

CURRICULUM VITAE

LINDA STRANDE

EDUCATION

2009	Ph.D. Civil and Environmental Engineering University of Washington , Seattle, Washington, USA Dissertation: Estrogen Transformations in Wastewater Treatment: Ammonia Oxidizing Bacteria, Nitrification, and Heterotrophic Bacteria Adviser: H. David Stensel
2004	M.S.E. Civil and Environmental Engineering University of Washington , Adviser: H. David Stensel
2004	M.S., University of Washington, Soils Science University of Washington , Seattle, Washington, USA Thesis: The Effect of Soil Amendments on the Symbiotic Nitrogen-fixing Relationship of <i>Alnus rubra</i> (Red alder) and <i>Frankia</i> Adviser: Sally L. Brown and Chuck L. Henry
1994	B.A., University of Washington, Mathematics University of Washington , Seattle, Washington, USA

RESEARCH INTERESTS

My research is driven by the overarching goal of **advancing scientific knowledge** to protect human and environmental health through **resilient and equitable sanitation solutions**. As an engineer and scientist, I bridge the gap between fundamental research (*Why?*) and real-world impact by integrating empirical (*What?*) and applied (*How?*) research in real-life settings, ensuring rapid translation of findings into action. To achieve this, I employ a **system-based approach**, exploring how component knowledge integrates into complete solutions – from understanding microbial processes that affect treatment and greenhouse gas emissions to developing and implementing **low-cost, high-accessibility technologies**. My inter- and transdisciplinary work encompasses the optimization of treatment technologies, resource recovery, value-chain management, nature-based solutions, and environmental public health surveillance. This comprehensive approach, supported by my background in engineering, science, and mathematics, and extensive international experience, equips me to tackle complex challenges from a global perspective.

RESEARCH POSITIONS

Sept 2024 – Present	Head of Department, Eawag / Sandec
Aug 2022 – Present	Adjunct Professor Department of Civil Engineering, University of Victoria, Canada.
July 2010 – Present	Group Leader / Senior Research Scientist (Tenured since June 2015) Eawag - Swiss Federal Institute of Aquatic Science and Technology Sandec – Sanitation, Water and Solid Waste for Development

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	Dübendorf, Switzerland
Oct 2009 – Feb 2010	University of KwaZulu-Natal, Durban, South Africa, Research Fellow in Pollution Research Group
Dec 2004 – Sept 2009	University of Washington, Seattle, Washington, USA, Research Assistant, Department of Civil and Environmental Engineering
May 2009	University of KwaZulu-Natal, Durban, South Africa, Research Fellow, Pollution Research Group
May 2006 – Aug 2006	Kyoto University, Kyoto, Japan, Visiting Researcher, Graduate School of Global Environmental Studies
April 2006	Jiuzhaigou National Park and Sichuan University, Sichuan, China, Visiting Researcher
Jan 2002 – June 2004	University of Washington, Seattle, Washington, USA, Research Assistant and Manager of the Northwest Biosolids Management Association Library, College of Forest Resources
June 2000 – Jan 2002	Washington Toxics Coalition, Seattle, Washington, USA, Information Specialist

AWARDS AND RECOGNITIONS

2024	11th International Steven Hoogendijk Award (ISHA), Bataafsch Genootschap der Proefondervindelijke Wijsbegeerte (Batavian Society for Experimental Philosophy) for impact of scientific research on health improvements in the global south
2023	Recognition Award for contribution & dedication to non-sewered sanitation, IWA NSS (non-sewered sanitation) Conference
2007 – 2009	United States Environmental Protection Agency (USEPA) Science to Achieve Results (STAR) Fellowship
2007	Water Environment Federation Canham Graduate Scholarship
2007	University of Washington Huckabay Teaching Fellowship
2007	Society of Women Engineers Outstanding Graduate Award
2005 – 2009	King County Research Fellowship
2004 – 2006	US National Science Foundation (NSF) Integrative Graduate Education and Research Traineeship (IGERT) Fellowship
2004	First place national engineering design competition, Water Environment Federation (WEF)
<i>Mentoring and Supervision</i>	
2025	Best Paper Award Kayla Coppens, Nature Based Solutions for Water Circularity and Sustainability Conference
2022	Best Paper Award Prerna Prasad, Water Summit for Global Development
2017-2020	Sawaris Foundation Engineering for Development (E4D) Fellowship, BJ Ward
2017, 2018, 2019	Best Student Presentations BJ Ward, Stanley Sam, Eawag Symposium

TEACHING EXPERIENCE (current)

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IHE Delft. Lecturer and curriculum development for faecal sludge management module in Master of Science programme in onsite sanitation.

EPFL. Introduction to Faecal Sludge Management MOOC. Launch May 2017.
<https://www.coursera.org/learn/faecalsludge>. >10,000 course participants.

Eawag. Curriculum development for faecal sludge management workshop in collaboration with CAWST. Delivered in Dar es Salaam, Tanzania; Durban, South Africa; Washington DC, USA; Blantyre, Malawi; Hanoi, Vietnam.

EPFL. Lecturer, Sanitary engineering in developing countries EPFL course Env 402 in SIE department ENAC faculty 2010 to present.

ETH. Environmental Sanitation Planning and Infrastructure in Developing Countries ETH course 102-0838-00L in D-BAUG department 2010 to present.

RESEARCH FUNDING (current)

September 2025 – December 2025 Methods for Faecal Sludge Analysis Book 2nd Edition project number 111200, 20,083 USD

September 2024 – August 2026 Developing Environmental Wastewater-Based Surveillance in Non-Sewered Areas in Low-Income Contexts, 197,423 CHF total, PI Linda Strande, Eawag Discretionary Funding.

