



Curriculum Vitae

Zsófia Ganrot, PhD

MELICA

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I am a happy, very independent, open minded and curious person with great enthusiasm and perseverance as a driving force in life and career.

I am working today as an independent consultant as specialist in the field of wastewater treatment technologies for household waste treatment on small-scale, from single houses to eco-villages (sanitation issues). Usually, I am working with small, innovation companies to develop new and often patentable solutions for ecological and climate-friendly wastewater treatment methods.

I have also developed methods for manure treatment to highly reduce nutrient impacts in the environment both at the farm level and in the fields. My technologies are useful/tested with excellent result also on nutrient rich residue water from biogas production techniques, especially with UASB reactors.

I also have long experience in academic supervising, teaching and reviewer job for international academic publications in my field.

My knowledge and experience combined with team-working and flexibility are the cornerstones of my skills. I have been curious and extremely goal-oriented since childhood... perhaps the best proof of this you see further here in my CV.

Education and academic degrees:

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| 2005 in May | PhD degree in Applied Environmental Science , with the dissertation:
"Urine processing for efficient nutrient recovery and reuse in agriculture"
(available as pdf file at www.arcturus.se/Miljö.html). |
| 2000 - 2005 | PhD-student at the Dept. of Applied Environmental Science, Gothenburg University. During the 5 years of PhD education I was regularly teaching and examining on the Department's different courses and supervising students in their Master Thesis or special projects. |
| 1997 - 1998 | Supplementary course to take my MSc degree in Environmental Science , at the Dept. of Applied Environmental Science, Gothenburg University. |

- 1992 - 1993** One-year specialization for natural scientists in the field of Environmental and Health Protection, at the Dept. of Applied Environmental Science, Gothenburg University.
- 1989 - 1991** Biomedical technician education, at the Fac. of Medicine, Gothenburg University, **BSc degree in Medical microbiology/virology.**
- 1987 - 1989** In 1987 I left my home country (Romania, Ceausescu's dictatorship) and arrived in Sweden as a political refugee. During the period 1987-1989 I studied Swedish language and made the compulsory exams to be qualified for entering higher education in Sweden.
- 1981 - 1985** Chemistry and Physics at Babes-Bolyai University in Cluj, Romania. **BSc. degree in Inorganic Chemistry in the field of Crystallography.**

Recently made courses/seminars in environmental issues:

- 2022 February** LCA with SimaPro, intensive course at Miljögiraffen.
- 2019 January** Green Blue Black Gray - intensive course for specialists in climate adaptation, smart water management and ecosystem services in urban environments. Organized by the Scandinavian Greenroof Institute.
- 2017 in June** Circular economy – transforming waste into resources. 1 week workshop i Spiez, Schweiz. Organiserad av Aguasan/SDC/Eawag i Schweiz.
- 2016 in October** LCA for sustainable management (ISO 14044), lead by Marcus Wendin, Miljögiraffen
Circular economy- cirkular business models, products and services, lead by Tobias Jansson/Aktuell Hållbarhet
- 2015 in May** Sustainable city planning: Green Roofs and Walls. Melica, Göteborg.
- 2011 in May** Course in environmental auditing held by Svensk Miljöbas (Swedish National Authority for Auditor certification).

Working experience:

- 2021 – present** **Started my own company:** R&D work for Again AB with lab testing for new method based on biochar for wastewater nutrient recovery. Collaboration with Bolivia (via Again AB) and the largest sanitation NGO Agua Tuya there, introducing 2 reactors for household wastewater treatment in El Alto district, La Paz (for project details please contact Again AB www.again.se).
- 2012 – 2020** **As consultant at Melica (www.melica.se , today I am an associate):** R&D work for Again AB with lab testing for new method development, also responsible for patent issues having today patent in China and India,

and in Europe (patent owner is Again AB).

R&D and laboratory testing as consultant in collaboration with Ensy AB to further develop the technologies for their agricultural wastewater treatment methods.

Specialist advisor (2012-13) for Ellen MacArthur Foundation: Towards the Circular Economy, 2013:2, pp.112.

<http://www.ellenmacarthurfoundation.org/business/reports>

I was writing several articles for "Handbook of Natural Zeolites" 2012 (eds: Inglezakis, V and Zorpas, A). <http://www.eurekaselect.com/101819>

2011 – 2012

Until July 2011 I was working with R&D for Biotain AB (earlier Split Vision AB in Ängelholm, Sweden).

From July 2011 together with 4 colleagues and friends I built and started up on innovation company, Again Nutrient Recovery AB.

