



SCOPE

We are witnessing the big shifts in biomedical and healthcare research space brought by the synergy of life, physical, and engineering sciences. These shifts are the result of the convergence research model leveraged by highly multidisciplinary technologies that involve micro-and nanotechnology, biotechnology, computation, advanced materials and manufacturing systems. All these reshape both academic and industrial involvement directed at development of proactive health systems that enable higher quality of life and well being. Rehabilitation engineering is a new and rapidly developing speciality of medical engineering; with the unique goal of directing advances in technology towards enhancing the lives of physically challenged individuals. Rehabilitation engineering is the use of engineering principles to

- 1) Develop technological solutions and devices to assist individuals with disabilities and
- 2) Aid the recovery of physical and cognitive functions lost because of disease or injury.

Rehabilitation engineering may involve relatively simple observations of how individuals perform tasks, and making accommodations to eliminate further injuries and discomfort. On the other end of the spectrum, rehabilitation engineering includes sophisticated brain computer interfaces that allow a severely disabled individual to operate computers and other devices simply by thinking about the task they want to perform. Rehabilitation engineers design and build devices and systems to meet a wide range of needs that can assist individuals with mobility, communication, hearing, vision and cognition. Rehabilitation engineers also improve upon standard rehabilitation methods to regain functions lost due to congenital disorders, disease (such as stroke or joint replacement) or injury (such as limb loss) to restore mobility. Some of these patients might have cerebral palsy or Parkinson's disease, have suffered a stroke or head trauma or be recovering from a spine injury. Since much of the work in this area is focused on neurological conditions and physical function, solutions rely heavily on neural, bio-mechanics and bio robotics. These techniques help people with day-to-day activities related to employment, independent living and education. The goal of this workshop is to explore these challenges through practical and buildable solutions. Also, it offers more than a glimpse into the future of healthcare-it provides a roadmap to help shape thinking about the next generation of Rehabilitation Engineering systems.



A Pre - Conference workshop on

REHABILITATION AND ASSISTIVE TECHNOLOGY

25 - 26 February 2020

REGISTRATION



<https://forms.gle/B6P76cMBGtVL9tDHA>

CONTACT

The Coordinators
Department of Biomedical Engineering
SSN College of Engineering
OMR, Kalavakkam
Chennai , Tamil Nadu - 603 110
Mail Id: fdp@bme.ssn.edu.in

SPONSOR



Coordinators

Dr. S. Arunkarthick
Dr. S. Bagyaraj
Dr. Vijay Jeyakumar
Dr. K. Nirmala

Sri Sivasubramaniya Nadar College of Engineering, (SSNCE) is the outcome of the vision and initiative of Padma Bhushan Dr. Shiv Nadar, a pioneer in the field of Information Technology. The Institution certified by NAAC (A ++ Grade), NBA, and ISO 9001:2008 reflects the ideals of its founder and seeks to achieve excellence as an academic institution and advanced research centre. The institution offers eight U.G. degree programmes in Mechanical, Civil, EEE, ECE, CSE, IT, Chemical and Biomedical Engineering. It also offers eleven P.G. degree programmes. The institution through its dedicated management and staff members is committed to promote research and provide quality education. It is a source of great pride to all of us that we have been ranked 5th among all the private engineering colleges in the country and ranked 36th among all the engineering colleges and 80th among all the educational institutions.

ABOUT THE DEPARTMENT

The department of Biomedical Engineering was started in the year 2005 offering B.E Biomedical Engineering and M.E. Medical Electronics. The U.G. program is accredited by NBA and has been recognized as a research centre by Anna University in 2011 for pursuing Ph.D. programme. The department has 15 faculty members with 10 Ph.D. holders. Highlights of the department include industry-institute interactions with Neolight USA, Wild Box Technologies Singapore, NIEPMD, Philips, Siemens, National Instruments, Texas Instruments, and Signed MoUs with Drexel University USA, Birmingham City University UK.

TOPICS

The workshop is supposed to stir interesting discussions on various challenging topics on

- Overview of Rehabilitation in the perspective of Biomedical Engineering
- Human kinetics and kinesiology
- Orthosis design for cerebral palsy children
- Cochlear implant technology and its clinical relevance
- TMS and TDCS in various neurological rehabilitation
- Sports medicine in rehabilitation
- TENS as rehabilitative device for diabetic neuropathy
- Demo on upper and lower limb rehabilitation using Datalite systems
- Demo on Neuro controlled hand exoskeleton
- Demo on Chin up, lower limb orthosis, knee braces.

REGISTRATION FEE

Students and Research scholars: Rs.750
Faculty Members : Rs.1000

Registration fee is payable by Demand Draft (DD) in favor of **“The Principal, SSN College of Engineering”** payable at Chennai or NEFT Online payment.

The number of participants is limited to 50. First come first serve basis only.

INVITED SPEAKERS

Dr.S.Sunder

Medical Director,
Prem Center for Physiotherapy and Rehabilitation Medicine, Chennai.

Dr.N.Suresh Kumar

Scientist,
Shoe & Product Design Centre, CLRI, Chennai.

Mr.R.Ranjith

Principal and Chief Audiologist,
MERF Institute of Speech and Hearing, Chennai

Mr.Vivek Mishra

Clinical Neuroscientist,
Neurokrish Consulting Pvt. Ltd, Chennai.

Dr.Abineya Venkatesh

Sports Medicine Consultant, Chennai.

Dr. Basheer Ahamed Gulam

Orthopedic Surgeon,
American Mission Hospital, Beharain.

Mr.P.K.Kaviraj

Area Manager,
Medi Analytika India Pvt. Ltd, Chennai.

Mr. Siddharth Nair

Founder, Xfinito Biodesigns, Bangalore

IMPORTANT DATES

Registration Deadline : 21 February 2020

Intimation of selection : 23 February 2020