

Research stay of Susanne Christ at the Material Research Centre at the Indian Institute of Science Bangalore 13.10.2014 – 30.11.2014



After my studies of Technology of Functional Materials with a focus on biocompatible materials at the Julius-Maximilians-University of Wuerzburg (Germany), I started my PhD at the Department for Functional Materials in Medicine and Dentistry (University of Wuerzburg). Within my first year of PhD I got the opportunity of an international cooperation with the Material Research Centre at the Indian Institute of Science (IISc) in Bangalore. My supervisor Prof. Uwe Gbureck and I developed a plan together with Prof. Bikramjit Basu for the project of 3D powder printed strontium-substituted magnesium phosphate 3D scaffolds with enhanced bioactivity to promote the early

osseointegration. This topic uses an additive manufacturing technique to prepare three-dimensional scaffolds of a material that helps the substituted bone to better grow into the scaffold and hence replace it with endogenous bone. For this work, Sourav Mandal and Dr. Alok Kumar, both group members of Prof. Basu`s research group and experts in 3D powder printing at the Material Research Centre, supported and accompanied me. I was able to use numerous research methods like micro-CT, which gave us insight into the microstructure of printed samples. The successful work was finalized in a common publication in Acta Biomaterialia: <https://www.sciencedirect.com/science/article/abs/pii/S1742706115302269>

Beside my research in the lab, I had the opportunity to attend Prof. Basu`s lecture, where I could gain further insight in the field of material science. Moreover, my colleagues showed me the beautiful campus of IISc and I could visit different departments there, which gave me an overview of the important and highly sophisticated research work done in India. But not just the work in India had a great impact on me. Especially my lab mates and the Indian people in general impressed me with their hearty hospitality and helpfulness. During my stay, I attended one of the most important festivals within Hinduism: Diwali, the Festival of Lights. The streets were decorated and the whole campus in front of the main building was illuminated by thousands of lights. My lab mates taught me more about the religious background of the festival to give me a deeper understanding of Hinduism and the Indian culture. In the evening students celebrated together on the campus with lights and fireworks. Joint visits of temples and communal meals there also contributed to get more familiar with people and their culture. We also attended a stage play of students on the IISc campus, had meals and tea together and roamed around Bangalore.

After my research stay at IISc, I stayed in India together with my husband to travel for further 3 weeks. My lab mates again helped me to find accommodations and recommended destinations and interesting places. Our travel deepened the impression of a very lively country with extraordinary friendly people. Due to great and unfamiliar culture and food, we could go through several adventures and gathered lots of positive impressions.

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