March 2024 – January 2026 Sedup - Scaling efficient dewatering for urban practitioners, 150,000 chf total, PI Linda Strande, Repic Foundation

June 2023 – May 2027. Improved Models for Safely Managed Sanitation: Stabilization of Faecal Sludge in Onsite Containment and Impact on Treatment, 700,000 CHF total, PI: Linda Strande, Swiss National Science Foundation (SNF).

August 2022 – Dec 2026. Water, Behavior Change and Environmental Sanitation (WABES) Phase 2: Sustainable solutions through research, knowledge and professionalism, 398,857 CHF / 2,237,000 CHF Total, PI: Christoph Lüthi, Linda Strande project lead on faecal sludge management, Swiss Development Cooperation (SDC).

Cumulative funding since 2010 6,800k CHF as PI for MEWS group

SCIENTIFIC COMMITTEES

SCIENTIFIC COMMITTEES (recent)

Founding member: FSMA (Faecal Sludge Alliance), IWA NSS (Non-Sewered Sanitation) specialist group, SFD Promotion Initiative

Member of scientific conference committee: IWA NSS 2026 India, IWA NSS 2023 South Africa, FSM5 2019 South Africa, FSM4 2017 India, FSM2 2012 South Africa

Chair of conference committee: FSM3 (Faecal Sludge Management 3) conference, Hanoi Vietnam, January 2015

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MENTORING AND SUPERVISION AT EAWAG

Supervision of Research Project Managers at Eawag: Mbaye Mbèguère, Stefan Diener, Magalie Bassan, Lars Schoebitz, Moritz Gold, Barbara Jeanne Ward, Nienke Andriessen, Miriam Englund, Marius Klinger, Michael Vogel, Anik Dutta, Julian Fritzsche

Supervision of PhD students: Ednah Kemboi, Natalia Montoya (ETH Switzerland), Kayla Coppens (University of Geneva Switzerland), Kelsey Shaw (University of Victoria, Canada), Nida Maqbool (NUST Pakistan), BJ Ward, Stanley Sam (ETH Switzerland), El Hadji Mamadou Sonko, Alsane Seck, Amadou Gueye (Cheikh Diop University, Senegal), Ebenezer Soh Kegne, Yaounde (University of Yaounde I, Cameroon)

Supervision of Post-doctoral researchers: Seju Kang (2024-2026), Anne Nakagiri (2022), Juliette Ndounla, el Hadji Mamadou Sonko (2015), Mi Nguyen (2016)

Supervision of Swiss Civil Servants and University interns and projects: Hanspeter Zöllig, Burkina Faso (2011), Josef Reiser, Senegal (2011), Benedict Borer, Switzerland (2012), Fabian Bischoff, Uganda, Guillaume Clair, Senegal, Amede Ferre, Vietnam, Nienke Andriessen, Uganda (2014), Aoife Byrne, Uganda, Katerina Brandes, Tanzania, Arief Gunawan, Bangladesh, Linus Brunner, Tanzania, Miriam Englund, Uganda, Michael Cunningham, Switzerland, Jean-David Therrien, Uganda, Seydou Guinko (Universite Joseph Fourier), Senegal (2015), Linus Brunner, Tanzania, Ruth Arnheiter, Uganda, Fritz Ziebell, Uganda, Hildemar Mendez, Tanzania (2016), Michael Reinisch, Switzerland (2017), Leila Schneider, Tanzania (2017), Kim Whett, Mirco Egloff, Switzerland (2017), Tom Howard, Switzerland (2018), Kayla Coppens, India (2018), Kelsey Shaw, Mai Thu Nguyen, Robert Tommy Hardeman, Switzerland (2021), Julian Fritzsche (Master project ETH), Maxwell Bergström (Internship), Benjamin Morath (Semester Project D-MAVT ETH), Irene Muscas, University of Geneva (2024), Magnus Hugentobler (Bachelor Thesis D-MAVT ETH 2023), Elia Weber (Semester Project D-MAVT ETH 2024) Josch Stricker (Civil servant 2024), Celestine Uwanyirigira (Uni Basel, 2024), Ibrahim Kamara, Abdulai Koroma (Milton Margai Technical University, 2025).

Cosupervision and / or examination committee member for Masters' Degrees: Manfred Schoger EPFL (2011), Hamath Dione, University of Dakar (2012), Cristina Fritzsche and Birge Ozel ETH (2013), Pauline Dayer ETH (2014), Amede Ferre, Adeline Mertenat, Karin Gallandat EPFL (2014), Markus Wolf, Fabian Bischoff, Aalborg University, Léa Randin, Livia Jost EPFL, (2015), Mira Bleuler, Zurich University of Applied Sciences (2016), Charles Simon, Leah Marwa, Nuhu Moto, University of Dar es Salaam (2017), Miriam Esanju, University of Dar es Salaam, Ammandip Duggal, ETH (2018), Johannes Nödel, Austria (2019), Kapanda Kapanda, University of Zambia (2020), Daniela Seitz, ETH (2021), Pavan Indireddy IHE (2021), Helena Verloo, TU Delft (2022), Anooj Ramanathan, TU Hamburg (2023), Sejal Dangi, TU Delft (2024), Natalia Montoya, EPFL (2024), Gomezyo Mhone (UNZA, ongoing), Andrug Williams (Strathclyde University, ongoing).

