

SUMMER SCHOOL

ENVIRONMENTAL ASSISTED CRACKING

Save the date:



12-16 July 2026



Milazzo (ME), Italy



Brief overview

The “Environmental Assisted Cracking” summer school is organized in its first edition by the Italian Association for Metallurgy (AIM) in collaboration with the University of Bergamo, the University of Messina and the University of Manchester. The school will take place in Milazzo, a charming coastal town in north of Sicily, which offers stunning sea views, historic sites, and a vibrant local culture.

This international summer school offers a comprehensive understanding to environmentally assisted cracking (EAC) and related degradation phenomena. Through lectures by leading Italian and international experts, participants will explore fundamental mechanisms, characterization methods, and the behavior of traditional and advanced materials under combined mechanical and environmental stresses. The residential program is designed for doctoral students and academic or industry researchers and it includes opportunities for discussion and networking.

Description of the School

The term environmentally assisted cracking (EAC) refers to a group of mechanisms in which the combined action of a susceptible material, applied mechanical stress, and a specific environment leads to cracking, even when the stresses are below the material's typical fracture strength.

EAC typically includes phenomena such as stress corrosion cracking, hydrogen embrittlement, and corrosion fatigue. However, this summer school will also address other forms of mechanically induced damage – such as fretting and wear – as well as their combined effects, for example fretting-corrosion-fatigue.

EAC effects have been observed across a wide range of applications, including civil and industrial infrastructure, oil and gas, chemical processing, nuclear power, pipelines, aerospace, and biomedical components. Each of these fields is characterized by distinct environmental and stress conditions and involves different susceptible materials. This international summer school aims to provide doctoral students in corrosion science and engineering with an in-depth overview of the various forms of EAC, related investigation methods, the behavior of both traditional and innovative materials, and representative modeling approaches. The school is also open to researchers from industry who wish to deepen their understanding of these corrosion phenomena.

In the beautiful setting of Milazzo in Sicily, the residential program alternates lectures by Italian and international experts—both from academia and from research institutes and industry—with social events designed to encourage interaction and foster future collaboration among young researchers.



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Organized by



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