

## Announcement and Invitation

# 4<sup>th</sup> International Workshop and Conference on Biomedical Engineering and Assistive Technologies

**(BEATS-2019)**

**March 11-15, 2019**

**Organized by**

**Department of Biomedical Engineering  
North-Eastern Hill University  
Shillong-793022, Meghalaya, India**

**Email: [nehubeats2019@gmail.com](mailto:nehubeats2019@gmail.com)**

# Biomedical Engineering and Assistive Technologies

## BEATS 2019

The Department of Biomedical Engineering, North-Eastern Hill University, Shillong is organizing “*4th International Workshop and Conference on Biomedical Engineering and Assistive Technologies (BEATS-2019)*”. This year the event is planned to be organized in the North Eastern part of the country namely at the North-Eastern Hill University (NEHU), Shillong, Meghalaya. This region occupies special attention for the promotion and growth of diverse disciplines, opportunities to carry out research activities in frontline areas such biomedical engineering among the students, scientists and young faculties working in this field. The region is in vicinity of South Asian countries namely Bangladesh, Myanmar, Nepal, Bhutan and other developing countries in Asia-Pacific region who constantly require exposure, expertise and skills to improve their capabilities in fields of Biomedical Engineering and Assistive Technologies which is the theme of this five days workshop and conference.

This workshop and conference on Biomedical Engineering and Assistive Technologies would create awareness among young students, faculty members and researchers in the country to carry out research activities as well as career option in the distant future to offer better solution(s) on different healthcare problems in multiple domains. Biomedical engineering is the application of the principles and problem-solving techniques employing engineering tools to biology and medicine. This is evident throughout healthcare, from diagnosis and analysis to treatment and recovery, and has entered the public conscience through the proliferation of implantable medical devices, such as pacemakers, artificial hips, to more futuristic technologies such as stem cell engineering and the 3-D printing of biological organs. These areas focus on the advancement in healthcare technology to improve human health at all levels.

Biomedical engineers differ from other engineering disciplines as they use and apply an intimate knowledge of modern biological principles in their engineering design process. Aspects of mechanical engineering, electrical engineering, chemical engineering, materials science, instrumentation, nano-medicine, chemistry, mathematics, physics and computer science and engineering are all integrated with human biology in Biomedical Engineering to improve human health, whether it is an advanced prosthetic limb or a breakthrough in identifying proteins within cells. There are many sub-disciplines within this field, including the design and development of active and passive medical devices, orthopedic implants, medical imaging, biomedical signal processing, tissue and stem cell engineering, and clinical engineering, just to name a few.

## ABOUT THE UNIVERSITY



North-Eastern Hill University (NEHU) was set up by an Act of Parliament and notified on 19<sup>th</sup> July 1973. The objectives of the University, as laid down in the act, are "to disseminate and advance knowledge by providing instructional and research facilities in such branches of learning as it may deem fit; to pay special attention to the improvement of the social and economic conditions with aim to provide welfare of the people of the hill areas of the North-Eastern region, and in particular, the intellectual, academic and cultural advancement". In spite of constraints of communication and the lack of infrastructure facilities in the region, NEHU has established itself as an important institution of higher learning and research of high quality. Various departments of the University receive special grants from UGC under its Special Assistance Programme (SAP). Apart from UGC grants, a large number of research projects have been awarded to individual faculty members by various national and international funding agencies such as DST, DBT, ICMR, CSIR, ICSSR, MoEF, DAE and Ford foundation to date. NEHU has around 1800 students applying for various Master's, M.Phil and Ph.D degrees with faculty strength of over 500 members. At present there are approximately hundred undergraduate colleges affiliated to the University including ten professional colleges with enrolment of about 50,000 students. Thus, in a short span of about 45 years NEHU has matured into an institution with a serious academic, social and cultural agenda with a clear vision for its future growth.

## HOW TO REACH NEHU, SHILLONG

The North-Eastern Hill University is beautifully located on hills in the suburb of Shillong City, Meghalaya. It is about three to four hours journey by road from the Guwahati Railway Station as well as the Guwahati International Airport of the Assam State in India. Taxis and buses are readily available from these locations. Airport also exists in Shillong; however flight connectivity is on selected days and unpredictable due to weather conditions.

