**Multimodal imaging for the longitudinal in vivo monitoring of biohybrid implants**

## Summary

The maturation of biohybrid implants continues after its implantation. This integration and remodeling process represents an interplay between the vital implant and its environment, and is of crucial importance for transplant's functionality and endurance. Thus, the aim of this project is the development of methods allowing to longitudinally assess the biological dynamics of remodeling processes of biohybrid implants and of their components. Using MR-PET and molecular ultrasound imaging the interplay between i) the biomaterial, ii) the cellular components, and iii) the host tissue will be studied *in vivo*. The project will provide important insights into the remodeling processes of biohybrid implants and its interplay with the host organism. The data will generate a basis for the "maturation model" to enable the prediction of implant behavior during the healing process.

For this project, funded by the German Research Foundation (DFG) we are seeking for a highly motivated PhD-student with background in biology, biotechnology, or biomedical engineering. Excellent grades and writing skills in English and German are mandatory.