



# ICT CHRONICLE

Annual Newsletter of the Department of Information & Communication Technology, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal - 576104

**Vision : "Excellence in Information and Communication Technology education through continuous learning and teamwork"**

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Volume 1

## MESSAGE FROM HOD

It gives me immense pleasure to congratulate teachers, staff and students of the Department of Information & Communication Technology for the successful completion and release of the first edition of the newsletter. Newsletter is believed to be a focus of the inside activities i.e. academics, students and faculty achievement as well as innovation occurring in the Department. In the era of engineering and technology this newsletter will motivate the teachers and students of sharing their creativity and new ideas with the world and will help in their overall development. As the demand of ICT is raising day by day the time has come for all computer stream engineers to come forward and join their hands for innovation in the IT field. I congratulate and thank once again for the ICT chronicle team.



## Patrons:

Dr. D. Srikanth Rao, Director, MIT  
Dr. B.H.V Pai, Joint Director, MIT

## Faculty Mentor:

Dr. Balachandra, H.O.D, ICT, MIT

## Faculty Advisor:

Dr. Manohara Pai M.M, Professor, ICT, MIT  
Dr. Radhika M. Pai, Professor, ICT, MIT  
Dr. Preetham Kumar, Professor, ICT, MIT

## Editor in Chief:

Mrs. Manjula C. Belavagi, Faculty, ICT, MIT

## Editorial Team:

Mrs. Girija Attigeri, Faculty, ICT, MIT  
Mrs. Sangeetha T.S, Faculty, ICT, MIT  
Ms. Vimala, Student, II MTech. (SE)  
Mr. Sudhina Kumar G.K, Student, II MTech. (CNE)  
Ms. Mahima Barah, Student, VI BTech. (IT)  
Mr. Pratyay Prakhar, Student, VI BTech. (CCE)

## WORKSHOPS CONDUCTED BY THE DEPARTMENT

### PING 2.0.1.8

A two day workshop with the theme "Agile Methodology in Cognitive Era" was organized on 15<sup>th</sup> and 16<sup>th</sup> February, 2018. Mr. Muniyandi Perumal, Mr. Nasser Ebrahim and Mr. Bhaktavatsal from IBM were the resource persons. They focused on Agile technology, principles of scrum and roles defined in the scrum and Machine Learning.



### REMOTE WORKSHOP ON BASICS OF PYTHON

Three day workshop was conducted remotely by IIT Bombay's FOSSEE. The workshop was a part of National Mission on Education through Information and Communication Technology (ICT), Ministry of Human Resources and Development, Govt. of India, from 10<sup>th</sup> to 12<sup>th</sup> July, 2018 on "Basics of Python". The workshop covered Python Numpy arrays, modules and IPython notebooks.



## CENTERS

- ❖ A new center for Cyber Security was established in the Department under MAHE in 2018, coordinated by Dr. Balachandra.
- ❖ Center for Machine and Artificial Intelligence under MAHE coordinated by Dr. Sanjay Singh, initiated a collaboration with Customer AI, USA.

### The Objectives of centers are

- Conducting workshops, seminars, guest lectures
- Initiating collaborations, writing grants
- Providing consultancy and internships

## GUEST LECTURES/SEMINARS

### RESEARCH OPPORTUNITIES AT BREMEN

Dr. Helmut Eirnud, University of Applied Sciences, Bremen discussed the research opportunities for the students and faculty at the University of Applied Sciences, Bremen on 2<sup>nd</sup> February 2018. He mentioned the three ongoing projects which provided an insight into the work available for collaboration. The Betaville project is a mobile application which allows citizen participation in urban development by providing 3D models of the town planning, Brain game project allows the usage of brain waves to control the game and the NetS-X is a mobile application for network security experience.



### THREATS AND CHALLENGES

Sri Seshadri Chari Eminent Strategic Analyst and Commentator delivered a talk on “Threats and Challenges to India's National Security”. He explained the root-causes of conflicts in world politics. He shared his experiences and elaborated upon the wider conflict in West Asia on 5<sup>th</sup> February 2018.