## ABOUT THE DEPARTMENT

Biomedical Engineering (BME) Department at NEHU was established in the year 2012, with the specific purpose to promote studies in new emerging areas of medical sciences employing advancements in technology for the benefit of masses. The Department of the University intends to provide education to young biomedical engineers for the achievement of better health care with emphasis on learning new techniques, Research and Development (R&D) and Industry-Institution interaction in the field. The Department aims to focus on strengthening research activities for development of products and services which can be transferred to the society for the benefit of mankind. The department is presently running U.G. and Ph.D program in BME. The students are being prepared to face the emerging challenges by faculty members having rich expertise, diversity and experience in the field. The Department faculties are successfully running several Government funded projects from UGC, DST, DBT, ICMR etc. and having strong collaborations with experts from national and international institutes such as IIT-Delhi; IIT-Roorkee; IIT-Guwahati; IIT(BHU), Varanasi; MNNIT, Allahabad, CSIO, Chandigarh, AIIMS, New Delhi, NEIGRIHMS, Shillong; FIU and Drexel University, USA, University of Melbourne, Australia and the University of Glasgow, UK to name a few. The Department has well developed laboratories and recently established Human Gait and Biomechanics laboratory which is first of its kind in the entire Eastern region of the country.





## ABOUT SHILLONG



Shillong is the capital and hill station of Meghalaya state - "An abode of clouds", one of the smallest states in India. It is the headquarters of the East Khasi Hills district and is situated at an average altitude of 4,908 feet (1,496 m) above sea level, with the highest point being Shillong Peak at 6,449 feet (1,966 m). Shillong is the 330<sup>th</sup> most populous city in India. It is said that the rolling hills around the town reminded the European settlers of Scotland. Hence, Shillong is also known as "**Scotland of the East**". Shillong remained the capital of undivided Assam until the creation of the new state of Meghalaya on 21 January 1972, when Shillong became the capital of Meghalaya. Shillong is also often called as "**India's Rock Capital**" due to its inhabitants' great passion for music and love for culture.

### Nearby Tourist Attractions

Tourist Spots	Distance (Km) from the venue	Location
Don Bosco Museum	3.3 km	Mawlai, Shillong
Shillong Peak	18.2 km	Upper Shillong
Elephant Falls	15.3 km	Upper Shillong
Umiam Lake (Bara-Pani)	15 km	RiBhoi District
Sohra (Cherrapunjee)	53.7 km	East Khasi Hills Dist.
Double Decker Living root bridge, Laitkynsew	65.7 km	East Khasi Hills Dist.
Mawsynram (Wettest place in the world)	65 km	East Khasi Hills Dist.
Nartiang Monoliths	65 km	Jaintia Hills Dist.
Mawlynnong (Cleanest village in Asia)	90 km	East Khasi Hills Dist.
Balpakram National Park	219 km	South Garo Hills Dist.
Siju Cave	439 km	South Garo Hills Dist.

## ABOUT THE WORKSHOP and CONFERENCE

✚ Workshop theme: **Advancement in Healthcare for Diagnosis**

Dates: **March 11-12, 2019**

✚ Conference theme: **Growth of Medical Technologies for Public Health**

Dates: **March 13-15, 2019**

### Theme areas:

- Biomedical Signal Processing
- Biomechanics and Rehabilitation Engineering
- Healthcare Technology
- Biomechanics, Robotics and Artificial Intelligence
- Medical Imaging and Image Processing
- Biomedical Instrumentation
- Biomaterials and Artificial Organs
- Health and Safety in Medical Application
- Neural and Rehabilitation Engineering
- Instrumentation and Control Engineering
- Computers in Medical Education
- Wireless Sensor Networks
- Tissue Engineering and Biotechnology
- Virtual and Intelligent Instrumentation
- Information and Communication Technologies
- Soft Computing, VLSI and Embedded Systems, MEMS

