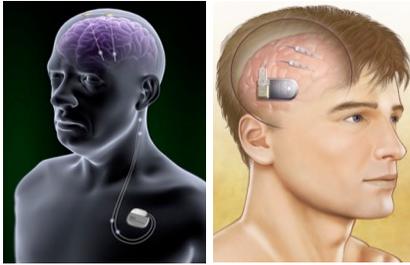
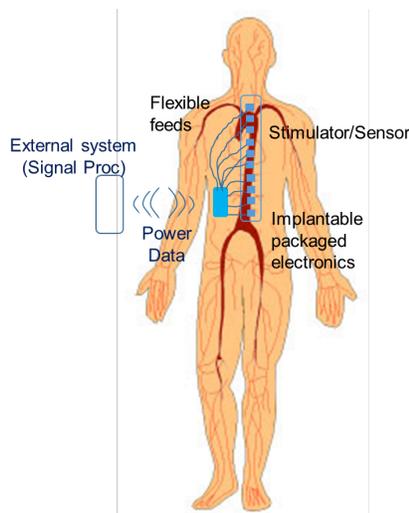

FIU BME DEPARTMENT OFFERS THE WORLD'S FIRST BIOELECTRONIC PACKAGING COURSE

Bioelectronic applications range from health monitoring, implantable medical devices, artificial organs, prosthetics and electroceuticals. Such systems should support a unique and diverse set of requirements such as highly-miniaturized device integration with high-density interconnects, power telemetry and conversion, reliable neural interfaces that perform functions such as neural stimulation or recording. The electronics should also be compatible with the biological environment they are implanted in. All these system requirements are addressed through “Bioelectronic Packaging”.



During Fall 2018, FIU BME will be offering the world's first “Bioelectronic Packaging” course that bridges the gap between implantable biomedical electronics and fundamentals of electronic systems packaging, to rationally design and fabricate bioelectronics systems. The key topics include: 1) Applications for implantable electronics and their system partitioning, design and form-factor requirements, 2) Device integration through various hermetic 3D packaging technologies, 3) Fundamentals of flexible biocompatible substrates and packaging to support high-density signal interconnections, 4) Power supply and conversion, 5) Fundamentals of reliability, biocompatible neural or tissue interfaces, reliability characterization and validation strategies.



Students who are interested in next-generation medical devices for healthcare will find this course extremely valuable.

About the Instructor: Dr. P. M. Raj is an Associate Professor with joint appointments in Biomedical Engineering and Electrical and Communication Engineering at Florida International University, Miami, FL. His expertise is in the areas of packaging of electronic and bioelectronic systems, power-supply and RF component integrations, biocompatible packaging and high-density substrates. He developed many technologies in these areas, in partnership with dozens of companies from the electronics industry. He is widely recognized for promoting the role of nanomaterials and nanostructures for electronics packaging applications. He has ~300 publications, which include ~15 book chapters and 8 patents. He received more than 20 best-paper awards. He is the Associate Editor for IEEE CPMT transactions and IEEE Nanotechnology magazine. He is the Co-Chair for the IEEE nanopackaging technical committee, and involved with other electronics manufacturing societies.

