

## **Brief Report of the ICT Academy Research Summit 2020**

**Powered by B.S. Abdur Rahman Crescent Institute of Science and Technology**

**Name of the Event:** BRIDGE 2020–Largest Industry-Institute Interaction Event of Asia.

**Organized by:** ICT Academy and B. S. Abdur Rahman Crescent Institute of Science & Technology.

**Theme:** Augmenting Skills, Accelerating Growth

**Objective of the Event:**

- To bridge the Industry – Academia gap on Leadership, Research and Talent summit
- To provide solutions to researchers, students and faculties on Augmenting Skills, Accelerating Growth.

**Date of the Event:** 25th Feb 2020

**Venue:** IITM Research Park, Chennai.

### **Preamble:**

BRIDGE is the flagship conference of ICT Academy, which is one of the largest Industry-Academic Interaction event of Asia. This BRIDGE- Research Summit – 2020 is focused on learn, share and experience the intelligence to make our institute a Research Designation and it is powered by ICT Academy and B. S. Abdur Rahman Crescent Institute of Science & Technology, at IITM Research Park. The event (25 & 26 Feb 2020) have 1000+ Delegates, 50 Speakers, 30 Partners, 20 Exhibitors, 5 innovative Edtechs and many more. One event on 25<sup>th</sup> Feb 2020 was sponsored by our university and the theme is on research and its significance in developing the next level of contributors and educational institutions. The speakers represented a wide variation of sectors like CSIR-CEERI, CSIR- CSIO, TCS, HCL and many others. Dr. T. Harinarayana, Director (ESPAC) and Dr. K. Ganesh, Director (Placement & Training), Industry Institute Partnership Cell have participated and made aware of the gathering with our institution’s research based eco system. The faculties participated are involved in sponsored projects of the streams of engineering. Departments like IIPC, office of Dean Research and Energy and sponsored project (ESPAC) were highlighted with their goals and achievements to brand Crescent as an innovative and technology driven institution. (Brochure enclosed)

### **Brief Report**

At research summit 2020, **opening remarks given by Dr. G. Sainarayanan, General Manager, HCL technologies Ltd. He talked on “Augmenting the Intelligence Revolution”**. He expressed that in current decade the Artificial Intelligence is gaining more importance in the field of Computer Science that may help the society in various ways. Different techniques with new algorithms are being developed to convert our natural intelligence to artificial intelligence. The basis of artificial intelligence is from statistics. If one is well versed in fundamentals of statistics then it became easy to develop artificial intelligence in various sectors. Artificial Intelligence consist mainly of DA (Data Analysis), ML (Machine Learning), EC (Evolutionary Computation) etc. It is estimated that 275 billion US dollars business opportunities are available in various industries all over the world by the year 2020.

The problem in data analysis is that 80% data are not ready for analysis. In machine learning there is 100 billion US dollar opportunities for the youngsters by the year 2025. Digital manufacturing data from audio and video sensors are some of the challenges in machine learning. In evolutionary computation optimization techniques are the back bone. For example, route planning, optimal financial planning etc. are the some of the examples. He also addressed on computer vision, natural language processing, hyper automation etc.

The keynote talk on **“Machine Learning: Achievement and Challenges”** by **Dr. Madhavan Mukund, Deputy Director, Chennai Mathematical Institute** addressed the gathering and explained how machine learning is helping the man kind in daily life. Junk mail filter, credit card fraud, auto correction in text are some of the examples. Another success story is Google translation. He explained how mathematical algorithms are becoming the part of machine learning. Now a days’ reinforcement learning’ related to explainability and Interpretability are in the pipe line, as a part of machine learning. Since there are various machine learning algorithms, certificate of machine learning is in the pipe line. Among the various machine learning, “Tensor Flow” is one of the popular software presently being used.

The keynote talk on **“Engineering the Perception of Research in Industry”** by **Mr. Apurba Das, Chief Architect & Head, Computer Vision Lab (IoT), Tata Consultancy Services** informed that COIN (Co-Innovative Network) in the universities and educational institutions to be introduced. Virtual laboratories are coming in a big way. Among these, image and video analysis have various job opportunities in the field of cloud computing, replacement of eye vision with computer vision. Real time processing and high volume of data are some of the items presently required. The present day university academic scenario students and faculties are concentrated on patent and publications, but he suggested to first deploy the product then file a patent followed by publication.

