About The University

Tezpur University was established by an Act of Parliament in 1994. The objects of this Central University as envisaged in the statutes are that it shall strive to offer employment oriented and interdisciplinary courses to meet the local and regional aspirations and the development needs of the state of Assam and also offer courses and promote research in areas which are of special and direct relevance to the region and in emerging areas in Science and Technology.

About The Department

Established in 1997, the Department of Electronics and Communication Engineering an M. Tech. programme in Electronics Design and Technology, and an M. Tech. programme in Bioelectronics. The department offers a B. Tech. programme in Electronics and Communication Engineering which started in 2006. In addition, the department offers Ph. D. programme in different areas including Signal & Image Processing, Bioelectronics, Biosensors, Microwave Engineering, Communication Engineering and Microelectronics. At present, the department has a student strength of about 400.

SPEAKERS

Prof. Samar Saha
Santa Clara University

Prof. Pranab Goswami
IIT Guwahati

Prof. Yogesh S. Chauhan
IIT Kanpur

Prof. Santanu Mahapatra
IISc Bangalore

CONVENERS

Dr. Rupam Goswami, Dept. of ECE, TU
Dr. Ratul Kr. Baruah, Dept. of ECE, TU
Prof. Santanu Sharma, Dept. of ECE, TU

MiNaDS 2021

MICRO/ NANO ELECTRONIC DEVICES AND SENSORS [MiNaDS 2021]

ONE DAY WEBINAR

~~**February 13, 2021**~~
February 27, 2021

Organized by:
Department of Electronics and Communication Engineering,
Tezpur University, Assam 784028, India

For any query, contact us through
E-mail: rupam21@tezu.ernet.in
ratulkr@tezu.ernet.in

Phone: +91-98648-03577

Objectives of the Webinar

- To familiarize students, scholars and faculty on latest reports and advancements in micro/ nanoelectronic devices and sensors.
- To initiate possible research on emerging areas in micro/ nanoelectronic devices and sensors for holistic growth of the research community.
- To host a platform for interacting with prominent researchers in the country.

Registration

Registration must be done via Google form at https://forms.gle/Di8hnEJcKc8bk2Cd9 on or before Feb. 24, 2021. ***There is no registration fee. Certificates will be provided to all participants who attend all the lectures. The link/ schedule for the webinar will be shared through the registered e-mail IDs and updated on the department website under 'Announcements' by Feb. 25, 2021.***

Target Audience: UG / PG Students, PhD Scholars, Faculty Members, Scientists and Industry Personnel in the relevant areas.

WEBINAR TALKS AND SPEAKERS' BIOGRAPHY

Prof. Samar Saha

Title of Talk: Planar CMOS Device Technology for Advanced VLSI Circuits and Systems

Biography: Samar Saha has served as the 2016-2017 President of the IEEE Electron Devices Society (EDS) and currently serving EDS as the Senior Past President, and Chairperson of the J.J. Ebers Award and Fellow Evaluations Committees. He is the Chief Research Scientist at Prospicient Devices, California, USA and an Adjunct Professor in the Electrical Engineering (EE) department, Santa Clara University, California, USA. In the past, he has worked in various technical and management positions at National Semiconductor, LSI Logic, Texas Instruments, Philips Semiconductors, Silicon Storage Technology, Synopsys, DSM Solutions, Silterra USA, and SuVolta. In academia, he has worked as a faculty member in the EE departments at Southern Illinois University, Carbondale; Auburn University; the University of Nevada, Las Vegas; and the University of Colorado, Colorado Springs.
Dr. Saha has authored over 100 research papers; two books, entitled, FinFET Devices for VLSI Circuits and Systems, CRC Press, USA (2020) and Compact Models for Integrated Circuit Design: Conventional Transistors and Beyond, CRC Press, USA (2015); one book chapter on Technology Computer-Aided Design (TCAD); and holds 12 US patents. His research interests include nanoscale device and process architecture, TCAD, compact modeling, devices for renewable energy, and TCAD and R & D management. He received the Ph.D. degree in Physics from Gauhati University and M.S. degree in Engineering Management from Stanford University, USA. He is an IEEE Fellow and a Fellow of IET (Institution of Engineering and Technology), UK.

Prof. Pranab Goswami

Title of Talk: Bioelectronics of Bioelectrodes Involved in Amperometric and Biofuelcell Biosensors.

