

INSTITUT RUĐER BOŠKOVIĆ (IRB),
PRIRODOSLOVNO-MATEMATIČKI FAKULTET SVEUČILIŠTA U ZAGREBU (PMF)

i
INSTITUT FRANÇAIS ZAGREB

pozivaju Vas na

JAVNO PREDAVANJE

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u okviru održavanja manifestacije *Rendez-vous, festival Francuske u Hrvatskoj*

Rendez
— VOUS
Festival Francuske
u Hrvatskoj
svibanj—rujan 2015.

koje će se održati

u srijedu 27. svibnja 2015. godine u 14.30 sati

u predavaonici P1

Kemijskog odsjeka Prirodoslovno-matematičkog fakulteta, Sveučilišta u Zagrebu,
Horvatovac 102a, Zagreb

Catalysis for Energy: Enzymes, Artificial Enzymes and Bioinspired Catalysts

New technologies for storing solar or electrical energy are crucial for the energetic transition that humanity is working on. An attractive scenario consists in the conversion of renewable energies into chemical energy, via water splitting into hydrogen. Hydrogenases are the most active molecular catalysts for hydrogen production and uptake on earth and are thus extensively studied with respect to their technological exploitation as noble metal (such as platinum) substitutes in (photo) electrolyzers and fuel cells. Because hydrogenases suffer from a number of drawbacks, in parallel, bioinspired and artificial hydrogenases are being extensively developed. Here we describe the various classes of hydrogenases and the complex biosynthesis of their active sites. We also present our efforts in the development of: (i) bioinspired cobalt-, iron- and nickel-based molecular catalysts; (ii) electrode materials resulting from the heterogenization of these compounds; (iii) artificial systems based on the combination of these complexes with protein scaffolds.