



**SUBMIT AN ABSTRACT BY AUGUST 23**

**FEBRUARY 27-MARCH 3, 2022**  
**ANAHEIM CONVENTION CENTER & ANAHEIM MARRIOTT**  
**ANAHEIM, CALIFORNIA, USA**  
**#TMSAnnualMeeting**

**SUBMIT AN ABSTRACT FOR THE FOLLOWING TMS2022 SYMPOSIUM:**

## **SPECIAL TOPICS**

### **Frontiers of Materials Award Symposium: Microbiologically Influenced Corrosion—How Organisms Accelerate Materials Degradation**

Microbiologically influenced corrosion (MIC) describes materials degradation that is significantly accelerated by microorganisms. As such, it embraces classical corrosion of structural materials, but becomes cross-disciplinary due to the additional influence of living matter. MIC-degradation has been recognized as a serious threat to societal infrastructure, with a particular current focus on oil and gas systems. For example, 20% of all metal corrosion is estimated to be due to MIC, with a strongly increasing percentage due to the ongoing climate changes that promote metabolic processes in microorganisms. Thus, a multidisciplinary effort is urgently needed to understand and eventually mitigate MIC. Whilst the topic has been recognized in specific sub-disciplines, a cross-disciplinary discussion is lacking. To this end, we propose offering a novel platform for material scientists, geologists, physicists, chemists, engineers and microbiologists at TMS through this symposium.

Topics include, but are not limited to:

- Fundamentals of MIC across length-scales
- Protection mechanisms
- Effects of MIC on mechanical properties
- Microstructural changes due to MIC
- Novel experimental and computational methods to evaluate MIC

With these topics, the symposium provides a platform for fostering new ideas to better assess, predict, and prevent MIC damage of materials.

#### **ORGANIZER**

**Andrea Koerdt**, Bundesanstalt für Materialforschung und Prüfung (BAM)

[www.tms.org/TMS2022](http://www.tms.org/TMS2022)

**QUESTIONS?**  
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