

## **Einladung zum Science Meeting**

**Zeit:** Donnerstag, 02.12.2021 09:00 Uhr

**Ort:** Webinar via Zoom:

<https://zoom.us/j/93830246101?pwd=MjRpWWdoRHRVc2V4OW56emdFRjNjdz09>

Meeting-ID: 938 3024 6101

Kenncode: 3R^Luk

### **Max Svetina**

RG-Korrosion, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Austria

#### **Master Thesis: "On the risk of hydrogen embrittlement of carbon steels in underground hydrogen storage"**

The thesis involves the investigation of the applicability of certain steels for underground hydrogen storage without hydrogen embrittlement occurring. In addition to theoretical research, my activities include autoclave tests, with and without an aggressive environment, as well as an hydrogen analysis to determine how much hydrogen is absorbed by the steels under specific conditions.

### **Jacqueline Deutsch**

RG-Korrosion, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Austria

#### **Corrosion protection of pearlitic prestressing steel wires for wind power plants**

Pearlitic prestressing steel wires are used in onshore concrete towers of wind power plants. The steel wires are sensitive to stress corrosion cracking due to high tensile stresses and environmental conditions. Currently, corrosion protection is done by use of oils, waxes or grease. A new paint-based corrosion protection is expected to increase service lifetime of such steel wires.

After a short description of different types of wind power stations the application is described and the experimental program as well as first preliminary results are presented.

### **Patrick Weiss**

RG-Korrosion, Chair of General and Analytical Chemistry, Montanuniversität Leoben, Austria

#### **Bachelor thesis: Critical hydrogen concentration of stainless steels**

Critical H concentration is a material property of each steel, where embrittlement by hydrogen starts. First charging procedure has to be optimized to get a propose amount of hydrogen into the steel. Second a slow strain rate test has to be done to determine the depth of embrittlement in a tensile specimen. Third the critical hydrogen concentration is determined by numerical fitting of hydrogen charging results and the evaluation of slow strain rate test.