

## VABILO NA INŠTITUTSKO PREDAVANJE / INVITATION TO THE INSTITUTE LECTURE

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Velika predavalnica Kemijskega inštituta / Lecture Hall at the  
National Institute of Chemistry; Hajdrihova 19, Ljubljana

### **Morphology of functional polymers: assessment, modeling and correlation with application properties**

Functional polymers are widely used as catalyst carriers, adsorbents, supports for immobilization of reagents or synthesis of peptides, etc. In almost all the application these materials work in a swollen state. Assessment of the working state morphology of functional polymers is impossible to perform using conventional porosimetric methods working with dry samples.. The only practically useful method for this purpose is inverse steric exclusion chromatography. Mathematical treatment of elution volumes of standard solutes with known effective molecular size measured using column filled with the investigated polymer can provide information on volume distribution of various pore sizes in the swollen polymer material. Using model of cylindrical pores can be characterized “true” pores having size in mesopore range, while microporous swollen polymer gel is better represented by the Ogston model depicting pores as spaces between randomly oriented cylindrical rods. Practical value of this approach will be demonstrated on examples from a few of our recent studies.

Vljudno vabljeni! / Kindly invited!

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