The subsequent keynote talk on **AI for Food and Security Applications** by **Dr. R. Govindaraj, Chief Scientist – CEERI Centre, Council of Scientific & Industrial Research, Chennai** has given a talk on how artificial intelligence help in food industry. By using low energy x-ray images one can identify the defects inside the fruit. The challenge is tonnes of fruits to be scanned in a short period and need to be separated as good or bad fruits. He explained the details of spectral sensor namely AOTF “Acousto-optic Tunable Filter”. AOTF deals with interaction both light and sound waves. He also discussed on HYS (Hyperspectral Images), x-ray imaging, food inspection, dual energy x-ray image etc.

The afternoon keynote talk started on **Importance of research and various opportunities available in research activities to transform energy efficient industries** by **Dr. C. Sethuraman, Principal Scientist, CSIO Centre, Council of Scientific & Industrial Research, and Chennai**. In his address he talked on the importance of research and how the old technology becoming obsolete in a short period of time. He provided a list of opportunities for researchers, students and faculties in government organizations such as AICTE, UGC, DST, CSIR etc. for science and technology. He provided the list of 216 institutions under different ministries, for example in earth science alone 16 institutions exists. Other information he shared are on shodhsindhu by AICTE, 13 different types of fellowships by UGC, 16 types of fellowships by DST and suggested to go through [www.innovative.gov.in](http://www.innovative.gov.in) website to get more details on innovative research.

The next keynote talk on **AI in Edge Device** given by **Mr. Prasanna Venkatesh Balasubramniyan, Senior Technical Architect, HCL Technologies Ltd.** He talked on edge devices and artificial intelligence. He narrated how Nano technology is entering various devices in a big way. The various forms of devices are being focused mainly on scalability, power consumption, connectivity latency and form factor. He explained how the size of the devices are being smaller and smaller due to cutting edge technologies being introduced in different hardware devices.

Finally, the keynote talk on **AI in Engineering practice, Education and Research** by **Dr. Viju Ravichandran, Senior Team Lead- Education Technical Evangelist, MathWorks India** introduced the advantage of using MATH lab and Simulink in artificial intelligence. How MATH lab has transformed over the years from simple computational tool to mega software package due to the introduction of various modules including artificial intelligence, machine learning etc. The user need to know the details of the problem to solve with minimum knowledge. The MATH lab provide solutions without writing a large computer language code.

### **Photos of the event @ IITM Research Park, Chennai**



**Giving memento to Dr. R. Govindaraj, Chief Scientist – CEERI Centre, Council of Scientific & Industrial Research, Chennai by Prof. T. Harinarayana, Director (ESPAC) and Dr. K. Ganesh, Director (Placement and Training)**  
 (Left to right Dr.T . Harinaryana, Dr. R. Govindaraj, and Dr. K. Ganesh)



(3<sup>rd</sup> from left to right: Dr. K. Ganesh, Dr. T. Harinaryana, Dr. R. Govindaraj, Dr. C. Sethuraman and Dr. G. Sainarayanan)

### **Outcome:**

1. Interaction with renowned eminent professors from Academia and Industry (details enclosed)
2. Faculty, students, researchers have greatly benefited on the upcoming new technology in the field of (AI, ML and DL)



# ICT ACADEMY RESEARCH SUMMIT - 2020

## Augmenting the Intelligence Revolution

25 Feb 2020 (Tuesday), 01.00 pm to 05.00 pm  
IITM Research Park, Chennai

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## WHO'S SPEAKING



**DR. R. GOVINDARAJ**  
Chief Scientist - CEERI Centre, Council of  
Scientific & Industrial Research



**DR. C. SETHURAMAN**  
Principal Scientist  
CSIR-CSIO



**DR. G SAINARAYANAN**  
General Manager  
HCL Technologies Limited



**DR.MADHAVAN MUKUND**  
Deputy Director and Dean of Studies  
Chennai Mathematical Institute



**APURBA DAS**  
Chief Architect & Head, Computer Vision Lab  
(IoT), Tata Consultancy Services



**PRASANNA VENKATESH B**  
Senior Technical Architect  
HCL Technologies Limited



**DR. VIJU RAVICHANDRAN**  
Senior Team Lead - Education Technical  
Evangelist, MathWorks India