BASIC INFORMATION ON SUB-PROJECT

NAME OF PROGRAMME/FUND	Scholarship Fund - Sciex NMS^{ch}
RESEARCH FIELD AND OTHER RESEARCH FIELDS INVOLVED (if applicable)	Mathematics / Natural Sciences Engineering Sciences
TITLE OF THE SUB-PROJECT	Identification of reductive dehalogenase genes and bacterial species involved in the reductive dechlorination of polychlorinated biphenyls (PCBs) in river sediments.
REGION OF THE CZECH REPUBLIC (according to the location of the home institution)	Prague
GRANT AMOUNT SPENT	64 375 CHF
INTERMEDIATE BODY	Swissuniversities
HOME INSTITUTION	Academy of Sciences of the Czech Republic Institute of Microbiology
HOST INSTITUTION	GR-CEL, EPFL - Lausanne
NAME OF THE FELLOW	Martina Pravečková

ABSTRACT OF THE SUB-PROJECT	This project aims at exploring and understanding the microbial processes and diversity of microbial communities involved in the anaerobic degradation of persistent chlorinated aromatic considered as priority pollutants in river sediments, namely the polychlorinated biphenyls (PCBs). PCB compounds continue to pose serious environmental problems at global scale, as they constitute one of the main sources of contaminants in river sediments. The proposal aims at i) contributing to identify the bacterial species involved in the reductive dechlorination of PCBs in river sediment as well as ii) identifying the environmental variables that govern the biological removal of PCBs in the contaminated sites. The project makes use of the extensive scientific knowledge gathered during the last few years on anaerobic degradation and dehalogenation of halogenated organic pollutants. The biodiversity of the micro-organisms involved is addressed in both mixed anaerobic microcosms and culture-independent approaches, including metagenomics.

MAIN RESULTS	1) Scientific papers: a) Scientific paper published in an impacted journal: Praveckova, Martina, Maria V. Brennerova, Monika Cvancarova, Luiz Felippe De Alencastro, Christof Holliger, and Pierre Rossi. 2015. „Divergent PCB Organohalide-Respiring Consortia Enriched from the Efflux Channel of a Former Delor Manufacturer in Eastern Europe". *Ecotoxicology and Environmental Safety* 120 (Oct): 223–34. doi:10.1016/j.ecoenv.2015.05.038 b) Second scientific paper to be published in the impacted journal in proces (planned for 2016): Martina Praveckova, Daniel Berdat, Maria Brennerova, Christof Holliger and Pierre Rossi:„High efficiency in PCB congener degradation reached by microbial consortia in anaerobic sediment-free microcosms " 2) Conference Posters c) 2010 - 69th Annual Assembly of the SSM: „Who is interested in the reductive dechlorination of polychlorinated biphenyls (PCBs)?“ d) 2011 - 4th Swiss Microbial Ecology (SME) Meeting: „Living on leftovers: cleaning-up the environment from polychlorinated biphenyls (PCBs)” e) 2011 - FEMS - Ecology of Soil Microorganisms: „Who will clean up the environment from polychlorinated biphenyls?" f) 2012 - 5th Symposium on Biosorption and Bioremediation
DATE OF REALISATION OF THE FELLOWSHIP	1.1.2010 - 31.12.2010

MORE INFORMATION ON THE PROGRAMME	**www.sciex.ch**