

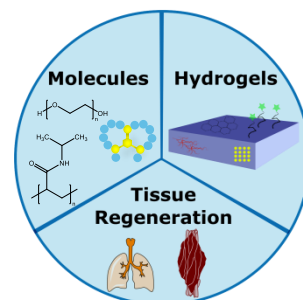


### 1<sup>st</sup> Newsletter July 2015

#### Training network BIOGEL has started

BIOGEL is derived from the two words BIOfunctional and hydroGEL. Hydrogels, are three-dimensional and water-rich polymer networks that have gained growing interest for biomedical applications such as coatings or wound dressings, tissue repair and diagnostic tools. As the clinical potential of hydrogels has not been fully exploited so far, research in this field has to be extended in order to develop smarter materials and systems. Within its Horizon 2020 Marie Skłodowska-Curie actions, the European Commission supports the training network BIOGEL for the next four years with a total budget of 3.5 million Euros.

Herein 14 young scientists will learn about hydrogel chemistry and investigate new hydrogel systems in academic and industrial settings for biomedical applications. This network strongly promotes the students to acquire a large variety of international, interdisciplinary, and intersectoral experiences.



#### Kick-off meeting at DWI Aachen

On January 19, the members of the BIOGEL network, met at DWI in Aachen, coordinator of BIOGEL. Principle investigators of 13 research institutes from seven European countries, the United States and Japan presented their work and discussed their collaboration. "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 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."

#### Welcome to our first 4 young scientists, which are now part of the network! (effective July 15, 2015)



**Dominik Bernhagen** was born in Lippstadt, Germany and studied Chemistry at Technical University of Dortmund. In April, he started to work as a PhD student at Pepscan Therapeutics. Under supervision of Prof. Dr. Timmerman (Pepscan) and Prof. Dr. Möller (DWI Aachen), he will apply the CLIPS

technology, invented at Pepscan, to create high-affinity bicyclic peptides that can be incorporated into hydrogels to create a biomimetic environment for tissue regeneration and incorporation.



**Delphine Blondel** was born in Paris and obtained her MSc degree in Chemical Engineering and Biotechnology from the Ecole Polytechnique Fédérale de Lausanne in 2014. She conducted her master thesis at UC Berkeley, supervised by Prof. Dr. Schaffer. Under the supervision of Prof. Dr. Lutolf (EPFL) and Prof. Dr. Möller (DWI Aachen), she started her PhD project in May, focusing on 3D patterned hydrogels for nerve regeneration to treat spinal cord injuries, in the group of Dr. De Laporte at DWI.



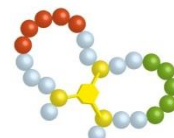
**Leander Poosza** was born in Bielefeld, Germany and studied Chemistry at Albert-Ludwigs University of Freiburg. He started to work as a PhD student at University of Valladolid in July. Under supervision of Prof. Dr. Rodríguez-Cabello, he will focus on the design of new elastin-like recombinamers to implement a variety of biofunctionalities by Genetic design or post-polymerization modification of ELRs. Through governing the protein folding and cross-linking patterns, the mechanical properties of the resulting hydrogels will be adapted.



**Marcel van Dongen** was born in Didam, The Netherlands and studied Chemistry at Radboud University Nijmegen. In addition to his chemistry background, he studied Management & Technology in collaboration with AkzoNobel, under the supervision of Dr Van Rooij. In July 2015, he started his PhD project at the DWI Leibniz Institute for Interactive Materials under the supervision of Prof. Dr. Martin Möller, where he will design and fabricate actuating hydrogel systems and hydrogel coatings for the interfacing of materials with living organisms.

### 1<sup>st</sup> Network meeting at Pepscan

On June 15, members of the BIOGEL network, met at Pepscan Therapeutics in Lelystad. After welcome words by CSO Peter Timmerman and a discussion about network progresses, principle investigators and students had the opportunity to exchange their scientific ideas. The two early stage researcher that have already started within BIOGEL, Delphine Blondel and Dominik Bernhagen, presented their projects and initial results. Prof. Timmerman gave a detailed overview about all the technologies that PEPSCAN can offer for the success of BIOGEL. In addition, the network members got an impression of the PEPSCAN enterprise by a very fascinating laboratory tour.



### Upcoming events

- Supervisory board meeting (University of Valladolid, December 14 2015)
- 2<sup>nd</sup> network meeting (University of Valladolid, December 14 2015)
- 2 day workshop: General skills (Technical Proteins Nanobiotechnology, Valladolid, December 15-16 2015)

For detailed information about the BIOGEL network: [www.biogel-mariecurie.eu](http://www.biogel-mariecurie.eu)

### BIOGEL partners

