DWI Leibniz-Institut für Interaktive Materialien

BIOGEL

Press Information

Aachen, January 19, 2015

Smart hydrogels for biomedical applications

EU Horizon 2020 Marie Skłodowska-Curie training network BIOGEL starts with a kick-off meeting at DWI – Leibniz Institute for Interactive Materials

Hydrogels are highly elastic, water-rich polymeric networks that are increasingly utilized in medical applications – such as implant coatings or wound dressings. However, to fully exploit the clinical potential of these hydrogels, more research is necessary to develop better and smarter materials and systems. Via its Horizon 2020 Marie Skłodowska-Curie actions, the European Commission supports the training network BIOGEL for the next four years and with a total budget of 3.5 Million Euros. 14 young scientists will get the opportunity to learn the finesses of hydrogel chemistry and develop new hydrogel systems for biomedical applications. Today the members of this network, 13 research institutes and enterprises from seven European countries, Japan and the United States[1], met at DWI – Leibniz Institute for Interactive Materials in Aachen, the coordinator of BIOGEL.

“BIOGEL allows us to do top-level research together with excellent partners from both academia and industry, with a common goal in mind,“ says Prof. Dr. Martin Möller, scientific director of DWI. “The members of BIOGEL will develop new responsive and bio-inspired hydrogels for device coatings, medical diagnostics, as well as tissue regeneration, including regeneration of heart tissue, cartilage, or nerves.“

“The consistency of hydrogels is similar to the body’s own tissue. Hydrogels can be injected in a minimal invasive manner and adjust their shape inside the body. Biologically active molecules and pharmaceutical substances that are incorporated in the polymeric network can interact with a particular set of proteins, stimulate cell growth, and direct cell migration,“ explains DWI’s junior research group leader Dr. Laura De Laporte. “By choosing suitable molecular building blocks, specialists can tailor the hydrogel’s properties depending on the specific application.“

A main objective of BIOGEL is to provide a platform for young researchers to undergo a well-rounded PhD education, particularly focused on translational skills for a career focused in biomedical research and medical technology development. 14 junior scientists will have the chance to do their PhD studies within the BIOGEL network, and will be supervised by one of the BIOGEL members. By doing research internships within the BIOGEL consortium and attending BIOGEL workshops and symposia, they will be exposed to the different steps of biomedical product development – covering basic

[1] **BIOGEL members:** DWI – Leibniz Institute for Interactive Materials (Aachen); Radboud Universiteit (The Netherlands), Universidad de Valladolid (Spain), Austrian Instituts of Technology (Austria), Centre for Research and Technology Hellas (Greece), NovioSense (The Netherlands), Pepscan (The Netherlands), LifeTec Group (The Netherlands), Technical Protein Nanobiotechnology (Spain), Ecole Polytechnique Fédérale de Lausanne (EPFL, Switzerland), Synolyne Pharma (Belgium), University of Pennsylvania (USA), University of Osaka (Japan)

research in the lab, validation, and implementation into clinics. Interested PhD candidates can contact Dr. Laura De Laporte (delaporte@dwi.rwth-aachen.de).

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