

Emerging Trends in Bio-Robotics for Development of Prosthetic and Orthotic Devices

Overview

This course is designed for the participants from various interdisciplinary areas such as mechanical, electrical, control, software, biomedical engineering & experts from medical and paramedical fields. In this course a truly high-tech human orthotic and prosthetic limb design with an introduction to traditional fields of prosthetics and orthotics will be covered. Prosthetics and orthotics transform physical disabilities into new mobility opportunities for the subjects with movement disability and in the process lead to improvements in the quality of life of amputees. Participants will be introduced to various facets of the field, including clinical application, engineering, design, and new technology in robotics and assistive technology. Professional options within the professions will also be discussed.

Modules	<ol style="list-style-type: none"> 1. Biomechanics 2. Principles of Robotics 3. Prosthetics and Orthotics 4. Introduction to bionics 5. Sensors, Actuators and Embedded Electronics 6. Control Strategies, Smart Prosthetics and Orthotics Devices 7. Emerging Prosthetics and Orthotic areas <p>Dates: December 19 – December 30, 2016</p> <p>Number of participants for the course will be limited to forty</p>
Who should attend	<ul style="list-style-type: none"> • Physical scientists, technicians, engineers and researchers involved with application or development of medical imaging modalities. • Student at all levels (B.Tech./M.Sc./M.Tech./Ph.D.) or Faculty from reputed academic and technical institutions.
Fees	<p>The participation fees for taking the course is as follows:</p> <p>Participants from abroad : US \$300</p> <p>Industry/ Research Organizations: INR 5,000.00</p> <p>Faculty from Academic Institutions: INR 2,000.00</p> <p>Students: INR 1,000.00</p> <p>The above fees include all instructional materials, computer usage for tutorials and assignments, and free internet facility. The participants will be provided with boarding and lodging in campus on payment basis subject to availability.</p> <p>All course registrations will processed via the national GIAN portal (gian.iitgp.ac.in), where a Rs. 500/- one-time fee is payable in addition to the above amount.</p> <p>Registration fee can be directly deposited through NEFT to the designated account as given below or can be sent in the form of demand draft (D.D.) drawn on any nationalized bank in favor of "GIAN-Bio-Robotics-2016" payable at Allahabad.</p> <p>Account Name: GIAN-Bio-Robotics-2016</p> <p>Account No. 718400301000217</p> <p>Bank: Vijaya Bank, MNNIT Branch, Allahabad-211004, UP, INDIA</p> <p>IFSC Code: VIJB0007184</p> <p>Last Date of Registration: 10 December, 2016</p>

The Foreign Faculty



Dr. Ravindra Dahiya is Reader and EPSRC Research Fellow. He is the Director of Electronics Systems Design Centre (ESDC) and the leader of Bendable Electronics and Sensing Technologies (BEST) group. He received B.Tech. (Electrical) from Kurukshetra University (India), M.Tech. (Electrical) from Indian Institute of Technology Delhi (India), and Ph.D. from Italian Institute of Technology Genoa and University of Genoa (Italy). In past, he worked at NSIT - Univ. of Delhi (India), Italian Institute of Technology Genoa (Italy), Fondazione Bruno Kessler Trento (Italy), and has held visiting positions at Universiti Teknologi Mara (Malaysia), Universiti Teknologi Malaysia, and University of Cambridge (UK). His areas of expertise include Flexible/Printable Electronics, Electronic Skin, Robotic Tactile Sensing, Micro/Nanofabrication, Solid-State Sensors, and Wearable Systems.

The Local Faculty



Dr. R.P. Tewari is Associate Professor in the Department of Applied Mechanics at Motilal Nehru National Institute of Technology, Allahabad, India. He is a life member of ISTE, New Delhi and Biomedical Society of India. His research interests include Biomechanics, Biomaterials, Bio-instrumentation and Rehabilitation Engineering.



Dr. Basant Kumar is Assistant Professor in the Department of Electronics and Communication Engineering at Motilal Nehru National Institute of Technology, Allahabad, India. His area of research includes medical image processing, medical instrumentation, telemedicine, medical image compression, digital watermarking and data hiding. He has published more than 35 research papers in reputed international journals/conferences. He has more than 15 years of teaching and research experience. Currently, he is reviewer and guest editor of many international journals.

Course Coordinator(s)

Dr. R.P. Tewari

Principal Coordinator

Phone No. . 09415014446

Email: rptewari@mnnit.ac.in

Dr. Basant Kumar

Coordinator

Phone No. 09452196139

Email: singhbasant@mnnit.ac.in

Local Coordinator

Dr. G.P. Sahu

Local Coordinator

Phone No. 09305508002

Email: gsahu@mnnit.ac.in

<http://www.gian.iitgp.ac.in>