

## Curriculum Vitae

### STEFAN DIENER

Biologist PhD  
Im Gumpersloo  
9602 Bazenheid  
Switzerland  
Tel: +41 79 268 28 60  
e-mail: stefandiener100@gmail.com



**Date of birth:** 9 January 1971

**Nationality:** Swiss

**Languages:** German - mother tongue, English - fluent,  
French – proficient, but rusty, Spanish – conversational,  
Swedish – very basic

#### Short profile

---

- Research on waste management in low and middle-income countries
- Bioconversion of organic waste by larvae of the black soldier fly, *Hermetia illucens*
- Working experience in Costa Rica, India, Indonesia, Moldova, Senegal, Uganda, Ukraine

#### Professional activities

---

2014/5-today	<b>Project Manager</b> at Swiss Federal Institute of Aquatic Science and Technology (Eawag), Department of Sanitation, Water and Solid Waste for Development (Sandec). Research on organic waste management with focus on larva composting, using the black soldier fly. 15 months based at the Swedish Agricultural University SLU in Uppsala.
2012/11-2014/4	<b>Consultant</b> at Skat Consulting Ltd. in St.Gallen, Switzerland. Project management and backstopping in the area of water supply, sanitation and solid waste management for the Swiss Agency for Development and Cooperation (SDC), mostly in Ukraine and Moldova
2012/6-2012/10	<b>Private Consultant</b> for solid waste management with mandates for the Bill & Melinda Gates Foundation and the Swedish Agricultural University SLU
2010/9–2012/5	<b>Project officer</b> at Eawag, Department Sandec. Research on solid waste management and faecal sludge treatment in developing countries (Costa Rica, Senegal, Ghana, Uganda, Indonesia)
2006/6–2010/8	<b>PhD student</b> at Swiss Federal Institute of Technology (ETH), Zurich, Switzerland. “Valorisation of Organic Solid Waste using the Black Soldier Fly, <i>Hermetia illucens</i> , in Low and Middle-Income Countries”. Supervisors: Prof. Jukka Jokela, Prof. Klement Tockner and Dr. Christian Zurbrügg. Including 16 month practical work in Costa Rica (TEC, Cartago and EARTH, Guácimo)

2005/7–2006/6	<b>Research Associate</b> at Eawag, Department Sandec. Development of guidelines for greywater management in developing countries
2005/5–2005/7	<b>Research Associate</b> at School of Life Sciences and Facility Management (ZHAW), Wädenswil, Switzerland. Planning and teaching of practical courses in aquatic ecology
2004/4–2004/8	<b>Project Manager</b> at International Water Management Institute (IWMI), Hyderabad, India. Application of a biotic index for rapid water quality assessment in the highly polluted Musi River in India
1993–2003	<b>Desktop publishing specialist</b> , McKinsey & Co, Erlenbach and Zurich
1990–1992	<b>Developer and repair specialist</b> of power supply equipment, Fabrimex AG, Erlenbach

## Education

---

2006–2010	<b>PhD</b> , Swiss Federal Institute of Technology (ETH), Zurich
1997–2004	<b>MSc in Biology</b> , specialized in Ecology and Entomology, Swiss Federal Institute of Technology (ETH) and University of Zurich, Switzerland. MSc Thesis “Quantitative pollen requirements of selected oligolectic bee species”. Supervisors Dr. Andreas Müller and Prof. Silvia Dorn
1994–1997	<b>High school for adults</b> (Kantonale Maturitätsschule für Erwachsene), Zurich
1986–1990	<b>Apprenticeship as Electronic Specialist</b> (Elektroniker), Cerberus AG, Männedorf

