École polytechnique fédérale de Lausanne (EPFL) Valais/Wallis
Institute of Chemical Sciences and Engineering (ISIC)
Basic Science Faculty (SB)
Energypolis, Rue de l'Industrie 17, CH-1950 Sion, Switzerland

SEMINAR SERIES

HIGHLIGHTS IN ENERGY RESEARCH

12.04.2018, 10:30 – 11:30, ENERGYPOLIS Sion, 4th floor, ZEUZIER room

Advanced Characterisation Methods for Nanoparticles

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A bird eye view of any folded protein shows a complex surface composed of hydrophobic and hydrophilic patches closely packed. To date little is known on the fundamental properties that such packing determines. In this talk I will present my group's endeavours into the synthesis, characterization, and understanding of a family of nanomaterials (mixed monolayer protected nanoparticles) that possess a surface coexistence of patches of opposite hydrophilicity resembling that present on folded protein. Attention will be placed in describing approach we have developed to characterise such surfaces and possible extension of these approached to characterise similar surfaces. I will show that these materials are ideal model compound to uncover the basic properties that such coexistence determines at the solid liquid interface, and will conclude with example of application of these nanoparticles when used as mimic of biological entities.

CV: Prof. Francesco Stellacci
Prof. Francesco Stellacci got his degree in Materials Engineering at the Politecnico di Milano in 1998 with Prof. Zerbi. He then moved as a post-doc with Prof. J.W. Perry in the Department of Chemistry at the University of Arizona. In 2002 he became as assistant professor in the Department of Materials Science and Engineering at MIT (Cambridge, USA). There he became associate professor with tenure in 2009. In 2010, he moved as a full professor to EPFL where he holds the Constellium chair. Stellacci has published more than 130 papers and has more than 15 patent applications. He has won numerous awards, among the Technology Review TR35 'top innovator under 35', the Popular Science Magazine 'Brilliant 10', and the EMRS EU40.