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### **Expertise**

Gilles Guibaud is Professor in Environmental Chemistry and Microbiology. He received his PhD degree in 1996 in Chemistry and Microbiology of Water at the University of Limoges, based on the “Aluminum speciation behavior in soil and natural water”. He was appointed as Assistant Professor in 2000 and as Professor in 2010 at the University of Limoges. In 2003, he defended his Habilitation thesis entitled “Characterization and properties of bacterial aggregates used in wastewater treatment”. His research focuses on characterization and properties of exopolymeric substances from bacterial aggregates used in wastewater treatment and investigation of the role of living organisms in metal speciation. Since 3 years, he began research with DGT (for metal speciation in environment or bioreactor) and passive sampler (POCIS, Chemcatcher) to monitor organic micropollutants in natural water.

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

Bhatia D., Bourven I., Bordas F., Simon S., van Hullebusch E., Rossano S., Lens P., Guibaud G., (2013), Fluorescence detection to determine Proteins and Humic-like substances fingerprints of Exopolymeric Substances (EPS) from biological sludges performed by Size Exclusion Chromatography (SEC). *Bioresource Technology*, 131, 159–165

D’Abzac P., Bordas F., Joussein E., Van Hullebusch E., Lens P.N.L., Guibaud G., (2013), Metal binding properties of extracellular polymeric substances extracted from anaerobic granular sludges, *Environmental Science and Pollution Research*, 20, 4509–4519

Bourven I., Costa G., Guibaud G., (2012), Qualitative characterization of the protein fraction of Exopolymeric Substances (EPS) extracted with EDTA from sludge. *Bioresource Technology*, 104, 486–496

D’Abzac P., Bordas F., Joussein E., Van Hullebusch E., Lens P.N.L., Guibaud G., (2010), Characterization of the mineral fraction associated to extracellular polymeric substances (EPS) in anaerobic granular sludges, *Environmental Science and Technology*, 44, 412-418

D’Abzac P., Bordas F., Van Hullebusch E., Lens P.N.L., Guibaud G., (2010), Extraction of extracellular polymeric substances (EPS) from anaerobic granular sludges: comparison of chemical and physical extraction protocols, *Applied Microbiology and Biotechnology*, 85, 1589–1599

Guibaud G., Van Hullebusch E., Bordas F., D’Abzac P., Joussein E., (2009), Sorption of Cd(II) and Pb(II) by exopolymeric substances (EPS) extracted from activated sludges and pure bacterial strains: Modeling of the Metal/Ligand ratio effect and role of the mineral fraction, *Bioresource Technology*, 100, 2959–2968

Guibaud G., Van Hullebusch E., Bordas F., (2006), Lead and Cadmium Biosorption by Extracellular Polymeric Substances (EPS) extracted from activated sludges: pH-sorption edge tests and mathematical equilibrium modelling, *Chemosphere*, 64, 1955-1962