Amity School of Engineering & Technology, Amity University Madhya Pradesh organized National Conference on Advances in Intelligent Computing and Communication Technologies (AICCT-2019)

Preface

Amity School of Engineering & Technology, Amity University Madhya Pradesh organized a National Conference on Advances in Intelligent Computing and Communication Technologies (AICCT-2019) on 11 October 2019. The conference was organized with objectives to discuss and promote the recent developments in the field of Intelligent Computing and Communication Technologies and to glimpse on probable advancement of Intelligent Computing and Communication in various aspects of industry. It is inevitable that Intelligent Computing and Communication technology will play a pivotal role in providing scalability to these new paradigms, as also in transforming India into a knowledge–led economy and society. Consequentially, the potential of these technologies in digital empowerment of citizens and job creation is, of course, immense. In this conference more than 100 papers have been received from the various places of India, out of which 75 papers have selected for publication after peer review.

Inaugural Session: 11 October 2019

The programme started with the registrations of participants. The Inaugural session started with an auspicious lamp lighting by Chief Guest Prof (Dr) Sampat Raj Vadera, Professor & Head, IIT Jodhpur, Hon'ble Vice Chancellor Lt Gen VK Sharma, AVSM (Retd.), Pro-Vice Chancellor Prof. (Dr.) M. P. Kaushik, Organizing secretary of the event and Director ASET Maj Gen (Dr) SC Jain, VSM** (Retd), Dean Academics Prof. (Dr.) R. S. Tomar, Registrar Shri Rajesh Jain, Deans, HOIs, HODs, faculty members of Amity University, Gwalior and participants which was followed by Saraswati Vandana and felicitation of Guests.

Lighting of the lamp by Chief Guest Prof (Dr) Sampat Raj Vadera, Professor & Head, IIT Jodhpur, Hon'ble Vice Chancellor Lt. Gen. VK Sharma, AVSM (Retd.), Pro-Vice Chancellor Prof. (Dr.) M. P. Kaushik, Organizing secretary of the event and Director ASET Maj Gen (Dr) SC Jain, VSM** (Retd)

Thereafter, Hon'ble Vice Chancellor, AUMP Lt Gen VK Sharma, AVSM (Retd.) delivered the opening remarks and enlightened the participants with the importance of Intelligent Computing and Communication Technologies in daily life and also its drawbacks and various thrust area of research in the field of Intelligent Computing and Communication Technologies. He focused on the concept of driverless car, enhanced wireless tracking systems, Low power lithium ion

batteries, wireless charging, best scattered radiation, drug delivery system by intelligent system and disease detection by only scanning the eye only. The rapid proliferation of mobile phones has bridged the communication divide across geographical locations. It has empowered people and opened new opportunities, access, and possibilities few could have imagined just a decade ago. Many conventional services like banking, education, marketing, television and routine transaction payments have now converged onto a mobile screen. Startups and developers across the emerging markets are already building Mobile services and bringing the applications to the palm of users. However, the security of networks remains a challenge particularly when we take a holistic look to include the security of not only networks, but software, applications and most importantly, the data.

Opening Remark by Hon'ble Vice Chancellor Lt Gen VK Sharma, AVSM (Retd.)

Prof (Dr) Sampat Raj Vadera, Professor & Head, IIT Jodhpur was the Chief Guest and Key Note speaker of the conference. He delivered the Keynote address on translating science to applications, opportunities and challenges in india. Challenges are coordination among stakeholders, sharing of knowledge, database/repository of R & D efforts, utilization of resources and standards for testing of technologies and products and Research & development culture in industries. He emphasised on the practical implementation of the research for social benefits.

Chief Guest Prof (Dr) Sampat Raj Vadera, Professor & Head, IIT Jodhpur during his talk

Next session was chaired by Dr A C Pandey, Joint Director, DRDE, Gwalior, MP. He delivered a talk on "Advancement in Computing Technology with special reference to Cloud Computing

in Biological Research". Cloud computing, providing access to more than a hundred thousand computers at a time to process, store or share information has stretched the horizon of possibilities in many areas of science and business. He said researchers in the field of genetics and biotechnology who wish to understand how cloud computing can contribute to their area of research. Bio-informatics tools are extensively used in biological research today. These tools can be utilized more efficiently and in a possibly more cost and time effective manner using cloud technology. High-throughput genomics leads to reams of data that cannot be processed by local research facility computers at the speed it is generated. This bottleneck has been overcome by the use of cloud computing to store and to process data in real time. Large datasets and applications for image analysis, data mining, protein folding, and gene sequencing can also be shared for collaborative research between facilities using clouds. This is a simpler approach than transferring such data. Clouds also provide applications such as Apache's Hadoop and Google's MapReduce for parallel computing (particularly useful for making services such as BLAST easier to deploy in a shorter time). Cloud computing with characteristics like multi-tenacity, scalability, low cost, virtualization, agility and empowerment of end users has made it possible to share the results of studies at much finer granularity, along with sharing scientific investigations at the level of individual data points. Cloud technology can contribute significantly in areas such as biodiversity informatics and the study of human genetic variation and disease. He discussed these possibilities, the challenges in realizing the potential for application of cloud technology in biological sciences, and the work being done to overcome these challenges.

