



NCETIT'2017

NATIONAL CONFERENCE ON EMERGING
TRENDS IN INFORMATION TECHNOLOGY

IITM
Nurturing Excellence



**NATIONAL CONFERENCE ON
EMERGING TRENDS IN INFORMATION TECHNOLOGY:**
*“ADVANCES IN HIGH PERFORMANCE COMPUTING, DATA
SCIENCES & CYBER SECURITY”*
FEB 25, 2017

ORGANISED BY
INSTITUTE OF INFORMATION TECHNOLOGY & MANAGEMENT
(NAAC Accredited & ISO 9001:2015, 10002:2014 Certified Institution)
Affiliated with Guru Gobind Singh Indraprastha University, Delhi

ABOUT US

The Institute of Information Technology and Management is NAAC & NBA Accredited and certified by ISO. Affiliated to GGSIPU, the Institution conducts BCA and BBA programmes and AICTE approved MCA and MBA programmes. The Institution aspires to be Centre of Excellence promoting value based quality education in the emerging areas of advanced professional studies in Information Technology & Management. The Institute has been working for past 17 years towards developing highly skilled human capital for industry, academia and business.

NCETIT'2017: "ADVANCES IN HIGH PERFORMANCE COMPUTING, DATA SCIENCES & CYBER SECURITY"

The researchers across the globe and as well as in India are facing challenges related to surge of data pertaining in many areas of science and technology such as Bioinformatics, Medicine, Engineering & Technology, GIS and Remote Sensing, Cognitive science and Statistical data. These challenges necessitate the development of advanced algorithms, visualization techniques, data streaming methodologies and analytics subject to the constraints of storage and computational power, algorithm design, visualization, scalability, distributed data architectures, data dimension reduction and implementation to name a few. The solutions also take into consideration issues of optimization, uncertainty quantification, systems theory, statistics and types of model development methods amongst others. Furthermore they require contextual problem solving using multidisciplinary approaches. The scale, diversity, and complexity of Big Data necessitate the advent of new architecture, techniques, algorithms, and analytics to manage it and extract value or hidden knowledge from it. Analytics research covers a wide family of problems arising out of context of data warehousing and data mining research. The Nation is making efforts to build a sustainable analytics network by bringing about a strong partnership across the industry, government and academia, by grooming and building a strong talent pool through industry academia partnership, by creating collaborations with practitioner communities to share best practices and by focusing on long term skills and capabilities for differentiation and measurable value creation.

High performance computing is necessary for supporting all aspects of data-driven research. HPC-related research includes computer architecture, systems software and middleware, networks, parallel and high performance algorithms, programming paradigms and run-time systems for data science. High-performance computing (HPC) refers to systems that, through a combination of processing capability and storage capacity can rapidly solve difficult computational problems across a diverse range of scientific, engineering, and business fields. HPC represents a strategic, game changing technology with tremendous economic competitiveness, science leadership, and national security implications. Because HPC stands at the forefront of scientific discovery and commercial innovation, it is positioned at the frontier of competition—for nations and their enterprises alike. To meet the stated national education and research goals, India is on the verge of doubling its high performance computing capacity and is exploring opportunities to integrate with global research and education networks.

The advances in Data Sciences and HPC have transformed the ongoing digitization and are making a deep impact on social and economic aspect of our life by extending innumerable benefits and conveniences to our day to day activities. At the same time such dependencies have also given birth to several security issues. The attackers in the cyber world are also getting more creative and aspirational in their exploitation of techniques and causing real-world damages at large scale by making even proprietary and personally identifiable information equally vulnerable. The problem is compounded as establishment of effective security measures poses a big challenge, especially with global and ever expanding nature of digital world. The situation demands addressing of issues such as defining the core elements of the cyber security, protection of information infrastructure, Virtual private network security solutions, Security of wireless devices, protocols and networks, Security of key internet protocols and database security. The advent of the Internet of Things (IoT), the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment where an object that can represent itself digitally becomes something greater than the object by itself thus possessing ambient intelligence. As organizations ranging from small to large, public to private are increasingly adopting the IoT, the question of security and vulnerability is becoming all the more important despite its manifold advantages. Though cloud computing is transforming our view of computing world with its benefits reliability, scalability, quality of services and economy the storage of data in cloud is remote from owner, and runs the risk of loss of control of data. Effective handling of data security issues such as accountability, data provenance, and identity and risk management. would play a crucial role in determining the success and wide spread usage of cloud computing in future.

