Title:	**Characterization of rejection and minimization of immunosuppression in a model of hand transplantation**

Summary:

Patients who lost their hands due to severe burns or trauma are typically fitted with a prosthetic hand, which provides very modest functional restoration and no sensation at all. Today, however, an alternative to this scenario is hand transplantation, which is associated with considerably improved function, restores sensation and increases patient satisfaction and quality of life. This therapeutic modality, however promising, is associated with the need of life-long immunosuppression. This creates health hazards for the patient – infectious, metabolic and malignant – which should be carefully weighted against the benefits of a hand transplant. Furthermore, despite current intensive immunosuppression regimens, 80% of hand transplants experience at least one rejection episode in the first year after transplantation. Our laboratory is currently developing new therapies to minimize immunosuppression in order to reduce its associated side effects. Moreover, we are investigating novel markers for non-invasive rejection prediction, to allow rapid and reliable monitoring of graft's health. The students will work with a PhD candidate and perform laboratory analyzes of tissue and plasma samples. Techniques can include immunofluorescence / confocal microscopy, FACS, multiplex suspension array and ELISA, but details have not been determined yet.

Requirements:

Students selecting this module should be interested in translational biomedical research. Some background knowledge on transplantation, immunosuppression and immunology in general are a plus. There will be no in vivo work.

Time-slots & # of students:	Elective module series I :	1-2 students
	Elective module series II:	1-2 students

Location:

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