



शिक्षा मंत्रालय
MINISTRY OF
EDUCATION

सत्यमेव जयते

Global initiative of academic networks (GIAN),
Ministry of Education, Govt. of India,
sponsored course on

Internet of Things (IoT) Solutions for Real World Problems

06-06-2022 to 11-06-2022

Organized by:
Department of Electronics & Communication
Engineering,
Malaviya National Institute of Technology Jaipur,
Rajasthan - 302017, India.
www.mnit.ac.in

About GIAN:

Govt. of India approved a new program titled Global Initiative of Academic Networks (GIAN) in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs internationally to encourage their engagement with the institutes of Higher Education in India so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence.

About MNIT Jaipur

The institute was established in 1963 as Malaviya Regional Engineering College Jaipur. On June 26, 2002 it was given the status of National Institute of Technology and proclaimed 'Institute of National Importance'. It is fully funded by the Ministry of Education (MoE), Government of India. It offers post-graduate and undergraduate courses (B.Tech., M.Tech., MBA, M.Sc. & Ph.D.) in leading fields of engineering, technology, architecture, management & science. It has state of art laboratory facilities along with excellent infrastructure for research, consultancy and developmental activities besides imparting regular teaching & learning process. Located in the central location of Jaipur city, its campus is spread over 325 acres of lush greenery. It has a residential campus offering accommodation to faculty, staff and students. The campus provides all essential amenities for community living like staff clubs, hospital, bank, post office, community centre, school, staff residences, gymnasium, playing fields, guest houses, 24 hours internet connectivity, and canteen.

About department of Electronics & Communication

Department was first started in 1984, initially in the Electrical Engineering Department. In 1994, the Department of Electronics & Communication Engineering came into existence as a separate entity. Its undergraduate & four postgraduate programmes constitute approximately 20% students strength of the Institute, thus giving it the status of one of the largest Department of the Institute. The first Master's degree programme was started in 1992. Currently, department offers an UG and four PG programme. The Department also offers PhD programme in relevant areas. The Department has received grants from government & semi-government agencies such as MHRD, AICTE, Ministry of information Technology, UKEIRI, DST and ISRO. The Department has active collaborations with renowned Institutes & research institutes in India and abroad. The Department of ECE, at MNIT Jaipur has a blend of young as well

as experienced, dynamic faculty members and is committed to providing quality education and research in the field.

About the Course:

Government of India has started Smart Cities Mission with aim to develop 100 cities across the country making them citizen friendly and sustainable. It is a five-year program which has been scheduled to run during 2017-2022. It is expected that in over next two decades we have 60-70% of overall world population to live in cities. It has placed demand of rapid growth of infrastructure in same proportion. To accomplish the challenges for urban living, smart cities with Internet of Things (IoT) state of art technology would improve the quality of life, improve communication, transportation and also reduce the costs. IoT has a potential to improve every aspect of urban development including livability, workability and sustainability. The course is to provide a broad exposure to the participants to the diversity of applications of IoT particularly in addressing many of the global problems, including healthcare, agriculture, infrastructure design, and transportation (among many others).

The faculty



Prof. Sandip Ray is an Endowed IoT Term Professor at the Department of Electrical and Computer Engineering, the University of Florida at Gainesville, Florida, USA. His research involves developing correct, dependable, secure, and trustworthy computing through the cooperation of specification, synthesis, architecture and validation technologies. He focuses on next-generation computing applications, including Internet-of-Things applications, autonomous automotive systems, smart homes, intelligent implants, etc. Before joining the University of Florida, Dr Ray was a Senior Principal Engineer at NXP Semiconductors, where he led the R&D on security architecture and validation of hardware platforms for automotive and IoT applications. Prior to that, he was a Research Scientist at Intel Strategic CAD Labs, where he led research on pre-silicon and post-silicon validation technologies for security and functional correctness of SoC designs, design-for-security and design-for-debug architectures. In addition to NXP and Intel, his research has found applications in several other companies including AMD, Galois, IBM, Microsoft, and Rockwell Collins. Dr. Ray is the author of three books and over 60 publications in international journals and conferences. He has given over 40 invited presentations in a variety of international conferences and meetings. He has served as a program committee member in more than 40 international conferences, and as program chair for Formal Methods in Computer-Aided Design and International Workshop on ACL2 Theorem Prover and Its Applications. He currently serves as an Associate Editor for IEEE Transactions on Multi-Scale Computing and Springer Journal of Hardware and System Security. Dr. Ray has a Ph.D. from the University of Texas at Austin and is a Senior Member of IEEE.