Biography: Prof. Pranab Goswami received Ph.D. degree in 1994 in the area of chemical biology from Gauhati University. He was a BOYSCAST fellow of DST, India, at the University of Massachusetts Boston. He joined as scientist at NEIST, CSIR India during 1990, moved to IIT Guwahati, India in 2002 and attained the level of Professor of Higher Academic Grade in the year 2015. Prof. Goswami also served as Heads, in the Department of Biosciences and Bioengineering, Centre for Energy, and in the Central Instrument Facility at IIT Guwahati. Currently, he is a Member-Nominee of the Senate to the Board of Governors, IIT Guwahati.
The primary research area of Prof. Goswami is the biosensors, with an emphasis on the development of novel biorecognition systems and signal transduction platforms for malaria, myocardial infarction (MI), and alcohol. His group has developed many novel aptamers as recognition molecules for the detection and diagnosis of malaria and MI. Efficient signal transduction through nanomaterial intervention for sensitive and selective detection of the target is the primary activity in his research lab. A couple of proofs-of-concept developed in his lab has already been translated into portable kits for detection of malaria, alcohol, methanol, and formaldehyde and recently, two of these kits have been dedicated to the nation by the honorable HRD minister of India. Prof. Goswami has published more than 100 peer-reviewed scientific papers and filed 11 patent applications. He has supervised many Ph.D. students, received many awards and accolades including many outstanding reviewers' awards from reputed journals, and served as visiting professor at university of Alberta, Canada. He also served as an editorial board member of two international scientific journals.

Prof. Yogesh S. Chauhan

Biography: Yogesh Singh Chauhan is a professor at Indian Institute of Technology Kanpur, India. He was with IBM Bangalore during 2007 – 2010; Tokyo Institute of Technology in 2010; University of California Berkeley during 2010-2012; and ST Microelectronics during 2003-2004. He is the developer of several industry standard models: ASM-GaN-HEMT model, BSIM-BULK (formerly BSIM6), BSIM-CMG, BSIM-IMG, BSIM4 and BSIM-SOI models. His research group is involved in developing compact models for GaN transistors, FinFET, Nanosheet/Gate-All-Around FETs, FDSOI transistors, Negative Capacitance FETs and 2D FETs. His research interests are characterization, modeling, and simulation of semiconductor devices.
He is the Fellow of IEEE, Editor of IEEE Transactions on Electron Devices and Distinguished Lecturer of the IEEE Electron Devices Society. He is the member of IEEE-EDS Compact Modeling Committee. He is the founding chairperson of IEEE Electron Devices Society U.P. chapter and Vice-chairperson of IEEE U.P. section. He has published more than 200 papers in international journals and conferences.
He received Ramanujan fellowship in 2012, IBM faculty award in 2013 and P. K. Kelkar fellowship in 2015, CNR Rao faculty award, Humboldt fellowship and Swarnajayanti fellowship in 2018. He has served in the technical program committees of IEDM, SISPAD, ESSDERC, EDTM, and VLSI Design Conference.

Prof. Santanu Mahapatra

Title of Talk: Atom-to-Circuit modeling methodology for two-dimensional transistor

Biography: Santanu Mahapatra received his B.E. (Bachelor of Engineering) degree from Jadavpur University, Kolkata, in the field of Electronics and Telecommunication in 1999, M. Tech (Master of Technology) degree in the field of Electrical Engineering (specializing in Microelectronics) in 2001 from Indian Institute of Technology (IIT) Kanpur, and Ph.D. degree from Swiss Federal Institute of Technology Lausanne (EPFL) in 2005. For his Ph.D. dissertation he worked on the modeling of Single Electron Transistor (SET) and its co-simulation and co-design with CMOS.

He joined Department of Electronic Systems Engineering (formerly CEDT), at Indian Institute of Science (IISc), Bangalore, India, as an assistant professor in August 2005 and promoted to associate professor and then full professor rank in September 2010 and December 2015 respectively. He founded Nano Scale Device Research Laboratory in 2006, where his research team engaged in modeling of carrier transports in nano materials at circuit, device and atomistic level. His research interests include two dimensional channel transistors, energy efficient electronic switches and energy-storage at nano-scale. He is the author of the book Hybrid CMOS Single Electron Transistor Device and Circuit Design. He received IBM Faculty award in 2007, Microsoft Research India Outstanding Faculty Award in 2007 and the associateship of Indian Academy of Sciences in 2009. He is also the recipient of Ramanna Fellowship (2012 to 2015) in the discipline of electrical sciences from Department of Science and Technology, Government of India for his contribution in compact modeling.

He is a senior member of IEEE (Electron Devices Society) and an editor of the Sadhana. He is an adjunct faculty member of IIIT-Allahabad.

See you on February 27, 2021