Mentoring of EPP and ETH4D fellows: Teddy Nakato (2012), El hadji Mamadou Sonko (2012), Ebenezer Soh Kengne (2013), Amadou Gueye (2013), Lungu Zuma (2013), Alsane Seck (2014), Amadou Gueye (2015) Pavan Indireddy (2018), Prerna Prasad (2020), Maria Isabel Amorin (2021), Nida Maqbool (2022), Anne Nakagiri (2022).

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PEER-REVIEWED SCIENTIFIC PUBLICATIONS

BOOK CONTRIBUTIONS

Methods for Faecal Sludge Analysis. ISBN: 9781780409122 eBook: 9781780409122 IWA Publishing, London, 2021.

- Velkushanova, K., **Strande, L.**, Ronteltap, M., Koottatep, T., Brdjanovic, D., Buckley, C. (Editor)
- Chapter 1. Setting the Stage. **Strande, L.**, Velkushanova, K., Brdjanovic, D. (Author)
- Chapter 2. Faecal sludge properties and considerations for characterization. Velkushanova, K., **Strande, L.** (Author)
- Chapter 3. Faecal sludge sample collection and handling. Koottatep, T., Ferré, A., Chapagain, S., Fakkaew, K., **Strande, L.** (Author)
- Chapter 4. Experimental design for the development, transfer, scaling-up, and optimization of treatment technologies: case studies of dewatering and drying. Ward, B.J., Septien, S., Ronteltap, M. **Strande, L.** (Author)
- Chapter 5. Estimating quantities and qualities (Q&Q) of faecal sludge at community to citywide scales. **Strande, L.**, Englund, M., Andriessen, N., Carbajal, J.P., Scheidegger, A. (Author)
- Chapter 7. Faecal sludge simulants: review of synthetic human faeces and faecal sludge for sanitation and wastewater research. Penn, R., Ward, B.J., **Strande, L.**, Maurer, M. (Author)
- Chapter 8. Laboratory procedures and methods for characterisation of faecal sludge. Velkushanova, K., Reddy, M., Zikalala, T., Gumbi, B., Archer, C., Ward, B.J., Andriessen, N., Sam, S., **Strande, L.**, (Author)

Faecal Sludge Management: Highlights and Exercises. Englund, M., **Strande, L.** (Editor). ISBN 978-3-906484-70-9, Eawag: Swiss Federal Institute of Aquatic Science and Technology. 2019.

Guidelines on Sanitation and Health. **Strande, L.** (Member of the Development Committee). ISBN 978-92-4-151470-5. World Health Organization (WHO) 2018.

Resource Recovery from Waste: Business Models for Energy, Nutrient and Water Reuse in Low- and Middle-income Countries. **Strande, L.** (Book Contributor). Otoo, M., Drechsel, P. (Editors) Oxon, UK: Routledge – Earthscan, 816 pg. ISBN: 9781138016552 (hardcover) 9781315780863 (eBook), 2018.

Faecal Sludge Management: Systems Approach for Implementation and Operation. IWA Publishing, London. 2014. 432 pg. ISBN: 9781780404721 (Hardback) 9781780404738 (eBook), Book available in English, French, Spanish, Hindi, Marathi and Tamil, and Russian translation in preparation.

- **Strande, L.**, Ronteltap, M., Brdjanovic, D. (Editor)
- Chapter 1. The Way Forward. **Strande, L.** (Author)
- Chapter 2. Quantification, Characterization, and Treatment Objectives. Niwagaba, C., Mbéguéré, M., **Strande, L.** (Author)
- Chapter 3. Treatment Mechanisms. Bassan, M., Dodane, P.H., **Strande, L.** (Author)
- Chapter 10. Enduse of Treatment Products. Kengne, I.M., Moya, B., **Strande, L.** (Author)

