



IEEE Computer Society, Madras Chapter
and
Computer Society of India, Chennai Chapter



Professional Development Program

on

Internet of Things (IoT): Technology, Applications, and Impact

How you can capitalize on the next big thing in IT

**on Friday, 21st November 2014 :: 10.00 a.m to 5.00 p.m. (Registration at 9.30 a.m.)
at Seminar Hall, CSI Education Directorate, Taramani, 600113**

(Situated in the opposite lane to Indira Nagar MRTS Railway Station and about 100 meters away from the Dharmambal Women's Polytechnic & Opposite to the Institute of Mathematical Sciences and Institute of Hotel Management)

Internet's evolution is an ongoing process. Besides connecting billions of computers, mobile devices and people, it's now poised to connect various things such as cars, sensors, controllers, TVs, machinery, and electrical appliances, creating Internet of Things (IoT). IoT is the next big thing in IT; it's bound to reengineer and transform everything again -- including business, industry, healthcare, and personal and social life, as it facilitates deployment many new applications and services that were unimaginable till recently. Many tech giants, start-ups and professionals have begun to capitalize on IoT's promise with launch of new hardware, software and applications. The IoT market will grow enormously creating new business and job opportunities as businesses and consumers adopt IoT and other supportive technologies for various purposes. It's time to understand what IoT is and what are its potential, and look at how you can leverage and benefit from it.

This professional development program (PDP) on a hot topic of interest and relevance will help you to get a holistic overview on IOT – concepts, technologies, applications, potential impact, and outlook. It'll also equip you for your journey into a new era where everything is connected and interact and collaborate with other things creating a smarter world.

Program Outline

- Introduction to IoT
- Architecture of IoT
- Supporting Technologies
 - Hardware, software, communications, standards
- Applications in several important domains, and use cases
- IoT, Cloud Computing, Big Data and Smart Systems
 - Internet-connected ecosystem,
- Issues and concerns, and how they can be addressed
 - Security, privacy, dependability and more
- Development and deployment considerations
- Platform-as-a-Service (PaaS) for IoT
- Networking and Computing Challenges for IoT
 - Scalability, security, interoperability
- IoT Applications and Deployment Scenarios with focus on mobile phone based sensing
- Lightweight yet reliable and secure protocols for uploading mobile phone sensed data to cloud
 - Candidate Lightweight Protocols – CoAP and MQTT as compared to HTTP
 - Enhanced CoAP
 - Adding reliability and security to CoAP
- Distributed Computing for mobile phone based sensing
 - Mobile Cloud Computing and Fog Computing
 - Framework for Distributed Execution
 - Workflow assignment between cloud and edge
- Implications and opportunities
 - Monetizing the IoT
- IoT Outlook

Target Participants

This program is developed and offered for the benefit of IT professionals, application developers, business managers and executives, academics, researchers and senior graduate students interested to learn about IoT, a hot topic of growing interest, and gain a holistic understanding its potentials.

About the Presenters

Dr. San Murugesan is Editor in Chief of IEEE *IT Professional*; Director of BRITE Professional Services; and adjunct professor at University of Western Sydney, Australia. He is a corporate trainer, a consultant and an author. He is a former Senior Research Fellow of the US National Research Council, at NASA Ames Research Center, California, USA, and served in various positions at ISRO satellite Centre, Bangalore. His expertise and interests span a range of areas: cloud computing, green IT, IT for emerging regions, IoT, smart systems and mobile applications. He is a co-editor of the book, *Harnessing Green IT: Principles and Practices* (John Wiley, 2012; *Indian Edition*, 2013), and upcoming *Encyclopedia of Cloud Computing* (Wiley, 2015). He edits and contributes to the “Cloud Cover” department in *Computer* and serves on several committees and boards. He is Standing Chair of the new COMPSAC *Symposium on IT in Practice (ITiP)*. Dr. Murugesan is a Fellow of the Australian Computer Society, a Fellow of IETE and a Sr. Member of IEEE CS. For further information, visit his Website at www.bitly.com/sanprofile.

Dr Arpan Pal is the head of Innovation Lab at TCS, Kolkata. He received both his B.Tech and M.Tech from Indian Institute of Technology, Kharagpur, India in Electronics and Telecommunications followed by PhD. from Aalborg University, Denmark. He has more than 22 years of experience in the area of Signal Processing, Communication and Real-time Embedded Systems. Currently he is with Tata Consultancy Services (TCS), where, as Principal Scientist, he is heading research at Innovation Lab, Kolkata. He is also a member of Systems Research Council of TCS with main responsibility in conceptualizing and guiding R&D in the area of cyber-physical systems. His current research interests include Mobile phone and Camera based Sensing and Analytics, Physiological Sensing, M2M communications and Internet-of-Things based Platforms and Systems. He has over 55 publications till date in reputed Journals and Conferences along with a couple of Book Chapters. He has also filed for more than 60 patents and has 6 patents granted to him. He is on the editorial board for reputed journals like ACM Transactions on Embedded Computing Systems and IEEE Transactions on Emerging Topics in Computing. He is in the program committee of various eminent conferences and is a senior member of IEEE.

Home Page - <http://www.tcs.com/about/research/researchers/Pages/Pal-Arpan.aspx>

Linked In - <http://in.linkedin.com/in/arpanpal>

Google Scholar - <http://scholar.google.co.in/citations?user=hkKS-xsAAAAJ&hl=en>

Registration Fee (including Service Tax of 12.36%)

- Student Members of CSI / IEEE & Supporting Orgn. : Rs. 800/= (pl. provide a certificate)
- Members of CSI / IEEE & Supporting Orgn. : Rs. 1000/=
- Industry & Other Delegates : Rs. 1250/=

As the seats are limited, early registration is recommended. Advance registration may be done at <http://goo.gl/p79akC> But the registration will be confirmed on payment only

Pl. send the duly filled in registration form along with the respective payment by DD / Cheques drawn in favour of Computer Society of India – Chennai Chapter and payable at Chennai to: Computer Society of India, CSI Education Directorate, CIT Campus, 4th Cross Road, Taramani, Chennai 600113. Payment can also be made through online and the payment reference no. can be provided in the online form at <http://goo.gl/p79akC> On realization/credit we will confirm the registration.

Name of beneficiary	CSI, Chennai Chapter
Beneficiary's Bank	State Bank of India, MIDC, Andheri East, Mumbai
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