### HUMAN COMPUTER INTERACTION

Dr. NervoVerdezota from University of Leicester, England discussed his research works such as importance of medication management, functional and nonfunctional aspect of self-monitoring, functionality of task management application, strategies of energy consumption challenges and opportunities involved in self-care Human Computer Interaction. He also suggested interested faculty or student to collaborate with their university for the ongoing research project on 15<sup>th</sup> February 2018.



### AUTOMOTIVE CYBER SECURITY

Mr. Stephen John Powley, Coventry University, UK spoke about how to create a safe and sustainable transport solutions which fit the cities of future, on 9<sup>th</sup> July 2018. He gave insights into cyber resilience and automotive communication systems. He briefed about how to enable full-lifecycle connected vehicle security. He spoke about projects such as UKCITE, UK Auto drive, Smart Vehicle Control System, explained how connected and autonomous vehicles extensively employ networked technologies and have great potential to benefit society.



### SECURITY IN CLOUD

Mr. Vittaldas Prabhu, Software QA engineer at FireEye, Bangalore, discussed importance of security in cloud and from cloud. He gave a live demo for better understanding of the concept on 10<sup>th</sup> September 2018.

### PEAK INTO THE FUTURE WITH ARTIFICIAL INTELLIGENCE

A technical talk on Artificial Intelligence was given by Mr. Mohan of Manipal ProLearn team on 5<sup>th</sup> October 2018. He is monitoring all the courses on AI provided by the manipal ProLearn. He provided insights regarding what is artificial intelligence and how it will change the future of machines in years to come. There was discussion about the new and trending AI components of google and other technical giants. He also mentioned the relation between AI, neural networks and machine learning.



### DEVOPS - CLOUD APPLICATION

Mr. Ravish Shetty, Development Manager, SAP Labs India Pvt. Ltd., Bangalore, India gave an interactive session on DevOps in the world of cloud application on 27<sup>th</sup> October 2018. He began the session with concepts of cloud computing, cloud applications and its requirements. He emphasized on the latest technology trends and what cloud offers to such advancements. Micro service was highlighted and shift to DevOps in the world of cloud was shown. Various skills and tools needed to work on cloud was illustrated which was very engrossing. Lastly emphasized on the job market opportunities and research opportunities in the said field.



### INVITED TALK BY DR. GANG LI

Department of ICT along with Department of CSE organized a guest talk on “Information Abuse Prevention & Tourism Data Analytics” by Prof. Dr. Gang Li, Associate Professor, School of Information Technology, Deakin University, Australia, on 19<sup>th</sup> November 2018. His talk mainly covered the key areas such as behavior informatics, tourist movement analysis, periodic behavior mining, data privacy, differential privacy and big data. He also spoke about the scope for collaborations between MAHE and Deakin Universities which could further help in strengthening the technical acumen and foster research outputs.

### GUEST TALK ON SEMANTIC WEB TECHNOLOGIES

In association with departments of CSE, DCA, SOIS and Research and Consultancy, the Department organized a workshop titled “Application of Semantic Web Technologies to Data Intensive Systems” on 03<sup>rd</sup> December 2018. The speaker Dr. Juan F. Sequeda, co-founder and the senior Director of CapsentaLabs, gave an insight into the challenges of deploying semantic web in the real world having relational databases.

## TECHNICAL EVENTS

### BOOTCAMP

Bootcamp code.fun.do was jointly organized on 17<sup>th</sup> January 2018 at MIT Library Auditorium by Department of ICT and Department of CSE under the supervision of Dr. Preetham Kumar, Deputy Registrar - Academics (Technical), MAHE.



### HACKATHON

code.fun.do Microsoft Hackathon was coordinated by Dr. Preetham Kumar, Deputy Registrar - Academics (Technical), MAHE. along with CSE Department for two days on 24<sup>th</sup> and 25<sup>th</sup> February, 2018. Around 150 students participated with lots of enthusiasm.

### MICROSOFT ACADEMIA ACCELERATOR PROGRAM

The Department in collaboration with Department of CSE and placement cell organized the inaugural ceremony of "Microsoft code fun do++" on 10<sup>th</sup> November 2018. This online challenge program was spread over 4 weeks and the selected students worked under the guidance of Microsoft mentors.