REFEERED JOURNAL ARTICLES

CURRICULUM VITAE

LINDA STRANDE

- Coppens, K., Geyer, T., Monod, A., **Strande, L.**, Stoll, S. Evaluation of vermifilter-treated domestic wastewater for irrigation and fertigation: opportunities and challenges for implementation. *Journal of Water Process Engineering* 77, 108295, 2025.
- Coppens, K., **Strande, L.**, Stoll, S. Performance analysis and impact of operating conditions on the treatment capacity of two full-scale vermifilters. *Journal of Environmental Management*, 391, 126328, 2025.
- Kang, S., Wettlauffer, A., de Korne, J., Niwagaba, C.B., **Strande, L.**, Duong, D., Shelden, B., Julian, T.R., Boehm, A.B. Importance of a heat snap in RT-PCR quantification of rotavirus double-stranded RNA in wastewater. Submitted to *Environmental Science: Water Research & Technology*.
- Sam, S.B., Smith, S.K., Niederdorfer, R., Scheidegger, A., Ward, B.J., Tembo, J., Kabika, J., Johnson, D.R., Bürgmann, H., Morgenroth, E., **Strande, L.** Microbial community composition reflects water usage and storage conditions in a city-wide study of non-sewered wastewater (fecal sludge). *PLOS Water* 4(6) e0000386, 2025.
- Vogel, M., Bergström, M., JahJah, R.A., Hankache, C., Touma, R., **Strande, L.** Comparing total suspended solids sensors for improved dewatering of wastewater from non-sewered sanitation. *Journal of Environmental Management*. *Journal of Environmental Management* 373, 123554, 2025.
- Kapanda, K., Sam, S., Andriessen, N., Ward, B.J., **Strande, L.**, Tembo, J.M. Metrics for stabilization of fecal sludge, and relation to dewatering metrics. *Journal of Water, Sanitation & Hygiene for Development*, 14 (5), 389-399, 2024.
- Strande, L.** Integrating Recent Scientific Advances to Enhance Non-Sewered Sanitation in Urban Areas. *Nature Water*, 2, 405–418, 2024.
- Maqbool, N., Sam, S.B., Khan, S.J., **Strande, L.** Biomethane potential of fresh and stored fecal sludge, food waste, and relation of organic fractions to biogas production. *Journal of Water, Sanitation & Hygiene for Development*, 14 (3): 277–290, 2024.
- Strande, L.**, Evans, B., von Sperling, M., Bartram, J., Harada, H., Nakagiri, A., Nguyen, V.-A. Urban Sanitation: New Terminology for Globally Relevant Solutions? *Environmental Science & Technology*, 57, 42, 15771-15779, 2023.
- Sam, S.B., Morgenroth, E., **Strande, L.** From feces to fecal sludge: the influence of diet, organic fractions, cations, and stabilization on dewatering performance. *Journal of Water Sanitation and Hygiene for Development*, 13(9), 699-710, 2023.
- Andriessen, N., Appiah-Effah, E., Browne, S.J.I., al Jahjah, R., Kabika, J., Kinobe, J.R., Korir, N., Nishimwe, P., Niwagaba, C.B., Pradeep, R., Prasad, P., Tembo, J.M., William, A., Ambuehl, B., **Strande, L.** Quantities and qualities of faecal sludge: Experiences from field implementation with a Volaser in 7 countries during a pandemic. *Frontiers in Water*, 5, 1130081, 2023.
- Ward, B.J., Nguyen, M.T., Sam, S.B., Korir, N., Niwagaba, C., Morgenroth, E., **Strande, L.** Particle size as a driver of dewatering performance and its relationship to stabilization in fecal sludge. *Journal of Environmental Management* Vol 326, 116801, 2023
- Sam, S.B., Ward, B.J., Niederdorfer, R., Morgenroth, E., **Strande, L.** Elucidating the role of extracellular polymeric substances (EPS) in dewaterability of fecal sludge from onsite sanitation systems, and changes during anaerobic storage. *Water Research* Vol 222, 2022.
- Shaw, K., Vogel, M., Andriessen, N., Hardeman, T., Dorea, C., **Strande, L.** Towards globally relevant, small-footprint dewatering solutions: Optimal conditioner dose for highly variable blackwater from non-sewered sanitation. *Journal of Environmental Management* Vol 321, 2022.
- Prasad, P., Andriessen, N., Moorthy, A., Das, A., Coppens, K., Pradeep, R., **Strande, L.** Field-testing of methods for the estimation of quantities and qualities (Q&Q) of faecal sludge in Sircilla, India. *Journal of Water, Sanitation and Hygiene for Development* 2021.

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- Ward B.J., Andriessen N., Tembo J.M., Kabika J., Grau M., Scheidegger A., Morgenroth E., and **Strande L.** Predictive models using cheap and easy field measurements: Can they fill a gap fecal sludge monitoring and process control? *Water Research* 2021.
- Narayan, A.S., Marks, S.J., Meierhofer, R., **Strande, L.**, Tilley, E., Zurbrugg, C., Lüthi, C. Advancements in and Integration of Water, Sanitation and Solid Waste in Low and Middle Income Countries. Annual Review of Environment and Resources 2021.
- Bleuler, M., Gold, M., **Strande, L.**, Schönborn, A. Pyrolysis of Dry Toilet Substrate as a Means of Nutrient Recycling in Agricultural Systems: Potential Risks and Benefits. *Waste and Biomass Valorization* 2021.
- Englund, M., Carbajal, J.P., Ferré, A., Bassan, M., Vu, T.H.A., Nguyen, V.A., **Strande, L.** Modelling quantities and qualities (Q&Q) of faecal sludge in Hanoi, Vietnam and Kampala, Uganda for improved management solutions. *Journal of Environmental Management*, 261, 2020, 110202.
- Peal, A., Evans, B., Sangaralingam, A., Ban, R., Blackett, I., Hawkins, P., Schoebitz, L., Scott, R., Sleight, A., **Strande, L.**, Roda, O. Estimating safely managed sanitation in urban areas; lessons learned from a global implementation of excreta-flow diagrams, *Frontiers in Environmental Science*, 31 January 2020.
- Ward, B.J., Gueye, A., Diop, B., Traber, J., Morgenroth, M., **Strande, L.** Evaluation of conceptual model and predictors of faecal sludge dewatering performance in Senegal and Tanzania. *Water Research*, 167, article 115101, 2019.
- Fischer, M., Nguyen, M., **Strande, L.** Context matters: horizontal and hierarchical network governance structures in the Vietnamese sanitation sector. *Ecology and Society*, 24 (3):17 2019.
- Andriessen, N., Ward, B.J., **Strande, L.** To char or not to char? Review of technologies to produce solid fuels for resource recovery from faecal sludge. *Journal of Water, Sanitation and Hygiene for Development*, 9 (2): 210-224 2019.
- Gold, M., Bleuler, M., Cunningham, M., Arnheiter, R., Schönborn, A., Niwagaba, C., **Strande, L.** Operating parameters for three resource recovery options from slow-pyrolysis of faecal sludge. *Journal of Water, Sanitation and Hygiene for Development*. August 8:4, 707-717 2018.
- Strande, L.**, Schoebitz, L., Bischoff, F., Ddiba, D., Niwagaba, C. Methods to reliably estimate faecal sludge quantities and qualities for the design of treatment technologies and management solutions. *Journal of Environmental Management*. 223:1, 898-907 2018.
- Roni, P., Ward, B.J., **Strande, L.**, Maurer, M. Review of synthetic human faeces and faecal sludge for sanitation and wastewater research. *Water Research* Apr 1;132, 222-240 2018.
- Gold, M., Harada, H., Therrien, J.-D., Nishida, T., Cunningham, M., Semiyaga, S., Fujii, S., Niwagaba, C., Dorea, C., Nguyen, V.-A., **Strande, L.** Cross-country analysis of faecal sludge dewatering. *Environmental Technology* Sep 12, 1-11 2018.
- Schoebitz, L., Bischoff, F., Lohri, C.R., Niwagaba, C., Siber, R., **Strande, L.** GIS analysis and optimization of faecal sludge logistics at city-wide scale in Kampala, Uganda. *Sustainability* 9:2, 194-2017.
- Gold, M., Sekigongo, P., Ddiba, D., Seck, A., Niwagaba, C., Diene, A., Diaw, S., Niang, S., **Strande, L.** Faecal sludge as a solid industrial fuel: A pilot-scale study. *Journal of Water, Sanitation and Hygiene for Development* 7:2, 243-251 2017.
- Gueye, A., Mbeguere, M., Niang, S., Diop, C., **Strande, L.** Novel plant species for faecal sludge drying beds: Survival, biomass response and forage quality. *Ecological Engineering*. 94, 617-621, 2016.
- Gold, M., Dayer, P., Faye, C., Clair, G., Seck, A., Niang, S., Morgenroth, E., **Strande, L.** Locally produced natural conditioners for dewatering of faecal sludge, *Environmental Technology* April 17, 1-13, 2016.
- Bischel, H., Oezel, B., **Strande, L.**, McArdell, C., Udert, K., Kohn, T. Pathogens and pharmaceuticals in source-separated urine in eThekweni, South Africa. *Water Research*, 85, 57-65, 2015.

