

**Title:** EFFECT OF LOCALLY DELIVERED IMMUNOSUPPRESSIVES ENCAPSULATED IN SELF-ASSEMBLED HYDROGEL SYSTEMS ON VASCULARIZED COMPOSITE ALLOTRANSPLANTATION

**Summary:** This is a joint research project with a group in Bangalore, India, and the Clinic of Hand Surgery at the Inselspital. We have developed a hydrogel system which allows to prevent rejection of a transplanted hind limb in rats by local, 'on demand' immunosuppression. The idea behind this project is to avoid systemic immunosuppression of hand transplanted patients and to replace this by local immunosuppression via hydrogel-encapsulated tacrolimus. In spring 16 we will probably be performing rat hind limb transplantation experiments which the MLS students could watch. The students would also learn different techniques used for analysis of plasma, cells and tissue of transplanted rats like ELISA, Bio-Plex, immunofluorescence, FACS, and PCR.

**Requirements:** Students selecting this module should be interested in research, which covers transplantation, immunology, pharmacology and vascular biology. Our research is performed in close collaboration with clinical partners and we use methods ranging from molecular analyses of inflammation markers to animal experiments.

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