

Project: Title

Grantee: Braun, Artur

Affiliation + contact data: Laboratory for High Performance Ceramics
Empa. Swiss Federal Laboratories for Materials Science and Technology
Überlandstrasse 129, CH - 8600 Dübendorf, Switzerland

Period of STMS (14-6-2015 – 21-6-2015):

Host institution: Molecular and Cellular Biology - Unit of Microbiology
Institute for Environment, Health and Safety (EHS)
Belgian Nuclear Research Centre SCK•CEN

Boeretang 200, B-2400-MOL, Belgium

Mentor: Janssen, Paul

Aims & subject of work (480 characters, no spaces; Calibri 12):

Algal biofilms were grown on iron oxide photoelectrodes and subject to photoelectrochemical quantum yield measurement prior to, during and after irradiation with Co^{60} γ -radiation.

Argumentation of necessity of STSM (100 characters, no spaces; Calibri 12):

Mol has the necessary facility for γ -irradiation and biofilm growth, Empa has the expertise in making bio-hybrid photoelectrodes.

Workplan/timeschedule followed (4 bullets max., Calibri 12):

- May/June 2015 – Empa & eawag prepared photoelectrodes; SCK•CEN prepared biofilms
- 15-19 June 2015 - Co^{60} γ -irradiation biophotoelectrochemistry campaign at SCK•CEN
- 17 – 30 2015 data analyses
- 19 June 2015 oral presentation at SCK•CEN, 8 October 2015 oral presentation at COST Meeting in Rome

Main results and outcome (conclusions):

From far view it appears that exposed to γ -radiation, the negative current of algal biofilm hybrid-photoelectrodes become more pronounced at the higher wavelengths. This warrants further investigation with advanced planning of new experiment campaigns.