In keeping with the National Interest and aforementioned State Of The Art technological advancements in Information Technology, IITM, is organizing a conference as a part of its series of National Conferences on emerging trends in Information Technology, with the theme –‘Advances In High Performance Computing, Data Sciences & Cyber Security’. The conference welcomes papers of either practical or theoretical nature, presenting research or applications addressing all aspects of the three areas that concerns to organizations and individuals, thus creating new research opportunities.

OBJECTIVES

- To provide a premier interdisciplinary platform for researchers, practitioners and educators to exchange and share their experiences and research results on the most recent innovations, trends, and concerns as well as practical challenges encountered and solutions adopted in the emerging fields of High Performance Computing, Data Sciences & Cyber Security.
- To focus on the technical interdependencies between the emerging fields of High Performance Computing, Data Sciences & Cyber Security.
- To promote integrated solutions exploiting the highly interrelated areas of high performance computing and data sciences.
- To explore novel solutions to cyber security threats using advances in high performance computing and data sciences.

CALL FOR PAPERS

Researchers, Academicians, Industrialists and PG Students are invited to submit their original papers. Topics covered by the conference include, but are not restricted to, the following:

I. High Performance Computing & Data Sciences

- High dimensional data, feature selection, feature transformation
- Learning for streaming data, structured, Semi structured and Unstructured
- Data sensing, fusion, mining and Statistical Computing
- Data analytics and new machine learning theories and models
- Knowledge discovery from multiple information sources and semantic search
- Domain Specific Big data modeling, analytics and visualization
- Multimedia/stream/text/visual analytics
- Personalization analytics and learning
- Web/online/social/network mining and learning
- Cloud computing and service data analysis
- Crowd sourcing and Social Intelligence
- Knowledge Engineering & Business intelligence
- High performance parallel and distributed computing
- Machine learning models including deep learning for extreme scale systems
- Architectures for Embedded systems, cloud, mobile, social, big data, and analytics
- Grid computing, cluster computing
- Web services and internet computing
- Green computing
- Peer to Peer computing and utility computing
- Pervasive/Ubiquitous computing and intelligence
- High performance scientific and engineering computing
- Large Scale Recommendation Systems, Graph Analytics and Computing Challenges
- Languages and compilers for high performance computing.
- Multicore and many-core computing.

II. Cyber Security

- Social engineering & Social Media Analysis
- Template Protection and Liveliness detection
- New theories and algorithms in Biometrics
- Operating Systems and Database Security
- SCADA and Embedded systems security
- Distributed and Pervasive Systems Security
- Cyber Situational Awareness Tools & Techniques
- Cloud security
- Intelligence gathering tools
- Intelligent traffic analysis
- Steganography and Steganalysis
- Computer forensic tools for speech and imaging
- Automated trace-back tools, Network forensics
- Automated Recovery, damage assessment and asset restoration tools
- Measurements for network incidents response, investigation and evidence handling
- Internet of Things Architecture
- IoT applications and services
- IoT analytics & Cognitive IoT
- High Performance Computing solutions to Cyber Security
- Human-Computer Interaction and privacy in IoT
- Location privacy in IoT
- Crypto currencies & Cryptology
- Identity management & Intrusion detection
- Machine learning and cyber security analytics
- Secure Computing and Anti -tamper technologies
- Predictive Cyber-Security
- Event Analysis
- Event Attribution and Cyber-Forensics
- Attack Graphs
- Advanced Security Incident Analysis

PAPER SUBMISSION DETAILS

- Contributors are requested to submit the papers in IEEE format.
- All accepted and registered papers shall be published in proceedings. The conference proceedings will be made available to all registered participants in printed book as well as in soft copy.
- In case of multiple authors, at least one author of the accepted paper has to register for participation.

IMPORTANT DATES

Last Date of Full Paper Submission

10/01/2017

Paper Acceptance Notification

15/01/2017

REGISTRATION FEE

Research Scholars / PG Students	Rs. 400/-
Academicians / R & D Institutions	Rs. 800/-
Delegates from Industries	Rs. 1000/-

The payment should be made in Cash / Demand Draft drawn in favor of “**Institute of Information Technology and Management**” payable at Delhi. The Registration Fee includes Conference Kit, Lunch and Tea during the conference.

E-MAIL

All Papers should be mailed to us at: ncetit2017@iitmipu.ac.in

WEBSITE

Website: www.iitmipu.ac.in

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Auditorium: Institute of Information Technology & Management
D-29, Institutional Area, Janakpuri, New Delhi-110058
Phone: 9871133352, 011-2852 5051, 011-2852 5882, Fax: 011-28520239
Email: director@iitmipu.ac.in, Website: <http://www.iitmipu.ac.in>