



Vabilo na Preglov kolokvij / Invitation to the Pregl colloquium

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Great Lecture Hall, National Institute of Chemistry;  
Hajdrihova 19, Ljubljana, Slovenia

### **The World of Coatings: from Monolayers to Thick Films and from Sensors to Medical Implants**

We live in a world of coatings; everything around us from furniture to medical implants and from microscopic to macroscopic objects are coated. The coating is used to change the interfacial properties of the bulk material and acquire it with additional functionalities, such as corrosion inhibition, stability and sensitivity towards specific species. The coating can be as thin as a monolayer or much thicker such as used to protect the ship's hull against biofouling. Today, it is common to describe the coatings as smart, which means that they have more than one functionality or they can respond to an external stimuli, e.g., temperature, pH, etc. There are numerous approaches to prepare coatings either from the gaseous phase, i.e., sputtering, CVD, etc. or from the liquid phase, such as dip- and spin-coating, printing and electrochemistry.

The lecture will present some of our work in this field, which spans from self-assembled monolayers that have been used by us for sensing and molecular gluing to thicker polymeric and inorganic films, exploited in solar energy conversion, medical implant and many more applications. We will show some new concepts in electroplating, in nanoparticles sensing, etc., which are all based on functional coatings. We will also demonstrate the advantages electrochemistry offers in controlling the formation of films and coatings.



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Vljudno vabljeni / Kindly invited