10th Swiss Corrosion Science Day 2026

24 April 2026, 10:00 – 16:20

at the Paul Scherrer Institute PSI, Villigen, Switzerland

Organized by SwissCorr – The Swiss Corrosion Network

Hosted by PSI Center for Nuclear Engineering and Sciences

Supported by Metrohm, Universal Lab, EFC European Federation of Corrosion

Event No. 539

Endorsed by SGO SST – Schweizerische Gesellschaft für Oberflächentechnik, Société Suisse de Traitement de Surface

On the occasion of the World Corrosion Awareness Day

Programme

09:30 **Arrival & coffee/tea/gipfeli**

10:00 **Welcome & introduction of PSI NES**
Ueli Angst, *ETH Zurich, Institute for Building Materials, Zürich, CH*
Hans-Peter Seifert, *PSI Center for Nuclear Engineering & Sciences, Villigen, CH*

Morning session
Moderator: Stefan Ritter, *PSI Center for Nuclear Engineering & Sciences, Villigen, CH*

10:20 **Influence of oxygen transients on stress corrosion cracking behaviour of 316L stainless steel in PWR environment**
Tomáš Babinský, Philippe Spätig, Hans-Peter Seifert
PSI Center for Nuclear Engineering & Sciences, Villigen, CH

10:45 **In situ quantification of β-phase dissolution in Ti-6Al-4V implant material under harsh oxidative conditions**
Philip Marmet[1], Yasser Safa[1], Michel Prestat[2], Flavien Vucko[2], Roland Logé[3], Haoran Yu[4], Oumaima Gharbi[4], Mireille Turmine[4], Vincent Vivier[4], Lorenz Holzer[1]
1) ZHAW Zurich University of Applied Sciences, Institute of Computational Physics, Winterthur, CH; 2) French Corrosion Institute, Brest, FR; 3) EPFL École Polytechnique Fédérale de Lausanne, CH; 4) Sorbonne Université CNRS, Laboratoire de Réactivité de Surface, Paris, FR

11:10 **High-performance corrosion protection with a lower environmental footprint: The zinc flake advantage**
Guy Decelles
The Metal Powder Company, Madurai, IN

11:35 **Low temperature heat treatment processes to improve wear resistance of stainless steel components**
Shankar Venkataraman
Bodycote Specialist Technologies GmbH, Düsseldorf, DE

12:00 **Lunch break & poster session**

Afternoon session

Moderator: Anna Igual-Munoz, *EPFL École Polytechnique Fédérale de Lausanne, Tribology & Interfacial Chemistry Group, Lausanne, CH*

13:45 **From sensors to decisions: Are we ready for digital corrosion assessment?**

Sylvia Keßler, Martin Köhncke, Francesca Marsili

Helmut-Schmidt-University, University of the Federal Armed Forces Hamburg, DE

14:10 **Towards performance-oriented corrosion assessment: Improving service-life modelling of chloride-exposed reinforced-concrete structures**

Deniz Yilmaz

ETH Zürich, Institute for Building Materials, Zürich, CH

14:35 **On stress corrosion cracking of pipelines**

Markus Büchler

SGK Swiss Society for Corrosion Protection, Zürich, CH

15:00 **Effect of hydrogen on the native oxide of steel**

Chiara Menegus, Jan P. Kollender, Andreas Borgschulte, Lars P.H. Jeurgens, Claudia Cancellieri

EMPA, Dübendorf, CH

15:25 **Mechanistic understanding of iron corrosion in bentonite systems through a multi-technique framework: In-situ electrochemistry, operando radiography and field studies**

Pranav Vivek Kulkarni[1], Camille Le Guernic[1], Fabiana Mangano[1], Seren Azad[2], Anna Igual-Munoz[1], Jean-Michel Sallese[3], Stefano Mischler[1]

1) EPFL École Polytechnique Fédérale de Lausanne, Tribology & Interfacial Chemistry Group, Lausanne, CH; 2) PSI Centre for Neutron and Muon Sciences, Villigen, CH; 3) EPFL École Polytechnique Fédérale de Lausanne, STI GR-SCI-IEL, Lausanne, CH

