

# LARS SCHÖBITZ

I am developing data science trainings<sup>1</sup> 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](https://lse.de/cv)

## ME

now  
|  
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 Instructor<sup>2</sup>
- **Environmental and Hygiene Engineering (Dipl. Ing.)**  
Giessen, Germany
  - Thesis<sup>3</sup>: Performance Evaluation of a full-scale DEWATS plant in South Africa

📍 RStudio

2012  
|  
2008

## CONTACT

✉ [lars@lse.de](mailto: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](https://github.com/larnsce/cv).

Last updated on 2021-02-21.

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   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	
now   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	<b>Data Science Intern</b> Zurich, Switzerland	 Statistical Office of the Canton of Zurich
	• Developed R Shiny Dashboard <sup>4</sup> for analytics of incoming data analysis requests	
	• Developed R package for web analytics with Matomo <sup>5</sup>	
	• Published fully reproducible news article <sup>6</sup>	
	• Supported activities on COVID19 monitoring <sup>7</sup> and data analysis	
	• Organised a session at DINACON 2020 <sup>8</sup>	
	• Responded to data analysis requests from civil society, politics, universities, private and public sector	
2020   2020	<b>Consultant</b> Duebendorf, Switzerland	 Eawag/Sandec
	• Supported the preparation of factsheets 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  
|  
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

2012  
|  
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 for<sup>9</sup> civil servants

2017 | 2017

  - **Lecturer** 📍 Mittelhessen University of Applied Sciences  
Giessen, Germany
    - Introduction to Faecal Sludge Management<sup>10</sup> 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 Diagrams<sup>11</sup>



## 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 2017<sup>12</sup> 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 wenig<sup>12</sup>**  
• Published source code and data as GitHub repository<sup>13</sup>  
Web article
- 2020 • **Hotel-Tourismus in Zuerich – Geschaeftstouristen und auslaendische Gaeste hinterlassen Luecke<sup>14</sup>**
- 2020 • **Estimating Safely Managed Sanitation in Urban Areas; Lessons Learned From a Global Implementation of Excreta-Flow Diagrams<sup>15</sup>**  
Frontiers in Environmental Science
- 2019 • **City Service Delivery Assessment for Citywide Inclusive Sanitation<sup>16</sup>**  
Inclusive Sanitation in Practice  
• Reviewer
- 2019 • **Towards an off-grid fecal sludge treatment unit: demonstrating energy positive thermal treatment<sup>17</sup>**  
Gates Open Research  
• Prepared fully reproducible research paper<sup>18</sup>
- 2018 • **Methods to reliably estimate faecal sludge quantities and qualities for the design of treatment technologies and management solutions<sup>19</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>20</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>21</sup>**  
Oxon, UK: Routledge; Earthscan. 816p
- 2018 • **Sustainable Development Goal 6 Synthesis Report 2018 on Water and Sanitation<sup>22</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>23</sup>**  
World Health Organization and UN-HABITAT
- 2018 • **Country files for SDG 6.3.1 Proportion of wastewater safely treated<sup>24</sup>**  
World Health Organization

- 2018
  - Guidelines on sanitation and health<sup>25</sup>
    - 📍 World Health Organization
- 2017
  - GIS analysis and optimisation of faecal sludge logistics at city-wide scale in Kampala, Uganda<sup>26</sup>
    - 📍 Sustainability, 9(2), 194
  - GIS analysis and optimization of faecal sludge logistics at city-wide scale in Kampala, Uganda. Supplementary Report<sup>27</sup>
  - Market driven approach for faecal sludge treatment products<sup>28</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>29</sup>

## 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/Senegal<sup>12</sup>
    - Download Danang/Vietnam<sup>13</sup>
    - Download Dar es Salaam/Tanzania<sup>14</sup>
    - Download Durban/South Africa<sup>15</sup>
    - Download Hanoi/Vietnam<sup>16</sup>
    - Download Kampala/Uganda<sup>17</sup>
    - Download Khulna/Bangladesh<sup>18</sup>
    - Download Nonthaburi/Thailand<sup>19</sup>
    - Download Tikapur/Nepal<sup>20</sup>

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 Cities<sup>12</sup>
    - Private Public Partnership Solutions for Faecal Sludge Management<sup>13</sup>
    - FAQ: Faecal Sludge Quantification and Characterization; Kampala<sup>14</sup>
    - Waste-based Business Models for Resource Recovery<sup>15</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

I am optimistic, direct, patient and empathetic.