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- Bassan, M., Mbéguéré, M., Koné, D., Holliger, C., **Strande, L.** Success and failure assessment methodology for wastewater and faecal sludge treatment projects in low-income countries. *Journal of Environmental Planning and Management*, 58 (10) 1690-1710, 2015.
- Udert, K.M., Buckley, C.A., Etter, B., McArdell, C., Kohn, T., **Strande, L.**, Hug, A., Wächter, M., Zöllig, H. Technologies for the treatment of source-separated urine in eThekweni. *Water SA*, 41 (2) 2015.
- Seck, A., Gold, M., Niang, S., Mbéguéré, M., Diop, C., **Strande, L.** Technology development of unplanted drying beds for resource recovery from faecal sludge: fuel production in Sub-Sahara Africa. *Journal of Water Sanitation and Hygiene for Development*, 5 (1) 72-80, 2015.
- Sonko, E.h.M., Mbéguéré M., Diop, C., Niang, S., **Strande, L.** Effect of hydraulic loading frequency on performance of planted drying beds for the treatment of faecal sludge. *Journal of Water Sanitation and Hygiene for Development* 4(4) 633-641 2014.
- Kengne, E.S., Kengne, I.M., Nguetsop, V.F., Foubi, I.S., Akoa, A., **Strande, L.** Algal diversity and distribution in Waste Stabilization Ponds treating faecal sludge leachate from drying vegetated beds. *International Journal of Biological and Chemical Sciences* 8(3): 946-955, 2014.
- Tilley, E., **Strande, L.**, Lüthi, C., Mosler, H.-J., Udert, K., Gebauer, H., Hering, J.G. Looking beyond technology to provide adequate and sustainable sanitation in low income countries. *Environmental Science & Technology* 48(17) 9965–9970, 2014.
- Kengne, E.S., Kengne, I.M., Arseneau, L.N.W., Akoa, A., Nguyeng –Viet, H., **Strande, L.** Performance of Vertical Flow Constructed Wetlands for Faecal Sludge Drying Bed Leachate: Effect of Hydraulic Loading. *Ecological Engineering* 71 384–393, 2014.
- Diener, S., Semiyaga, S., Niwagaba, C., Murray, A., Gning, J.B., Mbéguéré, M., Ennin, J.E., Zurbrugg, C., **Strande, L.** A value proposition: resource recovery from faecal sludge – can it be the driver for improved sanitation? *Resources Conservation & Recycling* 88 32-38, 2014.
- Murray Muspratt, A., Nakato, T., Niwagaba, C., Dione, H., Baawuah, N., Kang, J., Stupin, L., Regulinski, J., Mbéguéré, M., **Strande, L.** Fuel Potential of Faecal Sludge: Calorific Value Results from Uganda, Ghana, and Senegal. *Journal of Water Sanitation and Hygiene for Development* 4:2 223-230, 2014.
- Bassan, M., Mbéguéré, M., Zabsonre, F., **Strande, L.** Integrated faecal sludge management scheme for the cities of Burkina Faso. *Journal of Water, Sanitation and Hygiene for Development* 3 216-221, 2013.
- Dodane, P.H., Mbéguéré, M., Ousmane, S., **Strande, L.** Capital and Operating Costs of Full-Scale Faecal Sludge Management and Wastewater Treatment Systems in Dakar, Senegal. *Environmental Science & Technology* 46:7 3705-3711, 2012.
- Gaulke, L.S.¹**, Weiyang, X., Scanlon, A., Henck, A., Hinckley, T. Evaluation Criteria for Implementation of a Sustainable Sanitation and Wastewater Treatment System at Jiuzhaigou National Park, Sichuan Province China. *Environmental Management* 45:(1) 93-104, 2010.
- Gaulke, L.S.¹**, Strand, S.E., Kalhorn, T.F., Stensel, H.D. Estrogen Biodegradation Kinetics and Estrogenic Activity Reduction for Two Biological Wastewater Treatment Methods. *Environmental Science & Technology* 43:(18) 7111-7116, 2009.
- Gaulke, L.S.¹**, Strand, S.E., Kalhorn, T.F., Stensel, H.D. Estrogen Nitration Kinetics and Implications for Wastewater Treatment. *Water Environment Research*, Special Issue: Biological Treatment 81:(8) 772-778, 2009.
- Gaulke, L.S.¹**, Strand, S.E., Kalhorn, T.F., Stensel, H.D. 17 α -ethinylestradiol Transformation via Abiotic Nitration in the Presence of Ammonia Oxidizing Bacteria. *Environmental Science & Technology*, 42:(20) 7622-7627, 2008.