## ORGANIZING COMMITTEE

<b>Chief Patron</b>	The Vice Chancellor, NEHU, Shillong
<b>Patrons</b>	The Pro-Vice Chancellor, NEHU, Shillong The Dean, School of Technology, NEHU, Shillong
<b>Advisory Committee</b>	Prof. Ranu Jang, Florida International University, USA Prof. James Abbas, Arizona State University, USA Prof. Amitava Datta, University of Western Australia, Australia Prof. Vinod Kumar, Vice Chancellor, Jaypee University, Solan, India Prof. Prakash Babu, Pro-Vice Chancellor, University of Hyderabad, India Prof. S. K. Barik, Director, NBRI, Lucknow, India Prof. S. Balasubramanian, Drexel University, USA Prof. Teo Ee Chan, NTU, Singapore Prof. Trisha Kesar, Emory University, USA Prof. Andrew Lawrence, University of Melbourne, Australia Prof. Amitava Chatterjee, Jadavpur University, Kolkata, India Prof. Sneh Anand, IIT, Delhi, India Prof. Subhasis Bhaumik, IEST, Shibpur, India Prof. Ranjana Patnaik, IIT (BHU), Varanasi, India Prof. Ajat Shatru Arora, SLIET, Longowal, Punjab, India Prof. A. Kavitha, SSN Institute, Chennai, India Dr. Dilbag Singh, NIT, Jalandhar, India Dr. Rajpal Singh Kashyap, CIIMS, Nagpur, India
<b>Chairperson and Convener</b>	Dr. Dinesh Bhatia Associate Professor and Head, Deptt. of BME, NEHU, Shillong
<b>Conference Chair</b>	Dr. Sudip Paul Assistant Professor, Deptt. of BME, NEHU, Shillong
<b>Organizing Secretary</b>	Dr. Manashjit Gogoi Associate Professor, Deptt. of BME, NEHU, Shillong
<b>Treasurer</b>	Mr. Nitin Sahai Assistant Professor, Deptt. of BME, NEHU, Shillong
<b>Organizing committee</b>	Mr. Gajendra Kr. Mourya, Deptt. of BME, NEHU, Shillong Mr. Shyamal Mandal, Deptt. of BME, NEHU, Shillong

## CALL FOR ABSTRACT

Abstracts are invited in MS-word document (12 Times New Roman font) not exceeding 250 words (excluding the title, author's name and affiliations) and should be sent to **nehubeats2019@gmail.com**. On acceptance of abstract, full paper should be submitted. The scanned copy of filled registration form along with the DD/NEFT transaction slip should be mailed on or before 31/12/2018 and hard copy of the same should reach latest by 31/01/2019 to confirm participation in the event. The selected papers will be published in **reputed peer reviewed journals** which would be notified in due course.

## WHO SHOULD ATTEND

The target participants for this event are faculty members, students, researchers (from physics, chemistry, life sciences, biotechnology, biosciences, nano-biotechnology, biomedical engineering, electronics engineering and related branch of engineering), physiotherapists, clinicians and scientists working in the related areas are invited to apply.

## IMPORTANT DATES

<b>Last Date of Abstract submission for Conference as well as Workshop application</b>	<b>August 10, 2018</b>
<b>Notification of Conference abstract acceptance</b>	<b>September 10, 2018</b>
<b>Notification of the selected Workshop participants</b>	<b>September 10, 2018</b>
<b>Last Date of Full paper submission for Conference</b>	<b>November 10, 2018</b>

## REGISTRATION FEE

- Workshop (11<sup>th</sup> - 12<sup>th</sup> March 2019):** A maximum of 40 candidates will be selected based on their research activity, professional activities and profile. The decision of the organizing committee regarding the selection will be final and no queries will be entertained. The participants will be exposed to latest technology and areas in the field of medical healthcare from experts in the field through theoretical and practical sessions. Applicants are requested to send their CV upto 4 pages along with research abstract to the "Conference Chair", Department of Biomedical Engineering, North Eastern Hill University (NEHU), Shillong-793022, Meghalaya. *It is mandatory to present Poster by the selected workshop candidates in the International Conference.*



✚ **Conference (13<sup>th</sup> – 15<sup>th</sup> March 2019):** Registration fee is payable by NEFT or Demand Draft in favour of “**FINANCE OFFICER, NEHU, SHILLONG**” payable at State Bank of India, NEHU, Shillong. The NEFT details are provided in the registration form. The registration fee includes conference kit, refreshment and lunch on the conference days. Conference kit will not be provided to associate delegates.