2020	<ul style="list-style-type: none"> <li><b>DINAcon</b> WWW           <ul style="list-style-type: none"> <li>Session organiser: Unsere Antwort auf COVID19: Ein Beispiel von Kollaboration und Gemeinschaft im Open Data Zeitalter<sup>12</sup></li> </ul> </li> </ul>
2019	<ul style="list-style-type: none"> <li><b>Latinosan Conference</b> San Jose, Costa Rica           <ul style="list-style-type: none"> <li>Invited presenter and moderator of session<sup>13</sup> on sludge management organized by the Inter-American Development Bank</li> <li>Presentation Slides<sup>14</sup></li> </ul> </li> </ul>
2019	<ul style="list-style-type: none"> <li><b>5th Faecal Sludge Management Conference</b> Cape Town, South Africa           <ul style="list-style-type: none"> <li>Oral Presentation<sup>15</sup> on Development of Tools for Efficient Remote Monitoring of Faecal Sludge Treatment Units</li> <li>Poster Presentation on Combined Heat and Power with Micro Organic Rankine Cycle for Off-Grid Sanitation Treatment</li> <li>Invited presenter at side meeting organised by Centre for Science and Environment India. Development of a Faecal Sludge Data Repository<sup>16</sup></li> </ul> </li> </ul>
2019	<ul style="list-style-type: none"> <li><b>WaterLex, 1st World Summit on Leaving No One Behind</b> Geneva, Switzerland           <ul style="list-style-type: none"> <li>Finalist for project on human-rights based solutions to water and sanitation. Testing innovative technologies for Menstrual Hygiene Management in humanitarian and public settings</li> <li>Oral Presentation<sup>17</sup></li> </ul> </li> </ul>
2018	<ul style="list-style-type: none"> <li><b>2nd meeting of ISO PC 318 WG 1</b> Toulouse, France           <ul style="list-style-type: none"> <li>Technical Expert for emerging standard representing the US technical advisory group</li> </ul> </li> </ul>
2018	<ul style="list-style-type: none"> <li><b>Monitoring, Evidence, and Dissemination for Scale (MEDS) convening</b> Dakar, Senegal           <ul style="list-style-type: none"> <li>Hosted by the Bill &amp; Melinda Gates Foundation (BMGF)</li> </ul> </li> </ul>
2018	<ul style="list-style-type: none"> <li><b>13th International Hydroinformatics Conference</b> Palermo, Italy           <ul style="list-style-type: none"> <li>Oral presentation<sup>18</sup> on Remote sensing, mobile applications and open data science tools for better monitoring of sanitation systems</li> </ul> </li> </ul>
2018	<ul style="list-style-type: none"> <li><b>Stakeholder meeting for FSM laboratory of CSE at Anil Agarwal Environment Training Institute (AAETI)</b> Tijara, India           <ul style="list-style-type: none"> <li>Invited presenter</li> </ul> </li> </ul>

 CSE AAETI

2018	<ul style="list-style-type: none"><li>● <b>Colorado WASH Symposium</b> Boulder, USA</li></ul>	 University of Colorado
		<ul style="list-style-type: none"><li>• Oral presentation<sup>19</sup> on Development of tools for efficient remote monitoring of faecal sludge treatment units</li></ul>
2018	<ul style="list-style-type: none"><li>● <b>Gather Hub Data Dive</b> London, UK</li></ul>	
		<ul style="list-style-type: none"><li>• Keynote speaker Gather Hub's data dive<sup>20</sup> on urban sanitation for Lusaka, Zambia</li><li>• Presentation Slides<sup>21</sup></li></ul>
2017	<ul style="list-style-type: none"><li>● <b>4th Faecal Sludge Management Conference</b> Chennai, India</li></ul>	
		<ul style="list-style-type: none"><li>• Monitoring Safely Managed Sanitation on the 2030 Agenda for Sustainable Development; Experience from Uganda</li><li>• Presentation<sup>22</sup></li><li>• Abstract<sup>23</sup></li></ul>
2016	<ul style="list-style-type: none"><li>● <b>UNC Water and Health Conference</b> Chapel Hill, USA</li></ul>	
		<ul style="list-style-type: none"><li>• Safely-Managed Sanitation: Monitoring higher levels of service in SDG Target 6.2</li><li>• Event support<a href="https://kutt.it/p4toLj">https://kutt.it/p4toLj</a>)</li></ul>
2016	<ul style="list-style-type: none"><li>● <b>Sandec Research Seminar</b> Duebendorf, Switzerland</li></ul>	
		<ul style="list-style-type: none"><li>• Shit-Flow-Diagrams and the potential for monitoring of Sustainable Development Goals</li></ul>
2015	<ul style="list-style-type: none"><li>● <b>UNC Water and Health Conference</b> Chapel Hill, USA</li></ul>	
		<ul style="list-style-type: none"><li>• City level excreta flow analysis; the SFD Promotion Initiative</li><li>• Poster<sup>24</sup></li></ul>
2015	<ul style="list-style-type: none"><li>● <b>Stockholm World Water Week, Sweden</b> Stockholm, Sweden</li></ul>	
		<ul style="list-style-type: none"><li>• Side Event<sup>25</sup>: Liveable Cities for All: Integrated Sanitation and Water Services</li><li>• Side Event<sup>26</sup>: SFD, a tool to foster sustainable urban sanitation programming</li><li>• Sustainable City Sanitation; from planning to implementation. Event support<sup>27</sup></li></ul>
2015	<ul style="list-style-type: none"><li>● <b>4th AfricaSan Conference</b> Dakar, Senegal</li></ul>	
		<ul style="list-style-type: none"><li>• Side Event: SFD a tool to boost urban sanitation. Presentation Slides<sup>28</sup></li><li>• Panellist: Public-Private Partnerships to Meet the Sanitation Shortfall</li></ul>

- 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>29</sup>, Presentation<sup>30</sup>
  - Scaling-up sanitation businesses in low- and middle-income countries Presentation<sup>31</sup>
  - FSM / Treatment processes for resource recovery / Session 1: Moderation<sup>32</sup>
  - Workshop Preparation, Facilitation<sup>33</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>34</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>35</sup> Presentation<sup>36</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>12</sup>**  
Duebendorf, Switzerland Eawag/Sandec
- Member of the Directorate & Group Leader Solid Waste Management
- now ● **Prof. CA Buckley<sup>13</sup>**  
Durban, South Africa PRG, University of KwaZulu-Natal
- Co-Head

now

● **Dr. Kate Medlicott<sup>4</sup>**  
Geneva, Switzerland  
• Team Leader Sanitation

📍 World Health Organization