Announcement of a session on "Artificial Intelligence for Corrosion: From Fundamentals to Applications"

EUROCORR
THE ANNUAL CONGRESS OF THE EUROPEAN FEDERATION OF CORROSION
PRAGUE 2027
23TH INTERNATIONAL CORROSION CONGRESS
ICC PRAGUE2027

Don't forget…abstract submission deadline: January 31, 2027!

Understanding and predicting corrosion requires linking material properties and environmental conditions with processes across spatial and temporal scales. Artificial intelligence and data-driven approaches can extract information from complex measurements, connect experiments with models, and support corrosion monitoring and prevention, provided they build on reliable data, sound physical interpretation and validation under relevant conditions.

This Joint Session invites methodological contributions and application-oriented case studies that use AI to advance mechanistic understanding, improve lifetime prediction and support sustainable corrosion management. Topics include machine learning for corrosion prediction; automated analysis of corrosion data, from time series and spectra to images and 3D tomography; physics-informed modelling; discovery of materials, inhibitors and coatings; AI-assisted monitoring and inspection, including early damage detection, stress corrosion cracking and digital twins; and generative AI for organizing corrosion knowledge. Contributions addressing data quality, interpretability, uncertainty and transferability are particularly welcome. The session aims to connect corrosion scientists and engineers across the different corrosion fields to exchange methods, data and perspectives.

Session organisers:

Viacheslav Shkirskiy, Université Paris Cité (France) ; **Leonardo B. Coelho**, ULB (Belgium) / IAlto (Brazil); Mats Meeusen, SURF VUB (Belgium); **Christian Feiler**, Helmholtz-Zentrum Hereon (Germany); **Tommaso Coricelli**, Toyota Motor Europe (Belgium)

Laure Martinelli, CEA (France) – WP4: Nuclear Corrosion

Noémie Ott, OST (Switzerland) – WP8: Corrosion Testing Methods and Data Management

Marjorie Olivier, Mons (Belgium) – WP14: Coatings

Elisabeth Szala, Duffel (Belgium) – WP17: Automotive Corrosion

Mikhail Zheludkevich, Helmholtz-Zentrum Hereon (Germany) – WP22: Corrosion Control in Aerospace

Johan Tidblad, RISE (Sweden) – WP25: Atmospheric Corrosion

Iris De Graeve, VUB (Belgium) - TF: Corrosion & Corrosion Protection of AM Metals

Expected duration: 1 day

Expected audience: 50-100 persons

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Please submit your abstract online via www.eurocorr.org before the end of January 2027. We are looking forward to your contribution & participation in EUROCORR & ICC 2027 (September 12-16, 2027, Prague, Czech Republic)!