From August to December 2011 I built up a water and wastewater laboratory at Melica

From February 2012 I was working with R&D and laboratory testing as Melica-consultant in collaboration with Ensy AB to further develop the technologies for their agricultural wastewater treatment methods.

In August 2012 the R&D work for Again Nutrient Recovery AB with lab testing for new method development. The first customer and first pilot project for Again was an eco-district in northern Sweden (Kvissleby).

2005 - 2011

R&D, laboratory and pilot testing of SplitBox[®] and SplitBox-Agri[®] in cooperation with Split Vision AB in Ängelholm, Sweden.

Results presented at two international conferences. In May 2009,

Vancouver, Canada: International Conference on Nutrient Recovery from Wastewater Streams and in September 2009, Berlin, Germany: Baltic 21 Conference on Phosphorus Recycling and Good Agricultural Management Practice.

During these years I was also supervising two M.Sc. thesis works at Gothenburg University, Dept. of Plant and Environmental Sciences, related to toilet pollution of marine environment originated from boat toilets. So I was considered an expert in this issue, too.

2005 - 2008

Directly after my dissertation and until my employment at Melica I was working at Gothenburg University, Dept. of Plant and Environmental Sciences, as a researcher (80 % of time) with development and testing of struvite precipitation and mineral adsorption methods, together with Split Vision AB (an innovation company in Sweden specialized on new system developments for sustainable management of waste, wastewater and energy from domestic residences).

I was also a part-time (20%) university lecturer, supervisor and examiner for several Master of Science thesis's in the field of sustainable sanitation. In addition to water and wastewater issues, I also hold lectures, seminars and supervised in the following fields: Agenda 21, sustainable development, eutrophication and agriculture, environmental policy in EU, enlargement and EU, environment in Eastern Europe. Besides the department's environmental education program I was also lecturing, supervising and examining students from the Faculty of Education at Gothenburg University in the program called 'Learning for Sustainable Development'.

- 1998 - 2000** I was working as a research project associate in a 2 year long project titled: "Nitrogen adsorption to minerals, phosphorus recovery by crystallization and nutrient concentration by freezing of human urine. Testing the fertilizing value of the products with pot trials on cereals". The project was in cooperation with the Dept. of Geology (Dr. Docent Bo Lind), the Inst. of Botany (Dr. Göran Wallin) and the Dept. of Applied Environmental Science (myself), all from Gothenburg University. As mentioned earlier between 2000 and 2005 I was a PhD student, too.
- 1994 - 1998** During this period I had several projects ongoing all in the academic world:
 One year project job as project coordinator at the Dept. of Applied Environmental Science, Gothenburg University, aiming to develop international contacts for co-operation in the field of environmental education and research with Eastern European countries (countries from the former Soviet Union). This project resulted in an intensive contact, several visits and a written report over water pollution and wastewater management issues in the Budapest Region, Hungary.

 In 1996 I was working (3 months) as visiting lecturer and supervisor at the Central European University, Dept. of Environmental Sciences, Budapest, Hungary. Under the rest of 1996 I was working as guide and educator at Ekocentrum (Scandinavia's biggest exhibition and education centre), Gothenburg, Sweden.

 During the whole period I was also working as lecturer at the Dept. of Applied Environmental Science, (as before), and as lecturer and supervisor at the Center for Russian and Eastern European studies, at the Gothenburg University, in the course on "Environmental problems in Russia and Eastern Europe". I was also an invited lecturer at Kristianstad Univ. in the field of environmental issues in Eastern Europe and wastewater problems in Danube river basin.
- Summer 1994** I was working as lecturer at the following Summer Courses, at the Gothenburg University:
 -"Environmental science, an introduction"
 -"Environmental pollution in soil, air and water"
 My speciality was the water environment (freshwater and marine environments), drinking water and wastewater problems.
- Summer 1991** I was working as biomedical technician at the Sahlgrenska University Hospital, in the Laboratory of Virology, Gothenburg.
- 1988 - 1989** In parallel with the very first Swedish language courses I was working at the Greenpeace main office in Gothenburg, as office employee.

Publications:

Note: My name was Zsofia Ban until 2004

Scientific publications:

Siri Caspersen, Zsofia Ganrot (2018): Closing the loop on human urine: Plant availability of zeolite-recovered nutrients in a peat-based substrate. *Journal of Environmental management*, 211, 177-190.

Ganrot, Zs., Broberg, J., Bydén, S. (2009). Energy efficient nutrient recovery from household wastewater using struvite precipitation and zeolite adsorption techniques. A pilot study in Sweden. Peer-reviewed article in: Achley, K., Mavinic, D., Koch, F. (eds): *International Conference on Nutrient Recovery from Wastewater Streams*. IWA Publishing, 511-521.