Prof. Debdeep Mukhopadhyay is currently Professor at IIT Kharagpur (consent awaited)
<https://sites.google.com/view/debdeepmukhopadhyay/>
<https://www.linkedin.com/in/debdeep-mukhopadhyay-2671657/>



Vineet Sahula is currently professor in Department of Electronics & Communication Engineering ECE at MNIT Jaipur. His areas of interest are Trust & Security in Chips & Embedded Systems; Modelling of Cognition, and cognitive algorithms/architectures. He is a member of the faculty group who visited Canadian Universities- Saskatchewan, Toronto Calgary University, for academic & research collaboration, 14th -21st Sept. 2013. He is also a member of the faculty group that visited North Dakota State University, Fargo for academic & research collaboration, 23rd -27th March 2009. He was Visiting Faculty, Microelectronics programme at Asian Institute of Technology Thailand, Autumn 2004. He has contributed in organizing VLSI Design Conference 2009 (as Fellowship chair) and International Symposium on Smart Electronic Systems (iSES) 2021 (as General Co-Chair). He has guided 10 PhDs, several M.Tech. and published over 100 papers in reputed journals & conferences.



Dr. Amit M. Joshi completed his M.Tech and Ph.D. from Sardar Vallabhbhai National Institute of Technology, Surat (SVNIT, Surat) in 2009 and 2015 respectively. He is currently an Assistant Professor at Malaviya National Institute of Technology, Jaipur (MNIT Jaipur) since July 2013. His area of specialization is Biomedical signal processing, Smart healthcare, VLSI DSP Systems, and embedded system design. He is a senior member of IEEE, member of IETE, and member of IEEE. He also received the honour of UGC Travel fellowship, the award of SERB DST Travel grant, and CSIR fellowship and also attended well known IEEE Conferences TENCON-16, TENCON-17, ISCAS-18, MENACOMM-19, etc across the world. He has served as track chair of ICCE-2021, publicity chair of ISVLSI-2021, and program vice-chair of ISES-2021. He has also served as Mentor for IEEE Engineering in Medicine and Biology Society student mentorship program 2021. He has supervised 4 Ph.D. thesis, 25 M.Tech. dissertations, and 19 B. Tech projects in Biomedical Signal Processing, VLSI/Embedded Systems.

Course Details

Modules	Date: 06/06/2022 to 11/06/2022
You Should Attend If...	<ul style="list-style-type: none"> ▪ Executives, engineers and researchers from semiconductor manufacturing, design, embedded systems domain; government organizations including R&D laboratories. ▪ Student students at all levels (BTech/MSc/MTech/PhD) or Faculty from reputed academic institutions and technical institutions.
Fees	<p>The participation fees for taking the course is as follows: Participants from abroad : US \$50 Industry/ Research Organizations: 1000 INR Academic Institutions: 500 INR The above fee includes all materials, tutorials and assignments.</p>
Registration	<p>One time registration at the GIAN portal of IIT Kharagpur is mandatory for every participant. Follow the instructions at https://gian.iitkgp.ac.in/GREGN/index to register</p>

Course Co-ordinator(s)
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 Details at:
<http://www.gian.iitkgp.ac.in/GREGN>