¹ formerly Linda Strande Gaulke

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Gaulke, L.S.¹, Borgford-Parnell, J.L., Stensel, H.D. A Decentralized and Onsite Wastewater Management Course: Bringing Together Global Concerns and Practical Pedagogy. *Water Science and Technology*, 58:(7) 1397-1404, 2008.

Gaulke, L.S.¹, Johkasou: On-site Wastewater Treatment and Reuses in Japan. *Proceedings of the Institute of Civil Engineers - Water Management*, 159:(2) 103-109, 2006.

Gaulke, L.S.¹, Brown, S.L., Henry, C.L. Nitrogen Fixation and Growth Response of *Alnus rubra* Amended with Low and High Metal Content Biosolids. *Scientia Agricola*, 53:(4) 351-360. 2006.

Gaulke, L.S.¹, Brown, S.L., Henry, C.L. Nitrogen Fixation and Growth Response of *Alnus rubra* Following Fertilization with Urea or Biosolids. *Scientia Agricola*, 53(4) 361-369, 2006.

REFEREED CONFERENCE PROCEEDINGS

Ward, B.J., Allen, J., Escamilla, A., Sivick, D., Sun, B., Yu, K., Dahlberg, R., Niu, R., Ward, B.C., **Strande, L.** Sludge Snap: A machine learning approach to fecal sludge characterization in the field. *42nd WEDC International Conference, Online, 2021*

Moto, N., Esanju, M., Andriessen, N., Kimwaga, R., **Strande, L.** Use of chitosan and Moringa oleifera as conditioners for improved dewatering of faecal sludge. *41st WEDC International Conference, Nakuru Kenya, 2018.*

Andriessen, N., Schoebitz, L., Bassan, M., Bollier, S., **Strande, L.** Market Driven Approach for faecal sludge treatment products. *40th WEDC International Conference, Loughborough, UK, 2017.*

Ward, B.J., Gold, M., Turyasiima, D., Studer, F., Getkate, W., Maiteki, J.M., Niwagaba, C.B., **Strande, L.** SEEK (Sludge to Energy Enterprises in Kampala): Co-processing faecal sludge for fuel production. *40th WEDC International Conference, Loughborough, UK, 2017.*

Gold, M., Niang, S., Niwagaba, C.B., Eder, G., Murray Muspratt, A., Diop, P.S., **Strande, L.** Results from FaME (Faecal Management Enterprises) – can dried faecal sludge fuel the sanitation service chain? *37th WEDC International Conference, Hanoi Vietnam, 2014.*

Bassan, M., Dao, N., Nguyen, V.A., Holliger, C., **Strande, L.** Technologies for sanitation: how to determine appropriate sludge treatment strategies in Vietnam. *37th WEDC International Conference, Hanoi Vietnam, 2014.*

Schoebitz, L., Bassan, M., Ferré, A., Vu, T.H.A., Nguyen, V.A., **Strande, L.** FAQ: Faecal Sludge Quantification and Characterization – field trial of methodology in Hanoi, Vietnam. *37th WEDC International Conference, Hanoi Vietnam, 2014.*

Bassan, M., Tchonda, A., Mahamane, I., Zöllig, H.P., **Strande, L.** Characterization of Faecal Sludge in Dry and Rainy Seasons, Ouagadougou, Burkina Faso. *36th WEDC International Conference, Nakuru Kenya, 2013.*

Bassan, M., **Strande, L.** Capacity strengthening in sanitation: benefits of a research - operator collaboration. *35th WEDC International Conference, Loughborough University, 2011.*

Gaulke, L.S.¹, Weiyang, X. Scanlon, A. Case study of Sanitation and Wastewater Treatment in a National Park: Jiuzhaigou National Park, Sichuan Province, China. *Water for Life: Decentralized Infrastructure for a Sustainable Future, joint conference of International Water Association (IWA) and National Onsite Wastewater Recycling Association (NOWRA), Baltimore, Maryland, 2007.*

Gaulke, L.S.¹ Lessons Learned from Japan's System of Integrated Onsite Wastewater Management, *National Onsite Wastewater Recycling Association (NOWRA) 15th Annual Conference, Denver, Colorado, 2006.*

INVITED PRESENTATIONS AND CONFERENCE PROCEEDINGS (since 2020)

CURRICULUM VITAE

LINDA STRANDE

Strande, L. Podium Presentation. Determining Population Equivalents for Individual, Non-sewered Sanitation Systems. IWA Development Congress, Bangkok December 2025.

Strande, L., Dorea, C., Evans, B. Workshop. The science you need to understand emissions from non-sewered sanitation. IWA Development Congress, Bangkok December 2025.

Wainaina, G., MacArthur, J., Evans, B., Mwalugongo, W., Gambrill, M., Mururi, E.W., Shm Fakhruddin, B., Caplan, K., Mann, E., **Strande, L.** Organize to Adapt! No Resilient Interventions, Without Resilient Organizations. Stockholm World Water Week August 2025.

