Dr. Eng Yoan Pechaud
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Expertise:

Yoan Pechaud is doctor-engineer in process engineering. He received his phD degree in November 2012 in process engineering in the University of Toulouse (INSA Toulouse) on the characterization and modeling of the influence of growth conditions (loading rates, C/N ratio, shear stress, etc.) on the morphological, physical properties and composition (proteins, polysaccharides, active biomass, etc.) of aerobic biofilms. He did post-doc in the National Research Institute of Science and Technology for Environment and Agriculture (IRSTEA formerly CEMAGREF). He worked on the impact of activated sludge physicochemical properties (MLSS, SS, floc sizes, etc.) and air flow rate on the rheological behavior and oxygen transfer in aerated bioreactors. He is appointed as Associate Professor since September 2013 at Université Paris-Est. His main expertise is related to transfer between phases and biological transformations in wastewater treatment and soil remediation processes. Due to the complexity of the systems (multi-phases, multi-mechanisms, etc.), he develops a systemic approach by combining experimentations and modeling: identification of the main mechanisms, decoupling the interactions, specific study of the influence of a parameter, return to the real system.

Key papers:

Pechaud Y, Marcato-Romain CE, Girbal-Neuhauser E, Queinnec I, Bessiere Y, Paul E. 2012. Combining hydrodynamic and enzymatic treatments to improve multi-species thick biofilm removal. *Chemical Engineering Science* 80, 109-118.

Marcato-Romain CE, **Pechaud Y**, Paul E, Girbal-Neuhauser E, Dossat-Létisse V. 2012. Removal of microbial multi-species biofilms from the paper industry by enzymatic treatments. *Biofouling* 28(3), 305-314.

Paul E, Ochoa JC, **Pechaud Y**, Liu Y, Liné A. 2012. Effect of shear stress and growth conditions on detachment and physical properties of biofilms. *Water Research* 46 (17), 5499-5508.

Pechaud Y, Derlon N, Bessiere Y, Queinnec I, Paul E. 2012. Modelling the effect of growth conditions on EPS distribution and detachment mechanisms. *Proceeding. IWA Biofilm Conference*, 28-31 Mai 2013, Paris, France.

Duran C, Fayolle Y, **Pechaud Y**, Cockx A, Gillot S. 2013. Impact of the activated sludge suspended solids on its non-Newtonian behavior and oxygen transfer in a bubble column. Submitted to *Chemical Engineering Journal*.