Organizers

Dr Laetitia Philippe (Empa, Thun) has a degree in experimental physics and is currently group leader for "Electrochemical process for micro and nanostructuration" in the Empa "Laboratory for Mechanics of Materials and Nanostructure"; she is also EPFL Lecturer.

Dr Patrik Schmutz (Empa, Dübendorf) has a degree in experimental physics and is currently group leader for "Functional Surfaces in Reactive Environments" in the Empa „Joining Technologies and Corrosion" laboratory; he is also ETHZ Lecturer and president of the Swiss Society for Surface Treatment (SGO-SST).

Dr Stefano Mischler (EPFL, Lausanne) has a degree in materials science and is currently MER (Maitre d'enseignement et de recherche) and head of the Tribology group at the EPFL focused on modern aspects of tribology and surface science and technology including surface chemical effects in tribology.

Endorsement: Empa academy, Empa, EPFL, Swiss Society for Material Science and Technology (SVMT), Swiss Society of Surface Treatments (SGO-SST), International Corrosion Council (ICC)

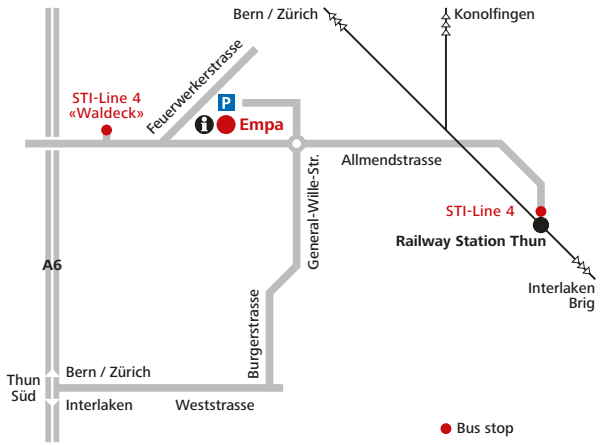
Empa – Materials and Technologies for a Sustainable Future

As an interdisciplinary research institute of the ETH Domain, Empa, the Swiss Federal Laboratories for Materials Science and Technology, conducts cutting-edge materials and technology research. Empa's R&D activities focus on meeting the requirements of industry and the needs of society, and thus link applications-oriented research to the practical implementation of new ideas. As a result, Empa is capable of providing its partners with customized solutions that not only enhance their innovative edge and competitiveness, but also help to improve the quality of life for the public at large, true to its mission statement: "Empa – The Place where Innovation Starts". As part of the ETH Domain, Empa is committed to excellence in all its activities.

General Information

Location	Empa, Thun Feuerwerkerstrasse 39 CH-3602 Thun Room L504
Costs	The event is free of charge for the participants (stay lunch is included).
Registration	www.empa-akademie.ch/corrosion
Deadline	February 15, 2020
Contact	Empa **Sandra Beer** Mechanical Engineering sandra.beer@empa.ch www.empa.ch
How to get here	Please do use public transport. There is only very limited parking available.

Map



EPFL Empa Materials Science and Technology Empa Akademie

SWISS CORROSION SCIENCE DAY 2020

Corrosion Research: Challenges, Opportunities and Applications

Empa, Feuerwerkerstrasse 39, Thun
Tuesday, March 3, 2020, from 10:00 to 16:00

Online registration:
www.empa-akademie.ch/corrosion

Topic

Corrosion related failures are still important issues in industrial products and applications. Besides the more "classical" engineering problems known for decades, new questions related for examples to medical implant applications, energy-related devices and photo-electrochemical devices are now in focus of the corrosion research. Any new materials/component should furthermore also be checked for their corrosion resistance in their operation environment. The workshop will present selected examples of the state of the art of scientific research carried out in Switzerland in the field of corrosion with emphasis on scientific methodologies. Innovative directions in research and future technological development in academia and industry will also be addressed.

Target audience

The workshop is intended for scientists and engineers from industry and academia that are interested and/or confronted with corrosion related issues. A special focus this year is on presenting activities of students working in the field.

Aims

This workshop aims at informing about the current projects and activities in Swiss research institutes. A further goal is to bring together scientists actively involved in corrosion research in companies and research institutes and to foster scientific and technological exchanges. A central aspect of the workshop is that it will be established on a regular basis and should bring together an increasing number of persons from the different Swiss institutions (industries, University of applied science, Universities and ETH Domain) to actively and regularly participate. In future, joint projects, topical meetings and strategic collaborations should be the output of this "corrosion science" group.

Program

10:00 **Registration and Welcome Address**

10:15 **Electrodeposited FeCrNi stainless steel-like films: influence of impurities and microstructure on the corrosion resistance**
E. Bertero, Empa

10:40 **Assessing the right fluid for E-mobility applications: New Corrosion & Electronic compatibility test**
Dr F. Cova Coiazzo, Petronas Lubricants

11:05 **Coffee break**

11:30 **Stress corrosion crack initiation behavior of Alloy 182 weld metal under simulated boiling water reactor conditions**
A. Treichel, Paul Scherrer Institute

11:55 **Highly effective ZnO-based biomimetic photocatalysts with minimal photocorrosion activity**
A. Serrà Ramos, Empa

12:30 **Lunch break & Poster Session**

14:00 **Corrosion challenges in civil engineering infrastructures – examples from research at the corrosion laboratory at ETH Zurich**
Prof. U. Angst, ETH Zurich

14:25 **Organophosphonic modification of aluminum surfaces**
R. Zhao, Empa

14:50 **Coupling titanium and CoCr alloys in biomedical implants: which risk of galvanic corrosion?**
Y. Bao, EPFL

15:15 **Concluding remarks and Networking**

Important: Considering the goal of this workshop to build up a Swiss corrosion network, space for at least two additional contributions (20 Minutes + 5 minutes questions each) has been reserved in the program schedule. Posters are also welcome as they will be panels to display them and discuss them during breaks, please don't hesitate to bring along one. Any interested persons can contact directly **laetitia.philippe@empa.ch** for scientific questions.

Registration

Corrosion Research: Challenges, Opportunities and Applications

Empa, Feuerwerkerstrasse 39, Thun
Room L504
Tuesday, March 3, 2020, from 10:00 to 16:00

Deadline: February 15, 2020

Please register online (places limited):

www.empa-akademie.ch/corrosion

You will receive a confirmation by e-mail.