

# Polymers in Medicine - an Introduction to Medical Devices



Biomaterials are substances other than food or drugs contained in therapeutic or diagnostic systems that are in contact with tissue or biological fluids. Biomaterials play a central role in extra corporeal devices, from contact lenses to kidney dialyses, and are essential components of implants, from vascular grafts to cardiac pacemakers and fracture fixation devices<sup>1</sup>. The development and availability of modern high-tech polymers allowed improving the patients care in all fields of medicine.

In this course we will:

- ✓ Gain an overview of the use of polymeric biomaterials in medicine
- ✓ Discuss some examples of permanent and resorbable polymer implants in detail
- ✓ Take a look at legal and regulatory aspects
- ✓ Learn about functional and design requirements when dealing with polymers in medicine, and
- ✓ Look into some modern approaches how polymers improve medical implants.

The course will give an insight into daily challenges in industrial R&D on polymeric biomaterials. The lecturer has some 18 years plus of experience in the development of polymer based medical implants.

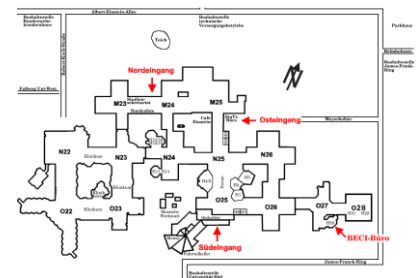
We will conclude the course with a written exam.

Course dates:       **25. Oct 2019 @ 14:00-18:00 h**  
                              **08. Nov 2019 @ 14:00-18:00 h**  
                              **22. Nov 2019 @ 14:00-18:00 h**  
                              **06. Dec 2019 @ 14:00-18:00 h**  
*(optional/ reserve dates: 15.11, 29.11 and 13.12.)*



Room:                   **N24/251**

Lecturer:              **Dr. Stefan Beck**  
                              **DePuy Synthes**  
                              [SBECK2@its.inj.com](mailto:SBECK2@its.inj.com)



<sup>1</sup>adapted from: Peppas, N., Langer, R. "New challenges in biomaterials", Science, Vol. 263, March 1994