

WORKSHOP ORGANIZER

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

Prof. Anna Igual Munoz has a degree in engineering (corrosion and electrochemistry) and is currently scientist at EPFL in the Tribology and Interfacial Chemistry group.

Dr Jörg Güttinger has a degree in Economics, Ing., Technology Management and is currently managing director of the Association NTN Innovative Surfaces.

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.

The National Thematic Knowledge and Technology Transfer Network (NTN) **Innovative Surfaces** is the leading network in Switzerland for targeted and performance-oriented Knowledge & Technology Transfer (KTT) between public research institutions and companies seeking innovative surface technologies and collaborations to stimulate competitiveness and value creation.

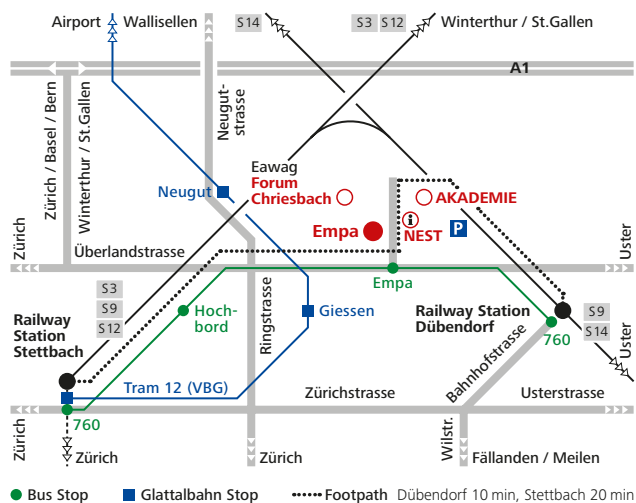
ADDITIONAL SUPPORTING ORGANIZATION



GENERAL INFORMATION

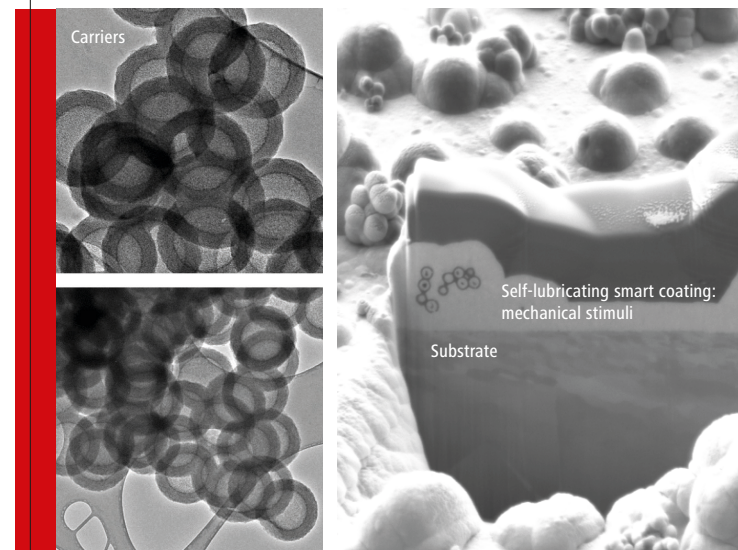
Location	Empa Überlandstrasse 129 8600 Dübendorf AKADEMIE
Costs	The event is sponsored by Empa and free of charge for the participants.
Registration	www.empa-akademie.ch/smac
Deadline	January 30, 2019
Contact	Empa Dr Patrik Schmutz Laboratory for Joining Technologies and Corrosion Phone +41 58 765 48 45 patrik.schmutz@empa.ch www.empa.ch
How to get here	Please do use public transport. There is only very limited parking available.

MAP



WORKSHOP

Smart Advanced Coating (SMAC)



Empa, Überlandstrasse 129, Dübendorf
Wednesday, February 6, 2019
 from 14:00 to 17:00

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

TOPIC

Surfaces and interfaces are the communication paths between environment or operating conditions and devices (MEMs, NEMs, biomedical instruments, optics, energy storage elements, solar cells...). The workshop will address the next generation of smart galvanic coatings from a scientific perspective and allow discussion of opportunities for industrial implementation. These coatings make, for example, use of tailored carriers (inorganic or organic) containing active species or sensors dispersed in electrolytic baths and electrochemically co-deposited or passivated within a metallic matrix. The concept of these composite smart coatings are multi-phase films which incorporate those tailored nano- or micro-sized carriers into the metallic matrix in order to generate a surface with pre-defined properties that make them sense and respond to environmental and other external stimuli. Colloidal electrodeposition/anodizing is envisioned as a novel technique for creating self-adaptive coatings.

With regard to functional surfaces, a certain number of initiatives are already going on at the national level in order to promote industrial innovation and collaboration with academic partners. The Innosuisse-supported National Thematic Network "NTN Innovative Surfaces" is currently a leading one with respect to industrial application and support.

TARGET AUDIENCE

The workshop is intended for representatives from industry and academia, interested in innovation in surface treatments (in particular "electro"chemical nature) as well as everyone interested to learn more about the expertise available within the NTN Networks (regarding Innosuisse support), SGO-SST, Empa and other Swiss research institutions. These institutions are committed to bundle their efforts in promoting innovation and industrial development of functional surfaces.

AIMS

This workshop aims at **informing** about current initiatives with respect to innovation support in the field of functional coatings/surfaces in general and, in particular electrochemical surface modification/characterization. A central aspect of the workshop is, besides the **technical/scientific contributions**, to enable direct interaction between representatives from industry with researchers as well as with innovations and ideas for new products. Experts will be available to **answer questions** and provide practical information about **project proposals/feasibility**, coating development/**support possibilities** and **potential partners** for your innovation ideas.

PROGRAM

- 14:00** Introduction and Welcome Address
Dr Patrik Schmutz, Empa
- 14:10** Galvanic composites:
the way towards smart coatings
Prof. Anna Igual Munoz, EPFL
- 14:40** Presentation „Innovative Surfaces“ Innosuisse
Network and its innovation clusters
Dr Jörg Güttinger, Association NTN Innovative Surfaces
- 15:00** State of the art in composite electroless
nickel coatings
Dr Gael Osowiecki, Atela SA
- 15:30** Break / Networking
- 16:00** 3D printed smart-coatings, a novel approach
to Lab-on-a-Chip fabrication
Dr Giorgio Ercolano, Cytosurge AG
- 16:20** Electrochemical surface reactivity
characterization at the micro and nanoscale
Dr Patrik Schmutz, Empa
- 16:40** End of the Workshop / Questions
Dr Patrik Schmutz
Prof. Anna Igual Munoz
Dr Jörg Güttinger

REGISTRATION

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AKADEMIE

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You will receive a confirmation by e-mail.