Strande, L. Podium Presentation. Population Equivalents for Non-sewered Sanitation. 35th SuSanA Meeting Stockholm August 2025.

Strande, L. Invited Online Presentation, with Practical Action. Global Challenges and Opportunities with FSM. Toilet Conference, Bangladesh February 2025.

Strande, L. Invited participation at EBNet Scientific Workshop. Leeds University, January 2025.

Strande, L. Invited public lecture. Urban Non-sewered Sanitation: Integrating Recent Advancements for Globally Relevant Solutions. TU Delft September 2024.

Strande, L. Session organizer. 'Is failure a key step in mainstreaming technology innovation?' World Bank, Bill&Melinda Gates Foundation, Water for People, Sanivation, University of Western Australia, Eawag. Stockholm World Water Week, August 2024

Strande, L. Podium presentation. How sanitation can help meet the global methane pledge. Stockholm World Water Week, August 2024

Strande, L. Podium presentation. Fecal sludge management, the beginning or end of an era in terminology? 34th SuSanA Meeting, Stockholm August 2024

Strande, L. Podium presentation. Integrated Approach to Estimating Greenhouse Gas Emissions 34th SuSanA Meeting, Stockholm August 2024

Strande, L. The Importance of Language in the Sanitation Sector. Eawag World Toilet Day Discussion, November 2023.

Strande, L. From Toilets to Treatment: The Importance of Terminology. CSE World Toilet Day Webinar, November 2023.

Vogel, M., **Strande, L.** Piloting an automated, modular in-building blackwater dewatering unit for dense urban areas. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.

Andriessen, N., Vogel, M., Ramanathan, A., Verloo, H., **Strande, L.** Treatment of supernatant from dewatering of faecal sludge with a moving bed biofilm reactor (MBBR). IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.

Vogel, M., **Strande, L.** Low-cost and low-footprint dewatering of blackwater with flocculants. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.

Sam, S., Morgenroth, E., **Strande, L.** The role of constituents in fecal sludge and stabilization on dewatering performance. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.

Kemboi, E., Ward, B.J., Morgenroth, E., **Strande, L.** Small particles drive poor dewatering in fecal sludge. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.

Strande, L. Keynote presentation. Science and innovation trends: importance of terminology for globally relevant solutions. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.

CURRICULUM VITAE

LINDA STRANDE

- Bogati, N., Maqbool, N., Khan, S.J., **Strande, L.** Biomethane potential of fresh and stored fecal sludge, food waste and relation of organics to biogas production. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.
- Shaw, K., Dorea, C., **Strande, L.** Characterizing Biodegradation in NSS: Field Sampling, Microbiological Analysis, and In Situ Greenhouse Gas Measurements. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.
- Coppens, K., Stoll, S., **Strande, L.** Performance of a full-scale vermifilter for domestic wastewater treatment in Geneva, Switzerland. IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.
- Strande, L.**, Ward, B.J., Sam, S.B., Andriessen, N., Vogel, M., Shaw, K., Kemboi, E. Dewatering and drying workshop: Dewatering of feces, fecal sludge and blackwater: Research and implications from MEWS (Management of Excreta, Wastewater and Sludge). IWA Non-Sewered Sanitation Conference, Johannesburg, South Africa 15-18 October, 2023.
- Ward, B.J., **Strande, L.** Sludge Snap: Easily predicting sludge characteristics using photos and machine learning. WaterJAM 2023 Technical Program, Virginia Beach Convention Center, September 11-14, 2023.
- Strande, L.**, Research Update: Technologies for Faecal Sludge Management, *invited* presentation. Aguasan meeting N°156, Bern Switzerland March 2023
- Strande, L.**, High Level Symposium, *invited* presentation. FSM7 Abidjan, Ivory Coast 19-23 February 2023.
- Strande, L.**, Andriessen, N., Vogel, M., Applied research for scaling up low-footprint, community-scale faecal sludge treatment solutions. FSM7 Abidjan, Ivory Coast February 2023
- Strande, L.**, Research Update: Technologies for Faecal Sludge Management, *invited* presentation. KfW Runde Wasser and Abfall Seminar, online December 2022
- Sam, S.B., Ward, B.J., Andriessen, N., Vogel, M., **Strande, L.**, Dewatering of faecal sludge: Missing link for safely managed Sanitation. IWA Congress and Exhibition, Copenhagen Denmark, September 2022
- Sam, S.B., Ward, B.J., Andriessen, N., Vogel, M., **Strande, L.**, Dewatering of faecal sludge: Missing link for safely managed Sanitation. 9th World water Forum, Dakar Senegal, March 2022
- Vogel, M., **Strande, L.** Sensors for off-grid dewatering of blackwater. Poster presentation. 4RI Sensor Marketplace, Dübendorf September 2022
- Vogel, M., **Strande, L.** Dewatering of Blackwater, the Missing Link for Integrated Off-Grid Solutions. Podium presentation. Eawag Symposium, Dübendorf September 2022
- Ward, B.J., Allen, J., Escamilla, A., Sivick, D., Sun, B., Yu, K., Dahlberg, R., Niu, R., Ward, B.C., **Strande, L.** Sludge Snap: a Machine learning approach to fecal sludge characterization in the field. 42nd WEDC International Conference. ONLINE: 13 – 15 September, 2021.
- Riedler, B., Nödel, J., Siber, R., Andriessen, N., **Strande, L.**, Lang, S.. Supporting urban sanitation management through the integration of EO-based indicators. EARSEL joint workshop 2021: Earth Observation for sustainable cities and communities
- Strande, L.** Innovations in Faecal Sludge Management, *invited* presentation. WESTalk Seminar Series. Online/Vancouver CA, March 2021
- Strande, L.** Reflections on Global Sanitation, *invited* presentation. WRC Seminar, Global Sanitation Developments - Recognising Heroes and Legends. Online/Durban SA, March 2021
- Strande, L.** Participant in *invited* panel discussion “Sanitation Targets of SDG 6.2: Thinking goes beyond piped sewers” India Sanitation Conclave, Online/New Dehli India, November, 2020.
- Strande, L.** Participant and *invited* presentation, Joint Monitoring Program (JMP) Expert Group Meeting on Safe Management of On-site Sanitation (SMOSS). Online, March 2020.
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CURRICULUM VITAE

