

Project Title	Soft-rigid hybrid robotic material
Supervisor	Dr Majid Taghavi
Theme	Neurotechnology and Robotics
Project Type	Lab based
Project Description	<p>Soft robotics built from highly compliant materials suggests safe and adaptable technologies for many applications including human-machine interactions (e.g. surgical robots, implants, and wearables). In practical uses, it is usually needed to integrate dissimilar materials, such as soft with rigid and electrodes with non-conductors, in the architecture of soft robots for applying mechanical support and electrical connections.</p> <p>Inspired by nature, where dissimilar materials are found with progressive compositional changing (e.g. muscle-tendon-bone), in this research we will develop a novel robotic material with a smooth transition from soft to rigid, embedding a unique capability of interacting with the environment. This soft-rigid hybrid muscle will benefit from a reliable connection to rigid bodies, withstanding diverse mechanical deformation and robust electrical connections</p>