

## Prof. dr. ir. Raf Dewil

Head Cluster Sustainable Chemical Process Technology

KU Leuven  
Faculty of Engineering Technology  
Process and Environmental Technology Lab  
Jan De Nayerlaan 5  
2860 Sint-Katelijne-Waver – BELGIUM  
Tel: +32 496 074990  
Email: [raf.dewil@cit.kuleuven.be](mailto:raf.dewil@cit.kuleuven.be)  
<http://www.kuleuven.be/wieiswie/en/person/00059291>



### **Short CV**

Prof. Raf Dewil holds a Master of Science in Chemical Engineering (KU Leuven, 2003) and a PhD in Bioscience Engineering (University of Antwerp, 2006). Currently, he is an associate professor with the Chemical Engineering Department of the KU Leuven, where he heads the Laboratory for Process and Environmental Technology. Within the Faculty of Engineering Technology of the same university, he chairs the Sustainable Chemical Process Technology Cluster. His main research domains include (i) (bio)chemical conversion methods for the valorization of biomass and organic wastes (currently main focus on anaerobic digestion), and (ii) the integration of physicochemical treatment methods in wastewater treatment (e.g., advanced oxidation processes, ultrasound, microwave). He has (co-)authored over 55 publications in peer-reviewed international journals and about 70 presentations at international conferences. He is an associate editor with the Journal of Environmental Management and a member of the editorial board of various international journals.

### **Key paper related to the COST action**

- Lauwers, J., Appels, L., Thompson, I.P., Degrève, J., Van Impe, J., **Dewil, R.** (2013). Mathematical modelling of anaerobic digestion of biomass and waste: powers and limitations. *Progress in Energy and Combustion Science*, 39(4), 383-402.
- Appels, L., Houtmeyers, S., Degrève, J., Van Impe, J., **Dewil, R.** (2013). Influence of microwave pre-treatment on sludge solubilisation and pilot scale semi-continuous anaerobic digestion. *Bioresource Technology*, 128, 598-603.
- Appels, L., Houtmeyers, S., Van Mechelen, F., Degrève, J., Van Impe, J., **Dewil, R.** (2012). Effects of ultrasonic pre-treatment on the sludge characteristics and anaerobic digestion. *Water Science and Technology*, 66(11), 2284-2290.
- Appels, L., Lauwers, J., Gins, G., Degrève, J., Van Impe, J., **Dewil, R.** (2011). Parameter Identification and Modeling of the Biochemical Methane Potential of Waste Activated Sludge. *Environmental Science & Technology*, 45 (9), 4173-4178.
- Appels, L., Lauwers, J., Degrève, J., Helsen, L., Lievens, B., Willems, K., Van Impe, J., **Dewil, R.** (2011). Anaerobic digestion in global bio-energy production: potential and research challenges. *Renewable & Sustainable Energy Reviews*, 15 (9), 4295-4301.
- Appels, L., Van Assche, A., Willems, K., Degrève, J., Van Impe, J., **Dewil, R.** (2011). Peracetic acid oxidation as an alternative pre-treatment for the anaerobic digestion of waste activated sludge. *Bioresource Technology*, 102 (5), 4124-4130.
- Appels, L., Baeyens, J., Degrève, J., **Dewil, R.** (2008). Principles and potential of the anaerobic digestion of waste-activated sludge. *Progress in Energy and Combustion Science*, 34 (6), 755-781.
- Appels, L., **Dewil, R.**, Baeyens, J., Degrève, J. (2008). Ultrasonically enhanced anaerobic digestion of waste activated sludge. *International Journal of Sustainable Engineering*, 1 (2), 94-104.
- Dewil, R.**, Baeyens, J., Appels, L. (2007). Enhancing the use of waste activated sludge as bio-fuel through selectively reducing its heavy metal content. *Journal of Hazardous Materials*, 144 (3), 703-707.
- Dewil, R.**, Baeyens, J., Neyens, E. (2006). Reducing the heavy metal content of sewage sludge by advanced sludge treatment methods. *Environmental Engineering Science*, 23(6), 994-999.