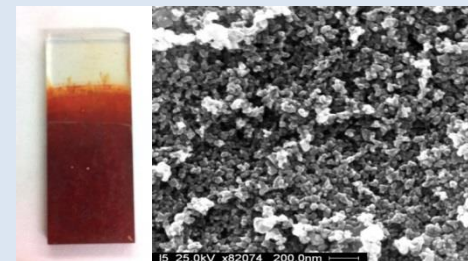


Project: Title

Grantee: **Dr. Krisztina Schrantz**
Affiliation + contact data: EMPA, Laboratory for High Performance Ceramics,
Überlandstrasse 129, 8600 Dübendorf Switzerland

Period of STMS: 9-16. February 2013
Host institution: Department of Medical Physics and Informatics,
University of Szeged, 6720 Szeged, Rerrich Béta tér 1., Hungary

Mentor(s): **Prof. László Nagy**



Left panel: Hematite film on FTO glass;
Right panel: SEM of the hematite surface.

Aims & subject of work:

The purpose of the STSM was at first place to discuss directions of the collaboration between the Home and Host Institute within this TD1102 COST action and to make preliminary tests on the newly built instrument for conductivity measurements using hematite coated photoanodes. The pristine hematite electrodes were also coated with light harvesting protein Phycocyanine, in order to cover a broader wavelength range of the visible light. Due to the coating the conductivity of the electrodes should increase.

Argumentation of necessity of STSM:

The Host Institute in Szeged built an analog electric device (based on Wheatstone bridge) which can compensate the high resistance of the pristine hematite.

Workplan/timeschedule followed:

- 9-10. February: Traveling to Szeged and literature survey before the meetings
- 11. and 15. February: Work meetings about plans and interests of the Host and Home institutes as well as the conclusions based on preliminary results.
- 12-14. February: Introduction of the laboratory staff and equipment, sample preparation, preliminary measurement on pristine hematite coated photanodes
- 16. February: Wrap up and travel back to the Home Institution

Main results and outcome:

With the Host we have discussed the future collaboration within the TD1102 Cost Action. We have agreed that the time resolved optical spectroscopy measurements will be based on the results we will get from the conductivity measurements, and will be done on those protein coated samples which show relevant conductivity change compared with the pristine hematite film.