  
Toulouse, France
    - Technical Expert for emerging standard representing the US technical advisory group
  - **Monitoring, Evidence, and Dissemination for Scale (MEDS) convening**  
Dakar, Senegal
    - Hosted by the Bill & Melinda Gates Foundation (BMGF)
  - **13th International Hydroinformatics Conference**  
Palermo, Italy
    - Oral presentation<sup>17</sup> on Remote sensing, mobile applications and open data science tools for better monitoring of sanitation systems
  - **Stakeholder meeting for FSM laboratory of CSE at Anil Agarwal Environment Training Institute (AAETI)**  
Tijara, India
    - Invited presenter
  - **Colorado WASH Symposium**  
Boulder, USA
    - Oral presentation<sup>18</sup> on Development of tools for efficient remote monitoring of faecal sludge treatment units
  - **Gather Hub Data Dive**  
London, UK
    - Keynote speaker Gather Hub's data dive<sup>19</sup> on urban sanitation for Lusaka, Zambia
    - Presentation Slides<sup>20</sup>
- 2017
- **4th Faecal Sludge Management Conference**  
Chennai, India
    - Monitoring Safely Managed Sanitation on the 2030 Agenda for Sustainable Development; Experience from Uganda
    - Presentation<sup>21</sup>
    - Abstract<sup>22</sup>

- 2016
- **UNC Water and Health Conference**  
Chapel Hill, USA
    - Safely-Managed Sanitation: Monitoring higher levels of service in SDG Target 6.2
    - Event support <https://kutt.it/p4toLj>
- 2016
- **Sandec Research Seminar**  
Duebendorf, Switzerland
    - Shit-Flow-Diagrams and the potential for monitoring of Sustainable Development Goals
- 2015
- **UNC Water and Health Conference**  
Chapel Hill, USA
    - City level excreta flow analysis; the SFD Promotion Initiative
    - Poster<sup>23</sup>
- 2015
- **Stockholm World Water Week, Sweden**  
Stockholm, Sweden
    - Side Event<sup>24</sup>: Liveable Cities for All: Integrated Sanitation and Water Services
    - Side Event<sup>25</sup>: SFD, a tool to foster sustainable urban sanitation programming
    - Sustainable City Sanitation; from planning to implementation. Event support<sup>26</sup>
- 2015
- **4th AfricaSan Conference**  
Dakar, Senegal
    - Side Event: SFD a tool to boost urban sanitation. Presentation Slides<sup>27</sup>
    - 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. 6-8<sup>28</sup>, Presentation<sup>29</sup>
    - Scaling-up sanitation businesses in low- and middle-income countries Presentation<sup>30</sup>
    - FSM / Treatment processes for resource recovery / Session 1: Moderation<sup>31</sup>
    - Workshop Preparation, Facilitation<sup>32</sup>: 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 Paper<sup>33</sup>

- 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: Abstract<sup>34</sup> Presentation<sup>35</sup>
- 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 Zurbruegg<sup>u</sup>**  
Duebendorf, Switzerland  Eawag/Sandec  
• Member of the Directorate & Group Leader Solid Waste Management
- now ● **Prof. CA Buckley<sup>12</sup>**  
Durban, South Africa  PRG, University of KwaZulu-Natal  
• Co-Head
- now ● **Dr. Kate Medlicott<sup>v</sup>**  
Geneva, Switzerland  World Health Organization  
• Team Leader Sanitation