## FACULTY ACHIEVEMENTS

### GRANTS RECEIVED

Dr. Manjula Shenoy received Vision Group on Science and Technology (VGST) grant, for the duration of one year for the research project "Automated customer support on high performance distributed information system: a search service" in January 2018.

Dr. Radhika M Pai, Dr. ManoharaPai M M and Dr.Preetham Kumar received Department of Science & Technology (DST) grant for the duration of 3 years for the research project "Development and deployment of smart Aqua culture: an IoT enabled system" in March 2018.

### Ph.D. AWARDEE

Mrs. Sucheta Kolekar has been awarded doctoral degree by MAHE, Manipal, for her thesis titled "Adaptive Interface for E-Learning based on Learning Styles using Web Logs" under the guidance of Dr. Radhika M Pai and Dr. ManoharaPai M M.



### CHAIRING SESSION AND JUDGING EVENTS

Dr. Poornalatha G chaired a session during Manipal Research Colloquium in April 2018 and she also chaired a session during Interdisciplinary Conference on Healthcare & Technical research (ICHTR 2018) in October 2018.

Dr. Chandrakala C B judged an event held during Manipal Research Colloquium in April 2018 and chaired a Session during Interdisciplinary Conference on Health care & Technical research (ICHTR 2018) in October 2018.

Mr. Krishna Prakasha chaired a session during International Conference on Engineering, Computers And Natural Sciences (ICECNS-2018) Goa in October 2018.

### AWARDS & RECOGNITIONS

Mr. Akshay M J was part of MIT Badminton team and won the 2nd International staff badminton tournament in below 40 category held in PES University, Bangalore from January 20<sup>th</sup> to 23<sup>rd</sup> 2018. He also won the Runners - Up title in the Inter-MAHE Badminton tournament under 40 doubles category in August 2018 held at MIT recreation club, Manipal. Dr. Manohara Pai M.M won the Runners-Up title in the Inter-MAHE Badminton tournament above 40 doubles category in August 2018 held at MIT recreation club, Manipal.

### PAPER PUBLICATIONS

The faculty members have published around twenty two research papers in various Scopus indexed journals and also presented around twenty seven papers in various international conferences.

### BEST PAPER AND PRESENTER AWARDS

Dr. Manohara Pai M M, received best presenter award for the papers "Knowledge base ontology for fraud detection using Topic Modelling" and "Private Cloud Solution for Securing and Managing Patient Data in Rural Healthcare System" at International Conference ICCSCI in Tangerang Indonesia, September 2018.

Mr. Krishna Prakasha, received best paper award for the paper entitled : "An efficient approach to detect driver distraction during mobile phone usage" at International conference ICECNS in Panjim, Goa, October 2018.

Mr. Arjun C V received best paper award for the paper "Penetration Testing for Denial of Service Attacks and its Variants" at International Conference ICMRT at Bangkok, Thailand in December 2018.



Sharada H. Shetty has won several medals in district level swimming competitions for different events such as butterfly, free style, and breast stroke, held at Jai Druga Swimming Club, Kadekar, Udupi on 19<sup>th</sup> August, 2018.

## FACULTY INTERACTION WITH OUTSIDE WORLD

Mr. Ramakrishna M received Marie Skłodowska-Curie Actions Project Fellowship to work as early stage researcher in Telecom -munications Lab at Intel Visual Computing Institute, Saarland University, Saarbrucken, Germany in the area of Light Field Streaming from January 2018 to December 2018.

Dr. Preetham Kumar attended the Second General Meeting of the Tuning India, scheduled at University of Deusto, Spain from 20<sup>th</sup> to 22<sup>nd</sup> November, 2018. "Tuning India", an Erasmus plus capacity building project, brings together 15 Indian Universities along with 5 European University partners to achieve excellence, expansion and equity in higher education areas of medicine, law, teacher education and ICT.

Mr. K. Rajesh Rao has undergone 6 months research fellowship in the School of Mathematics, Computer Science & Engineering at City, University of London, UK in the area of Information Security from 1<sup>st</sup> June 2018 to 30<sup>th</sup> November 2018

Mr. Ghanashyama Prabhu is pursuing his Ph.D in Dublin City University on the topic of "Personal sensing: Machine learning and deep learning application on Human activity recognition from wearable sensor".

