

SIMI SCIENTIFIC COMMITTEE Section: Sustainable Environmental Technologies
Dr. Eng. Michela Langone, PhD



SHORT PROFESSIONAL INFO

She has more than 10 years of experience in consulting and research in the fields of environmental engineering and sanitary engineering. She conducts research and technical consultancy in national and international University, national research institutes and companies. She currently works at the Department of Civil, Mechanical and Environmental Engineering at the University of Trento, Italy, as Post-Doc researcher. The research conducted in these years has been focused on several aspects concerning wastewater treatment (urban, industrial, landfill leachate, manure). She is co-supervisor of several PhD, master and bachelor students: Her main activities and responsibilities are: coordination of national and international projects in the field of environmental protection, experimental studies and data analysis. She has wide Peer-review activities in more than 10 international scientific papers.

ACTUAL POSITION

Post Doc Researcher – environmental biotechnologies
Project Manager

RESEARCH INTEREST

- ✓ Sustainable wastewater treatments and zero energy concepts;
- ✓ Water/wastewater/sludge treatment;
- ✓ Manure treatment;
- ✓ -Innovative biological processes, such as anammox process, sulfate reduction, autotrophic denitrification;
- ✓ -Interactions of nitrifying, denitrifying and anammox communities,
- ✓ -Interactions of autotrophic and heterotrophic denitrifying bacteria;
- ✓ Sustainable reactor configuration, such as MBR, MBBR, SBR, UASB;
- ✓ -Sludge treatments and reduction of sludge production;
- ✓ Anaerobic digestion and of biogas production;
- ✓ -Biodegradability enhancement of sludge;
- ✓ -Hydrodynamic cavitation applied to water and wastewater treatments;
- ✓ Hydrothermal carbonization (HTC)
- ✓ -Ammonia stripping.

SCIENTIFIC PUBLICATIONS / AWARDS (selection)

Journal Articles

- [1] Mancuso G., **Langone M.**, Andreottola G. (2016). A swirling jet-induced cavitation to increase activated sludge solubilisation and aerobic sludge biodegradability. *Ultrasonics Sonochemistry* 35 (2017) 489–501.

- [2] Ferrentino F., **Langone M.**, Gandolfi I., Bertolini V., Franzetti A., Andreottola G. (2017) *Shift in microbial community structure of anaerobic side-stream reactor in response to changes to anaerobic solid retention time and sludge interchange ratio*. *Bioresource Technology* 221 (2016) 588–597
- [3] **Langone M.**, Ferrentino F., Cadonna M., Andreottola G. (2016) *Stoichiometric evaluation of partial nitrification, anammox and denitrification processes in a sequencing batch reactor and interpretation of online monitoring parameters*. *Chemosphere* 164 (2016) 488e498
- [4] Limoli A., **Langone M.**, Andreottola G. (2016). *Ammonia removal from raw manure digestate by means of aturbulent mixing stripping process*. *Journal of Environmental Management* 176 (2016) 1e10.
- [5] Mancuso G., **Langone M.**, Laezza M., Andreottola G. (2016). *Decolourization of Rhodamine B: A swirling jet-induced cavitation combined with NaOCl*. *Ultrasonics Sonochemistry* 32 (2016) 18–30.
- [6] Ferrentino F., **Langone M.**, Merzari F., Tramonte L., Andreottola G. (2015). *.A review of Anaerobic Side-Stream Reactor for excess sludge reduction: configurations, mechanisms and efficiency* *Critical Reviews in Environmental Science and Technology* · September 2015.
- [7] **Langone M.**, Ferrentino F., Trombino G., Waubert de Puiseau D., Andreottola G., Rada E.C., Ragazzi M. (2015). *Application of a novel hydrodynamic cavitation system in wastewater treatment plants*. *Scientific bulletin - "Politehnica" University of Bucharest. Series D, mechanical engineering, v. 2014, 77, n. 1 (2015), p. 225-234.*
- [8] Ferrentino, R., **Langone, M.**, Andreottola, G., Rada, E.C. (2014). *An anaerobic side-stream reactor in wastewater treatment: A review*. *WIT Transactions on Ecology and the Environment*. 191 (2014), 1435-1446
- [9] **Langone M.**, Yan J., Haaijer S. C.M., Op den Camp H. J. M., Jetten, M. S. M., Andreottola G. (2014). *Coexistence of nitrifying, anammox and denitrifying bacteria in a sequencing batch reactor*. *Frontiers in Microbiology*. 2014 / 5, n. 28 (2014), p. 1-12.
- [10] Andreottola G., Ragazzi M., Foladori P., Villa R., **Langone M.**, Rada E.C.. (2012). *The UNITN integrated approach for OFMSW treatment*. *Scientific bulletin - "Politehnica" University of Bucharest. series C, electrical engineering, v. 2012, vol. 74, n. 1 (2012), p. 19-26 – ISSN 1454-234x*

Book Chapters

- [1] Andreottola G., Guglielmi G., **Langone M.**, (2013). Chapter 9 - MBR modeling studies. In Hai F.I., Yamamoto K. and Lee C.-H. (Eds). *Membrane Biological Reactors: Theory, Modeling, Design, Management and Applications to Wastewater Reuse*. IWA Publishing. Alliance House. 12 Caxton Street. London SW1H 0QS, UK. ISBN: 9781780400655.

Patent applications pending:

PLANT AND METHOD FOR SLUDGE REDUCTION IN WASTEWATER TREATMENT - UTN (University of Trento) System". N. 102016000035388

Awards and international recognition:

- Young researcher Award (2016) in the INCIPIT Project – Cassa Rurale Giudicarie Valsabbia Paganella, Trento, IT;

- Young Researcher Award (2016) in the 19th International Symposium “Environment and Industry”, Bucharest, Romania;
- Young researcher Grant (2016 - 2017) – FONDAZIONE CARITRO - Trento, Italy;
- PhD Thesis Award (2015) CONSORZIO BIM, Trento, Italy;
- High-level education Award (2012) -HOMO SAPIENS SAPIENS - INPS - ex-INPDAP, Italy;
- Erasmus Placement fellowship during PhD career (2011). Period spent abroad at with the Department of Microbiology, University of Nijmegen, Netherland;
- High-level education Award (2011)-HOMO SAPIENS SAPIENS - INPS - ex-INPDAP, Italy;
- Young Italian author Award (2011) - Sardinia Symposium 2011: Thirteenth International Waste Management and Landfill Symposium. Cagliari, Sardinia, Italy;
- Fellowship for small business enterprises (SME) (2007), Emilia Romagna Innovation Program, Italy.

Member of other Scientific Committees

- “9th IWA Eastern European Young Water Professionals Conference “, 24th – 27th May 2017 in Budapest (<http://iwa-ywp.eu/international-programme-committee/>).
- “International Symposium - The Environment and the Industry”, 13th – 14th October 2016 in Bucharest.