

PhD student wanted (m/f)

for research project with OMV:

Repassivation behaviour of Martensitic Stainless Steels in Oil and Gas Production

In cooperation between:

OMV Exploration & Production – Slovenian National Building and Civil Engineering Institute (ZAG) – Montanuniversität Leoben, Austria

OMV is a major supplier of oil and gas in the Danube region. Up to now OMV uses almost exclusively carbon steel or duplex stainless steel for completion equipment. In the last years new, very economic stainless steels have been developed containing between 13 and 17% of chromium. Stainless steels get their outstanding corrosion resistance by forming a few nanometre thick passive layer. During operation (acidizing jobs, coiled tubing jobs, high temperatures) the passive layer can be damaged and has to be rebuilt in the environment to further protect the steel against corrosion. Repassivation behaviour is not known for these steels under oil and gas production conditions.

In a 3 year PhD project the kinetics of repassivation of chromium stainless steels under production conditions shall be characterized and understood. First a comprehensive literature study on methods to characterize repassivation kinetics and on available repassivation data of stainless steels is done. Then repassivation behaviour of stainless steels under ambient and elevated pressure have to be performed including high resolution characterization of passive layers and of scratches generated during repassivation experiments.

Studies: PhD programme is offered at Montanuniversität Leoben, Austria

Duration of the project / PhD studies: 3 years (July 2016 – June 2019)

Place of work:

Austria – Montanuniversität Leoben (July 2016 – March 2017),
Slovenia – Slovenian National Building and Civil Engineering Institute, ZAG (April 2017 - June 2019)

Requirements:

Beside a high personal motivation and interest in research the candidate shall have a MSc degree in Physics, Chemistry, Materials Science, Metallurgy or Mechanical Engineering, excellent grade of diploma thesis and research references. Excellent English knowledge and the willingness to learn the German language are appreciated.

Position is open until: 31. 05. 2016

Additional information / contacts:

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