LINDA STRANDE

OTHER PUBLICATIONS (since 2020)

POLICY AND RESEARCH BRIEFS

Wainaina, G., Podgorski, J., **Strande, L.**, Lüthi, C., Brown, J.E., Mills, O., Setty, K., Poulin, C. AI in Water and Wastewater Sectors – Background, Potential & Emerging Applications. Sandec-Eawag (2024).
Vogel, M., Hasler, D., **Strande, L.** Piloting Small Footprint Wastewater Dewatering for Non-Sewered Sanitation. Sandec-Eawag (2025).

ARTICLES

Sandec News, 57 articles as senior author during 2011 – 2025, Editor since 2025.

<https://www.eawag.ch/en/departement/sandec/publications/sandec-news/>

Strande, L., Changing times for urban non-sewered sanitation. Linda Strande reflects on the transformation around the non-sewered sanitation agenda for urban areas. The Source, August 2021.

Doll, C., Larsen, T.A., **Strande, L.**, Udert, K., Morgenroth, E. Water Hub - Eine Plattform zum Testen von innovativen ressourcenorientierten Sanitärsystemen, Aqua und Gas 2020.

Strande, L., How to fill the non-sewered sanitation skills gap. The Source, April 2019.

REPORTS

Klinger, M., **Strande, L.** Research Needs: Sanitation Spatial Representation. SFD Project Report. January 2021, Eawag, Dübendorf Switzerland.

Klinger, M., Gueye, A., Sherpa, A.M., **Strande, L.** Scoping Study: Faecal Sludge Treatment Plants in South-Asia and sub-Saharan Africa. December 2019, Bill & Melinda Gates Foundation
(<https://doi.org/10.21955/gatesopenres.1116557.1>)

INTERNATIONAL EXPERIENCE

RESEARCH COLLABORATIONS *(since 2010, external to ETH Domain)*

500B (Nepal)

Asian Institute of Technology (AIT, Thailand)

BioBurn AG (Switzerland)

Bremen Overseas Research and Development Association (BORDA, Tanzania and Global)

Centre for Dewats Dissemination Society (CDD Society, Bangalore, India)

Chiekh Anta Diop University (Dakar, Senegal)

Center for Energy, and Energy Conservation (CREEC, Kampala, Uganda)

Centre for Science and Environment (CSE, India)

CubeX (Lebanon)

Delvic Sanitation Initiatives (Delvic, Senegal)

Environmental and Public Health Organization (ENPHO, Nepal)

eThekwini Municipality (Durban, South Africa)

GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany)

Goal (Sierra Leone)

Hanoi University of Civil Engineering (HUCE, Vietnam)

hydrophil IC (Austria)

IHE (Netherlands)

CURRICULUM VITAE

LINDA STRANDE

INDEQUI (Guatemala)
International Centre for Water Management Services (CEWAS, Switzerland)
International Water Management Institute (IWMI, Sri Lanka)
Kyoto University Graduate School of Global Environmental Studies (GSGES, Japan)
Makerere University (Kampala, Uganda)
Milton Margai Technical University (Freetown, Sierra Leone)
MOSAN (Guatemala)
National Sanitation Utility of Burkina Faso (ONEA)
National Sanitation Utility of Senegal (ONAS)
National Water and Sewerage Corporation (NWSC, Uganda)
Sanergy (Kenya)
Sanivation (Kenya)
Swiss Tropical and Public Health Institute (Swiss TPH, Switzerland)
Tribecraft AG (Switzerland)
University of Dar es Salaam (Tanzania)
Universidade Federal de Minas Gerais (Brazil)
University of Leeds (England)
University of Victoria (Canada)
University of Yaounde I (Cameroon)
University of Zambia (Lusaka, Zambia)
Virginia Commonwealth University (USA)
WASH R&D Centre (Formerly Pollution Research Group, Durban, South Africa)
Waste Enterprisers (Mombasa, Kenya)
WEDC/Loughborough University (England)
Water Sanitation Programme (WSP) of the World Bank
World Health Organization (WHO, Switzerland)
Z_GIS, University of Salzburg (Austria)
Zürcher Hochschule für Angewandte Wissenschaften ZHAW (Wädenswil and Winterthur, Switzerland)
Zürcher Hochschule der Künste ZhDK (Zurich, Switzerland)

WORK/TRAVEL EXPERIENCE

American Samoa, Australia, Austria, Botswana, Burkina Faso, Cameroon, Canada, China, Colombia, Croatia, Cuba, England, France, Germany, Ghana, Greece, Hungary, India, Ireland, Italy, Ivory Coast, Japan, Kenya, Laos, Lesotho, Malawi, Mexico, Morocco, Mozambique, Nepal, Netherlands, New Zealand, Portugal, Rwanda, Senegal, Serbia, South Africa, Scotland, Sierra Leone, Spain, Swaziland, Sweden, Switzerland, Tanzania, Thailand, Uganda, USA, Vietnam, Western Samoa, Zambia, Zimbabwe