Dr A C Pandey, Joint Director, DRDE, Gwalior, MP during his talk.	Dr A C Pandey, Joint Director, DRDE, Gwalior, MP welcomed by Director ASET Maj Gen (Dr) SC Jain, VSM** (Retd), Secretary of the conference

Parallel session was the technical paper and poster presentations by the participants which was chaired by Dr Ajay Kumar Dadoria, Assistant Professor (ECE) and Dr Vivek Singh Kushwah, Associate Professor(ECE). Thereafter, the Souvenir of the conference was released.
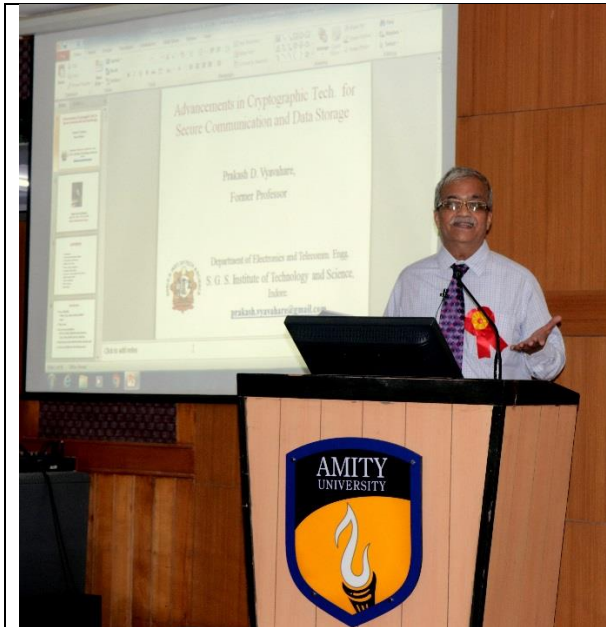
Chief Guest Prof (Dr) Sampat Raj Vadera, Professor & Head, IIT Jodhpur, Hon'ble Vice Chancellor Lt Gen VK Sharma, AVSM (Retd.), Pro-Vice Chancellor Prof. (Dr.) M. P. Kaushik, Deputy Pro-Vice Chancellor Prof. (Dr.) Anil Vashisht, Organizing secretary of the event and Director ASET Maj Gen (Dr) SC Jain, VSM** (Retd), Convener Dr. Raghavendra Sharma, Dr. Venkatadari M.and joint convener Dr. Pankaj Mishra during the release of Souvenir of the conference.

Valedictory Function:

The one day conference ended with the Valedictory Ceremony which began with the welcome of guest Prof (Dr) Prakash D Vyavhare, Former Professor, SGSITS, Indore by Hon'ble Vice Chancellor, AUMP Lt. Gen. V. K. Sharma, AVSM (Retd.) along with Pro-Vice Chancellor Prof. (Dr.) M. P. Kaushik, Organizing secretary and Director ASET Maj Gen (Dr) SC Jain, VSM** (Retd), Dean Academics Prof. (Dr.) R. S. Tomar, Registrar Shri Rajesh Jain, Deans, HOIs, HODs, faculty members of AUMP, Gwalior and participants. In his valedictory address, Prof (Dr) Prakash D Vyavhare talked about Advancements in Cryptographic Techniques for Secure Communication and Data storage. He delivered a talk on "Advancements in Cryptographic Techniques for Secure Communication and Data storage". Security of data is an important aspect in various wireless communication and data storage systems. Issues involved in e-security cover many topics like confidentiality and integrity of data and its authentication, need analysis, principle of operation of various mechanisms to achieve them, present standards and some future research topics. This is a relatively new area of active considerations in applications like machine-to-machine communications including Internet of Things (IOT), storage of data on clouds, Wireless Sensor Network (WSN) including Vehicular Adhoc Network (VANET), Body Area Network (BAN) etc. Cryptographic techniques have been used for more than 2000 years to achieve confidentiality of secure information transmission for military applications. Over the period of time various (cryptographic) codes have been designed (and compromised) by employing mathematical structures and their properties. The field got impetus after the establishment of Kerckhoff's principle (1883) and modern mathematical structures like Galois field (1832). The notion of confusion and diffusion by Claude Shannon (1949) and Shamir's public key cryptography (1978) opened up new areas of research and development in the field of public key cryptology. Proliferation of internet and mobile technology during the last two decades have extended the applications of cryptography from traditional military applications to public (society) use such as secure e-payment over

internet, e-tendering etc. This has also lead to establishments of various standards such as 3DES, AES and RSA. Advancements in the processing speed of computers also necessitates design of new standards. Recently, the field has obtained a new dimension in the area of secret sharing (Shamir 1979), multiple secret sharing (Li Bai 2006) and storage of data on cloud of servers. The lecture aims to cover the panoramic view conventional and asymmetric key cryptography, standards and some of the recent developments in the field of secret sharing and possible areas of research in this emerging field.