15:50 **Coffee/tea/cookies/fruits**

16:20 **End**

16:20 **General assembly meeting of the Swiss Corrosion Network**

(only for members of the Swiss Corrosion Network, upon invitation to be distributed)

Poster presentations *(13:00 – 13:45)*

Mechanisms of corrosion protection of aluminum alloys by polyetherimide coatings and nanocomposites

Joseph Cantrell[1], Sarbajit Banerjee[1], Peter Johnson[2], Tiffany Sill[3], Victor Balcorta[4], Sujata Singh[4], Matt Pharr[4], Victor Ponce[4], Homero Castaneda[4], Rachel Davidson[5]

1) PSI & ETH Zurich, CH; 2) SABIC, Mount Vernon, IN, USA; 3) Dow Chemical Company Lake Jackson, TX, USA; 4) Texas A&M University, Tamu, TX, USA; 5) University of Delaware, Newark, DE, USA

Corrosion susceptibility of heterogeneous TiO_2 surfaces

Yanik Streit, Umut Taylan, Claudia Cancellieri, Patrik Schmutz, Patrik Hoffmann, Martina Cihova

EMPA, Dübendorf, CH

Green solutions against metals corrosion

Edith Joseph

Haute Ecole Arc Conservation-Restauration, Neuchâtel, CH

Time evolution of oxide protectiveness and electrochemical behaviour of cavitation-peened Alloy 182 under LWR conditions

Annesha Das, Tomáš Babinský, Stefan Ritter, Hans-Peter Seifert

PSI Center for Nuclear Engineering & Sciences, Villigen, CH

Effect of zinc water chemistry on oxide film properties of 316L stainless steel in boiling water reactor environment

Ting Wang, Adrianna Mackiewicz, Hans-Peter Seifert, Stefan Ritter

PSI Center for Nuclear Engineering & Sciences, Villigen, CH

Toward a mechanistic understanding of trace-element influence on corrosion at the magnesium-biology interface

Maxence Hannard[1], M. Cihova[1], A. Wichser[2], D. Bleiner[2], P. Schmutz[1]

1) Laboratory for Joining Technologies and Corrosion, EMPA, Dübendorf, CH; 2) Laboratory for Advanced Analytical Technologies, EMPA, Dübendorf, CH

Electrodeposition of Zn – zinc phosphate composite coatings

Mohammad Alinezhadfar[1,2], Patrik Schmutz[3], Ueli Angst[2], Rowena Crockett[1]

1) EMPA, Laboratory for Surface Science and Coating Technologies, Dübendorf, CH; 2) ETH Zürich, Durability of Engineering Materials, Institute for Building Materials, Zürich, CH; 3) EMPA, Laboratory for Joining Technologies and Corrosion, Dübendorf, CH

Venue & directions

The event will be held at Park Innovaare, close to PSI (Parkstr. 1, 5234 Villigen, in room Curie 1&2, 1st floor (https://www.parkinnovaare.ch/en/contact, https://maps.app.goo.gl/6dT89mo8NZnHzyZP8).

How to find us:

BY CAR: **Via Brugg:** In Brugg, follow the signs for Koblenz-Zurzach. After the Lauffohr settlement, turn left towards Remigen/Villigen and after about 500 metres turn right towards Villigen. PSI-West and PARK INNOVAARE are about 1 km after leaving the village of Villigen on the right. Parking spaces are available (for a fee).

Via Baden: In Baden, follow the signs for Koblenz-Zurzach. Drive through Nussbaumen, Untersiggenthal and Siggenthal station. Approximately 1.5 km after the roundabout, turn left following the signs to PSI and you will reach PSI-Ost. You can reach PSI-West and PARK INNOVAARE via the Aare bridge. Parking spaces are available (for a fee).

BY PUBLIC TRANSPORT: Brugg is on the SBB railway line (Zurich-Basel, Zurich-Berne). From Brugg railway station you can use the public PostBus services. The Brugg-PSI-Böttstein-Döttingen line (376) will take you to PSI-West or PARK INNOVAARE in about 20 min.

FROM THE AIRPORT: There is an SBB railway station at Zurich-Kloten International Airport. Take the train to Brugg and from Brugg station take the post bus to Villigen PSI-West or PARK INNOVAARE.