

Swiss Corrosion Science Day 2022

2 May 2022 10:00 – 16:00

at ETH Zurich Hönggerberg (HIT E 51)

Organized by



Hosted by



Sponsors



Programme

- 10:00 **Welcome and introduction**
Prof. Ueli Angst, ETH Zurich, Institute for Building Materials
- 10:10 **Session 1**
Moderator: Prof. Laura Brambilla, *Haute Ecole Arc Conservation-restauration*
- 10:10 **Microbes – a potential tool to manage the iron corrosion in archeological wood**
Sathiyarayanan Ganesan¹, Mathilde Monachon¹, Sarah James¹, Line Pedersen², Edith Joseph^{1,2}
¹ *Laboratory of Technologies for Heritage Materials, University of Neuchâtel*
² *Haute Ecole Arc Conservation-restauration, University of Applied Sciences HES-SO, Neuchâtel*
- 10:35 **Investigation of Ag and Ag-Cu tarnishing mechanisms**
Jorge Gonzalez^{1,2}, Christian Degriigny¹, Patrick Schmutz²
¹ *Haute Ecole Arc Conservation-restauration, HE-Arc CR, Neuchâtel*
² *Laboratory for joining Technologies and Corrosion, Empa, Dübendorf*
- 11:00 **Tribocorrosion of iron in presence of Tryptamine as corrosion inhibitor**
Arthur Bouchez, Calixe Bénier, Yueyue Bao, Stefano Mischler
Tribology and Interfacial Chemistry group (TIC), EPFL, Lausanne
- 11:25 **Corrosion of Al Current Collector in Lithium-Ion Batteries Using Liquid Phase Electron Microscopy**
Morgan Binggeli, Vasiliki Tileli
Institute of Materials, EPFL, Lausanne
- 11:50 **Discussion**
- 12:00 **Lunch**

13:30 **Session 2**

Moderator: Dr. Anna Iguol Muñoz, EPFL, Lausanne

13:30 **Exploring the Application of EIS as a Monitoring Tool to Evaluate the Anticorrosion Performance of Organic Coating Systems**

J. Vogelsang¹, G. Schulze², G. Coolegem³, M. Bakalli¹

¹ Sika Technology AG, Zurich, Switzerland

² Sika Germany GmbH, Vaihingen an der Enz, Germany

³ CCube International bv, Delft, Netherlands

13:55 **On the relevance of thermodynamic considerations in cathodic protection**

Markus Büchler

SGK Swiss Society for Corrosion Protection, Switzerland

14:20 **Electrochemical tomography (ECT) for the in-situ localization and quantification of corrosion in porous media**

M.C. van Ede¹, C.J. Earls², A. Fichtner³, U. Angst¹

¹ ETH Zurich, Institute for Building Materials, Switzerland

² Cornell University, School of Civil & Environmental Engineering, USA

³ ETH Zurich, Institute for Geophysics, Switzerland

14:45 **Beyond the standards: A case study of the reliability of projections based on corrosion fatigue of austenitic steels performed in high-temperature water environment**

B. Aydin Baykal & Philippe Spätig

Paul Scherrer Institute (PSI), Laboratory for Nuclear Materials, Villigen, Switzerland

15:10 **Discussion**

15:30 **End & Coffee**

16:00 **General assembly meeting of the Swiss Corrosion Network**
(only for members of the Swiss Corrosion Network)

17:00 **End**

