



**Session: Corrosion and corrosion protection from micro- to nano-scale: Towards long-term durability of miniaturized systems**

The use of micro- and nanodevices has seen a significant growth in the last decades in many industrial sectors with electronics, telecommunications and biotechnology primarily benefitting to date. Device miniaturization is also currently impacting other front-line research and technology fields such as energy storage and renewables, or the automotive industry. Indeed, micro- and nanoelectromechanical systems and other small architectures are becoming increasingly ubiquitous as sensors, actuators, or structural and packaging elements. However, important and very often overlooked issues in miniaturized devices are corrosion effects deriving from the interplay among different materials or from the combination of several manufacturing steps. Corrosion phenomena occurring in micro- and nanodimensional components can develop in a completely different path than their bulk counterparts and corrosion might influence the functional properties of small components in a much more severe manner.

This special session will be dedicated to:

- the study of corrosion mechanisms beyond microscale of components in miniaturized systems,
- the application of novel high-resolution techniques to study corrosion phenomena,
- the development of multifunctional protective coatings to increase the long-term durability of micro- and nano-components.

We invite presentations dealing with corrosion and protection in micro or nanoscale and young researchers of the mCBEEs Innovative Training Network.

Please submit your abstract online via [www.eurocorr.org](http://www.eurocorr.org) before January 15, 2020.

We are looking forward to your contribution and participation in EUROCORR 2020 “Closing the gap between industry and academia in corrosion science and prediction.” on September 6-10, 2020, in Brussels, Belgium.

Maria Lekka, Caterina Zanella  
Chair WP/TF: mCBEEs

Expected duration: 1 day

Expected audience: 50 attendees