Prof (Dr) Prakash D Vyavhare, Former Professor, SGSITS, Indore during his talk	Prof (Dr) Prakash D Vyavhare, Former Professor, SGSITS, Indore felicitated by Hon'ble Pro-Vice Chancellor Prof. (Dr.) M. P. Kaushik

The Conference summary was presented by Prof (Dr) Raghavendra Sharma, Convener (AICCT 2019) & HoD- ECE.

Prof (Dr) Raghavendra Sharma, Convener (AICCT 2019) & HoD- ECE presented summary of conference

In his concluding remarks, the Prof (Dr) M P Kaushik, Hon'ble Pro-Vice Chancellor, Amity University Madhya Pradesh, Gwalior explained the various aspects of Intelligent Computing and Communication Technologies. He also explained the importance of internet of things in our daily life and the future research area in the domain of in Intelligent Computing and Communication Technologies.

Concluding Remark by Hon'ble Pro-Vice Chancellor Prof. (Dr.) M. P. Kaushik

Thereafter, the winners of the Best paper and poster were awarded certificate and prizes by the Hon'ble Chief Guest Prof (Dr) Prakash D Vyavhare, along with the Hon'ble Vice Chancellor Lt Gen VK Sharma, AVSM (Retd), Hon'ble Pro-Vice Chancellor Prof (Dr) M P Kaushik and Director ASET Maj Gen (Dr) SC Jain, VSM** (Retd). There were four winners for best paper and poster presentation. Best paper award has been given to Mr. Rovin Tiwari, Nitin Bansal, Prakhar Bhadoria and Aarohi Shrivastava for presenting their papers and best poster award has been given to Mr. Amit Kumar Jain for presenting his poster on the topic "Application of Linear Programming in Nurse Scheduling Problem" and Smriti Lavanya, Shubhi Sinha and Ritvik Raj Pandey for presenting their poster on the topic "Artificial Intelligence in Medical Science".

Best Paper and poster winners

The vote of thanks was proposed by the Convener of the conference Prof (Dr) Venkatadri Marriboyina, Convener (AICCT-2019) & HOD-CSE, Amity School of Engineering and Technology, Amity University, Gwalior.

Prof (Dr) Venkatadri Marriboyina, Convener (AICCT-2019) & HOD-CSE proposed vote of thanks

In his vote of thanks, he thanked on behalf of Amity School of Engineering and Technology and the entire university to global icons of science and distinguished guests of the day Prof (Dr) Sampat Raj Vadera, Professor & Head, IIT Jodhpur, Dr A C Pandey, Joint Director, DRDE, Gwalior, Prof (Dr) Prakash D Vyavhare, Former Professor, SGSITS, Indore, Hon'ble Vice Chancellor Amity University Madhya Pradesh, Gwalior Lt. Gen. V.K. Sharma, AVSM (Retd.); Pro Vice Chancellor, Prof Dr M. P. Kaushik; Dean Research, Registrar, Deans, HoIs, HoDs, faculty members and the supporting staff of AUMP, Administration Department headed by Col. S. K. Sethi (Director Administration), Mr Umesh Kant Sharma & their Support Staff, Dr Sumit Narula, Director, ASCO and his team, participants and students who have attended

this conference, Organizing secretary and Director ASET Maj Gen (Dr) SC Jain, VSM**
(Retd), Convenor of the conference, Dr. Raghavendra Sharma and members of all committees,
last but not the least Members from print and electronic media.

Appendix-I

Links of news clippings – ASET National Conference on Advances in Intelligent Computing and Communication Technologies (AICCT-2019)- 11/10/2019

1. {14.10.2019 }https://portal.amity.edu/backoffice/Uploads/media/2632_DainikBhaskar-14.10.2019AUMPNationalConferenceonIntelligentComputingandCommunicationTechnology-Amity.jpg Dainik Bhaskar-Page-2
2. {12.10.2019 }https://portal.amity.edu/backoffice/Uploads/media/2633_NavBharat-12.10.2019AUMPNationalConferenceonIntelligentComputingandCommunicationTechnology-Amity.jpg **Nav Bharat-Page-3**
3. {12.10.2019 }https://portal.amity.edu/backoffice/Uploads/media/2631_BharatMat-12.10.2019AUMPNationalConferenceonIntelligentComputingandCommunicationTechnology-Amity.jpg **Bharat Mat-Page-3**