## FACULTY AS RESOURCE PERSON

Dr. Radhika M Pai and Girija Attigeri were the resource persons for two day workshop on "Machine Learning and Big data Analytics", organized by St. Joesph Engineering College, Mangalore in February 2018.

Dr. Manohara Pai M M was the resource person for the one day workshop on "Art of Writing a Research Paper" held at St. Joseph Engineering College, Mangalore in March 2018.

Dr. Smitha N Pai was a resource person for the faculty development programme on "Machine Learning", held at St. Joseph Engineering College, Mangalore between 23<sup>rd</sup> to 27<sup>th</sup> of July, 2018.

Dr. Chandrakala C B, Mrs. Divya S. and Dr. Reena Singh were guest speakers during the Summer School 2018: Technical Sciences and Management Sciences Module, organized by MAHE Student Research Forum under the aegis of Directorate of Research MAHE, Manipal in July 2018.

## FACULTY PARTICIPATION IN CULTURAL ACTIVITIES

Yakshgana prasngas "Narakasura Moksha" and "Jyothirmedha Vijaya" were performed on 1<sup>st</sup> March 2018 and 1<sup>st</sup> December 2018 respectively. Faculty from ICT department who showcased extraordinary performance are Dr. Santhosha Rao, Mrs. Aparna, Ms. Smitha A, Mr. KrishnaPrakasha, Dr. Preetham Kumar, Mr. Raviraja Holla, Mr. Akshay K C, Dr. Smitha Pai, Mr. Chethan Sharma and Mr. Arjun C V.



## STUDENTS ACHIEVEMENTS

### ALUMNI ACHIEVEMENT

Ms. Sukriti Paul (2014-2018 B.Tech., CCE) was awarded best acm-w officer in June 2018. This is an initiative to empower individuals by inspiring interviews and compiling stories. The well- accomplished speakers highlight their challenges and personal stories. Furthermore, the video series and blogs provide an enriching platform for knowledge - sharing and advice. The series aims at reaching out the inquisitive college-goers.



### TECHFEST, TECHVRIDDHI

Mr. Dwaraknath Gnaneshwar, Mr. Vishwanath and Mr. Swapneel Chakraborty student from II Semester B.Tech., (IT), and Mr. Abhinav Mitra from III Semester B.Tech., (CSE), won fourth place in All India Research Championship on 11<sup>th</sup> March 2018 at IIT-Kanpur's Tech Fest, Techvridhi. Students created an automated irrigation system with LSTM based deep learning techniques and also created a Google-Assistant integrated chatbot to control field machines using voice. The project was aimed to improve and automate drip irrigation systems for conserving water.

### TECH GURUS: SMART INDIA HACKATHON

Ms. Shradha Duseja from VII semester B.Tech. (IT) and team finished in top 8 the grand finale Smart India Hackathon Software Edition 2018 held on 30<sup>th</sup> and 31<sup>st</sup> March 2018. Smart India Hackathon is a National level technical event organized by the Government of India. This event is another push towards the Digital India Initiative by the Government of India. The main motto of this event is to find solutions to various problems faced by various Government Ministries in helping the people of India and making their life convenient.



### WEARABLE DEVICE HACKATHON

Mr. Tejas Kashinath and Mr. Raloue R Kapoor, III Semester B.Tech., (IT) students won first prize in Wearable Device Hackathon (WDH-2018) organized by KMC-Student Research Forum on 20<sup>th</sup> September 2018. Students have identified the manual process of Adjusting Operating Theater Lights and auto-mated the process by developing "AutoFocus" a hand worn device, which could track the surgeons' gestures and accordingly adjust the position of the lights to his preference. Such project leads to better surgical outcomes, and minimizes nosocomial infections.



### COURSES IN OUTSIDE UNIVERSITY

Mr. Aastik Saini from VII semester B.Tech. (IT) has successfully completed course in business analytics, economics for managers and financial accounting at Harvard Business School.

### STUDENT PUBLICATIONS

Students of the department have published research papers in various journals and presented research papers in various international conferences under the guidance of the department faculty members.