## Publications

---

### Peer reviewed publications

- Lohri, C.R., **Diener, S.**, Zabaleta, I., Mertenat, A., Zurbrügg, C., *Accepted manuscript*, Treatment technologies for urban solid biowaste to create value products - A review with focus on low- and middle-income settings, *Reviews in Environmental Science and Bio/Technology*
- Diener, S.**, Zurbrügg, C., Tockner, K., 2015, Bioaccumulation of heavy metals in the black soldier fly, *Hermetia illucens* and effects on its life cycle, *Journal of Insects as Food and Feed*, 1(4), 261-270
- Lalander, C., Fidjeland, J., **Diener, S.**, Eriksson, S., Vinneras, B., 2014, High waste-to-biomass conversion and efficient Salmonella reduction using black soldier fly for waste recycling, *Agronomy for Sustainable Development*, 35(1), 261-271
- Diener, S.**, Semiyaga, S., Niwagaba, C.B., Murray Muspratt, A., Gning, J.B., Mbéguéré, M., Ennin, J.E., Zurbrugg, C., Strande, L., 2014, A value proposition: resource recovery from faecal sludge - can it be the driver for improved sanitation?, *Resources, Conservation & Recycling* 88(0): 32-38
- Lalander, C, **Diener, S.**, Magri, M.S., Zurbrugg, C., Lindström, A., Vinneras, B., 2013, Faecal sludge management with the larvae of the black soldier fly (*Hermetia illucens*) - From a hygiene aspect, *Science of the Total Environment*, 458-460:312-318
- Diener, S.**, Studt Solano, N.M., Roa Gutiérrez, F., Zurbrügg, C., Tockner, K., 2011, Biological treatment of municipal organic waste using black soldier fly larvae, *Waste and Biomass Valorization*, 2(4): 357-363

- Diener, S., Zurbrügg, C., Tockner, K., 2009, Conversion of organic material by black soldier fly larvae – Establishing optimal feeding rates. *Waste Management and Research*, 27: 603–610**
- Müller, A., **Diener, S.**, Schnyder, S., Stutz, K., Sedivy, C., Dorn, S., 2006, Quantitative pollen requirements of solitary bees: Implications for bee conservation and the evolution of bee-flower relationships, *Biological Conservation*, 130(4): 604–615

### ***Book chapters, reports and other publications***

- Diener, S., 2014, Super Truck Trump – Faecal Sludge Trucks, A card game with sludge trucks from around the world, skat Consulting & Eawag**
- Vögeli, Y., Lohri, C.R., Gallardo, A., **Diener, S.**, Zurbrügg, C., 2014, Anaerobic Digestion of Biowaste in Developing Countries: Practical Information and Case Studies. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Dübendorf, Switzerland
- Zurbrügg, C., Rothenberger, S., Vögeli, Y., **Diener, S.**, 2007, Organic solid waste management in a framework of Millennium Development Goals and Clean Development Mechanism, In: Diaz, L.F., Eggerth, L.L., Savage, G.M. (Ed.), *Management of Solid Wastes in Developing Countries*, CISA, Padova, Italy, pp 430
- Morel, A., **Diener, S.**, 2006, Greywater Management in Low and Middle-Income Countries, Review of different treatment systems for household or neighbourhoods. Swiss Federal Institute of Aquatic Science and Technology (Eawag), Dübendorf, Switzerland, pp 96

### ***Reviewer experience***

- Journals: *Waste Management & Research*; *Water Science & Technology*; *Journal of Insect Science*; *Resources, Conservation & Recycling*; *Journal of Insects as Food and Feed*; *WaterLines*;
- Research proposals: Netherlands Organisation for Scientific Research; Bill & Melinda Gates Foundation; The Royal Society; Tiroler Forschungsförderung

### **Competitive research funding**

---

- |           |   |
|-----------|---|
| 2014-2017 | ECO-INNOVERA, 3 year research and development project “Safe Protein from Unused Waste”, CHF 628,000 (524,000 EUR)   |
| 2006–2010 | Velux Foundation funding 4 year PhD study “From Waste to Value – Using Black Soldier Flies as ecological engineers in low and middle-income countries”, CHF 270,000 (USD 240,000) |

### **Presentations**

---

#### ***Presentations at conferences***

- 2015 Oct. 5.-9, 15<sup>th</sup> International Waste management and Landfill Symposium, Cagliari, Sardinia, Italy. **Oral presentation:** Opportunities and constraints for medium-scale organic waste treatment with fly larvae composting”
- 2011 Feb. 13-15, WasteSafe 2011, 2<sup>nd</sup> International Conference on solid Waste Management in Developing Countries, Khulna, Bangladesh. **Oral presentation:** “Black Soldier Fly Larvae for Organic Waste Treatment – Prospects and Constraints”

2009 Oct. 5–9, Twelfth International Waste Management and Landfill Symposium, Cagliari, Sardinia, Italy. **Oral presentation:** “Are larvae of the black soldier fly – *Hermetia illucens* – a financially viable option for organic waste management in Costa Rica?”