Project Type: Master thesis

Printed sensors for on-line environmental monitoring of biofilm bioreactors

Short Description
Biofilters and biotrickling filters are the most important biofilm-based reactors for air pollution control. However, the limited knowledge about biofilms performance due to large technical limitations in biofilms monitoring, mainly due to their reduced size (ranging from few microns to few millimeters), has led to often assume large model simplifications in biofiltration modeling. The work here proposed is to take advantage of the high resolution of microsensors measurements to experimentally obtain analytical information from the device (dissolved oxygen, pH etc..) to better understand the overall bioreactor behavior.

Background & skills
We are looking for a chemical engineer interested in the PFC or the master thesis. Ability to work in a multidisciplinary group, and interested in the field of Printed Electronics

Tasks
He/she will be responsible of the fabrication by inkjet printing technology of the sensors in the Institute of Microelectronics of Barcelona and these sensors will be integrated and characterized in biofilm reactors in collaboration with the GENOCOV group of the Departament d’Enginyeria Quimica (UAB)

Contact
Biomedical Applications Group
Gemma Gabriel
gemma.gabriel@imb-cnm.csic.es