Ganrot, Zs., Slivka, A., Dave, G. (2008) Nutrient recovery from human urine using pre-treated zeolite and struvite precipitation in combination with freezing-thawing and plant availability tested on common wheat. *CLEAN*, 36(1), 45-52.

Ganrot, Zs., Dave, G., Nilsson, E., Li, B. (2007). Plant availability of nutrients recovered as solids from human urine tested in climate chamber on *Triticum aestivum* L. *Bioresource Technology* 98, 3122-3129

Ganrot, Zs., Dave, G., Nilsson, E. (2007). Recovery of N and P from human urine by freezing, struvite precipitation and adsorption to zeolite and active carbon. *Bioresource Technology* 98, 3112-3121.

Ganrot, Zsofia (PhD Thesis, May 2005). *Urine processing for efficient nutrient recovery and reuse in agriculture*, ISBN 91 88376 29X, Göteborg University.

Ban, Zs., Dave G. (2004). Laboratory studies on recovery of N and P from human urine through struvite crystallization and zeolite adsorption. *Environmental Technology* 25, 111-121.

Adamsson M., Ban, Zs., Dave G. (2003). Sustainable utilization of human urine in urban areas – practical experiences. Peer reviewed paper published in *Conf. Proceedings: 2nd International Symposium on ecological sanitation*, Lübeck, Germany, April 2003, 643-650.

Lind, B-B., Ban, Zs., Bydén, S. (2001). Volume reduction and concentration of nutrients in human urine. *Ecological Engineering* 16, 561-566.

Lind, B-B., Ban, Zs., Bydén, S. (2000). Nutrient recovery from human urine by struvite crystallization with ammonia adsorption on zeolite and wollastonite. *Bioresource Technology* 73, 169-174.

Ban, Zsófia (MSc. Thesis, 1998): Nutrient recovery from human urine – a concentration and crystallization process. Göteborg University/ Dept. of Applied Environmental Science and Dept. of Geology, pp 1-60.

Other publications:

Ban, Zsófia (1995): Vattenförsörjning och avloppshantering i Budapest-området, Ungern, Rapport nr 1 (in English: Water supply and wastewater treatment in Budapest-region, Hungary, Rapport nr 1), Inst. för Tillämpad miljövetenskap, Göteborgs Universitet, ISSN 1400-9323.

Contributing author in:

Zorpas A. Antonis & Inglezakis J.Vassilis (Eds), (2012): Handbook of Natural Zeolites. Bentham Science Publishing, ISBN 978-1-60805-446-6. E-book form available at: <http://www.eurekaselect.com/101819/volume/1>

Anna Richert Stintzing (Ed), (2007): Urine diverting toilets in climates with cold winters. Technical considerations and the reuse of nutrients with a focus on legal and hygienic aspects. Women in Europe for a Common Future (WECF). PDF file available at www.wecf.eu.

Hedenus F and Larsson A. (Eds), (2006): Towards a “Smart Growth” Strategy for Sustainable Development. EPSS (European Panel on Sustainable Development), Report no 3., pp 46.

Expert advisor for:

Ellen MacArthur Foundation: Towards the Circular Economy, 2013:2, pp.112.
<http://www.ellenmacarthurfoundation.org/business/reports>

Other skills and interests:

Languages:

Hungarian – is my mother tongue (perfectly speaking and writing)
Swedish – perfectly speaking and writing
English – very good speaking and writing
Romanian – still good speaking and writing (I am from Romania, was living there in 26 years)
Japanese – a little (can write and read with hiragana, katakana, and some 300 kanji's by now. My language studies are ongoing).
Spanish – a little
Russian – a little

Interests:

I am spending most of my free time with my family and friends.

* Cultural activities are very central in my life, likewise intensive literature reading (fiction and non-fiction, however, my favourite genre is good old science-fiction).

* I was intensively practising Aikido between 1996 and 2004. Unfortunately, I could not continue because of health related issues. Nevertheless, I am still very interested in the world of Aikido. Nowadays I am training at gym and practising and teaching Yoga (I am a certified yoga teacher) and spending considerable time in nature.

* I love to travel, to meet other cultures and see historical places or beautiful wildlife sanctuaries (like to e.g. Iceland, New Zealand, China, Japan, Kenya, Namibia, Madagascar and USA and all over Europe). However not in the past years of pandemic.

* Much of my interests are related to Asia, especially the arts, culture, history and society of Japan. Since 2003, I have studied the Japanese language (on a regular basis) and right now I am learning Spanish in spare time at Folkuniversitetet in Gothenburg.