Category	11/09/2018 to 17/12/2018	18/12/2018 to 31/01/2019
<b>UG/PG students</b>	<b>Rs. 4000.00</b>	<b>Rs. 5500.00</b>
<b>Research Scholars</b>	<b>Rs. 5000.00</b>	<b>Rs. 7000.00</b>
<b>Academicians/Faculty</b>	<b>Rs. 6000.00</b>	<b>Rs. 8000.00</b>
<b>Industry</b>	<b>Rs. 8000.00</b>	<b>Rs. 10000.00</b>

### NEFT details:

BANK NAME	INDIAN OVERSEAS BANK
BRANCH NAME WITH COMPLETE ADDRESS, TELEPHONE No. AND EMAIL	INDIAN OVERSEAS BANK BRANCH, MORELLOW BUILDING, SHILLONG-793001 (MEGHALAYA) INDIA
IFSC CODE	IOBA 0000541
MICR CODE	793020002
TYPE OF BANK	SAVINGS
COMPLETE BANK ACCOUNT NUMBER	054101000010709
Name of the ACCOUNT HOLDER	FINANCE OFFICER, NEHU, Shillong

### BOARDING AND LODGING

Boarding and lodging will be facilitated for the selected Workshop and Conference participants in the University Guest House(s) on paid sharing basis. Participants requiring accommodation in the NEHU Guest House(s) are requested to inform by email to [nehubeats2019@gmail.com](mailto:nehubeats2019@gmail.com) before 31/01/2019.

**ORGANIZING SECRETARY:**

***Dr. Manashjit Gogoi***  
Assistant Professor  
Department of Biomedical Engineering  
North-Eastern Hill University  
Shillong-793022, Meghalaya, India  
Tel: 0364-272 3856; Mobile: +91-9485043446

**CHAIRPERSON and CONVENER:**

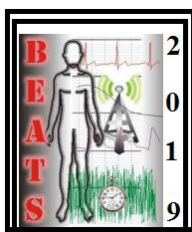
***Dr. Dinesh Bhatia***  
Associate Professor and Head  
Department of Biomedical Engineering  
North-Eastern Hill University  
Shillong-793022, Meghalaya, India  
Tel: 0364-272 3853, 3852 (O)

**CONFERENCE CHAIR:**

***Dr. Sudip Paul***  
Assistant Professor, Department of Biomedical Engineering  
North-Eastern Hill University (NEHU), (Central University)  
Shillong- 793022, Meghalaya, India Contact: [03642723855](tel:03642723855) (off)  
E-mail: [nehubeats2019@gmail.com](mailto:nehubeats2019@gmail.com)



# REGISTRATION FORM



*4th International Workshop and Conference  
on  
Biomedical Engineering and Assistive Technologies  
(BEATS-2019)  
March 11-15, 2019*

1. Name:.....

2. Gender:           M            F

3. Designation:.....

4. Institute/Organization:.....

5. Address for communication:.....

..... PIN:..... Tel:.....

Mobile:..... Email:.....

6. Please indicate the registration for:

Workshop                   

Conference                   

7. Title of the paper:.....

.....

8. Accommodation required: Yes/No            

9. Registration category:.....

10. Registration fee (Non-refundable):.....

11. DD/NEFT No:.....

Date:..... Bank Name:..... Branch .....

12. NEFT details:

Account name       : Finance Officer, NEHU, Shillong

Account Number   : 054101000010709

IFSC Code           : IOBA0000541

Signature of the Participant

Endorsed by Head of Institute/ Head of the Department/Dean of School with seal

(Photocopy of the registration form can be used)

