



Project Proposal for Ph.D.

Project Details	
Project Title	Design and Development of Neuro-prosthetics for the elderly and paralyzed patients.
Project Summary (Minimum 500 and maximum 2000 characters)	Neuromuscular problems are increasing due to several contributing factors including trauma and other disease conditions. Existing prosthetics (upper limb) are difficult to control and rarely provide comfort and do NOT satisfy functional requirements as desired. In this proposal, we would like to develop a smart neuro-prosthetic device that is light-weight and can be interfaced with the user's mind to effectively control the actuation of the device. Both wearable and replacement prosthetics will be developed for the patients/ subjects.

Ph.D. Supervisors			
Role	Name of Faculty	Academic Unit in IITD/Institute/University	Email ID (Official)
Supervisor 1	Soutik Betal	Electrical Engineering	soutik@ee.iitd.ac.in
Supervisor 2	Dinesh Kalyanasundaram	Biomedical Engineering	Dineshk@cbme.iitd.ac.in dineshk.iitdelhi@gmail.com

Project requirements (Student qualifications, experience required, etc) *The candidate will be shortlisted based on common shortlisting criteria decided by ScRC (SIRe)
Candidate with his/her own fellowship /institute assistantship

Source of fellowship/funding (CSIR/UGC/DBT/ICMR/ICAR/NEET-PG/DST-INSPIRE/IRD/FITT Project details, if any)
CSIR/UGC/DBT/ICMR/ICAR/NEET-PG/DST-INSPIRE – All fellowships (FIRST priority) New RP project (sanction order expected; PI – Dinesh Kalyanasundaram) (SECOND priority)

Role of Faculty Members involved:	
Supervisor-1	Prof. Soutik wilk guide the student in designing the electronic circuits, and testing.
Supervisor-2	Prof. Dinesh will guide the student in the mechanical design as well as in validating the device in simulated and clinical environments.