

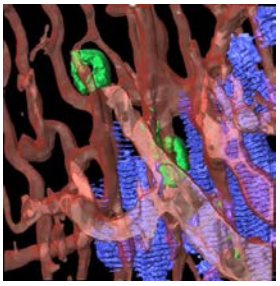

Pathomechanism and treatment of neuromuscular diseases

Research project for Engineer or Master students

Neuromuscular diseases are rare genetic diseases characterized by muscle weakness originating from structural and functional alterations in the peripheral nerves, the neuromuscular junction, or the skeletal muscle fibers. There is currently no curative treatment for these diseases and the understanding of the pathological mechanisms remains limited. Our team previously identified the genetic basis of several **neuromuscular diseases** and characterized corresponding cellular and mouse models.
The student will establish novel cellular systems to mimic in vitro the cellular and molecular alterations observed in patients. In addition, he/she will analyze and characterize these alterations in vivo in mouse models. Methods used will combine cell culture, photonic and electronic microscopies, immunofluorescence, histology, western blotting, quantitative PCR, and motor phenotyping. Overall, the student will reveal yet unknown **mechanisms leading to the development of neuromuscular diseases**. In addition, he/she will also analyze the effect of different genetic and pharmacologic modulations in the cellular and animal models to **validate novel therapeutic approaches**, using similar methods.

Candidate profile: you are a highly motivated and talented student (Engineer final year or Master 2), with strong interest in cellular mechanisms and therapies. Proven expertise in cellular biology and physiology. English is the communication language in the team.

The internship will take place in Strasbourg at the **IGBMC** institute that is one of the main European centers in Biomedical research and offers a unique environment with 50 research teams, 45 different nationalities and a dozen of state-of-the-art platforms.
Strasbourg is a cosmopolitan city in a beautiful countryside, close to Germany and less than 2 hours from the center of Paris by train.

Applications:
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