



# Proceedings

First Workshop of CTIF Global Capsule (CGC)

*jointly with the*

Round Table Discussions

*on*

## **Chitt-Kaya Nivesh Sthaan (CNS: Home for Mind and Body)**

Thursday, February 16, 09:00-18:00 hours

International Technological University, 2711 North First Street, San Jose, CA 95134, USA



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## Welcome Message

Dear Colleagues,

It is my great pleasure to welcome you all to this first workshop of CTIF Global Capsule (CGC) jointly with the Round Table Discussions with the theme of "Chitt-Kaya Nivesh Sthaan (CNS: Home for Mind and Body)".

Prior to this event, we had CGC Kickoff meeting at New Jersey Institute of Technology (NJIT), Newark, NJ with the theme of KNOWLEDGE HOME. Due to the immense interest and participation of the event, we decided to have the CGC first workshop at International Technological University (ITU), San Jose, CA.

The phrase, Chitt-Kaya Nivesh Sthaan is taken from Sanskrit, one of the ancient languages in the world with strong grammar, structure and, word formation, that originated in India. The concept of Chitt-Kaya Nivesh Sthaan (CNS) aims towards creation of knowledge for integrating Human Mind and Body. The terms, Chitt (Mind), Kaya (Body), Nivesh (Home), and Sthaan (Place) have been taken from Sanskrit Language and the term CNS defines a concept that is the juxtaposition of Cognitive and Physical dimensions of a Human being. The concept is the proponent for involving cross-/inter- disciplinary research domain (e.g., technology, medicine, humanity, social-science, and so on...) on a common platform, forming an integrated solution in improving human functionalities.

As a Founder President of CGC, I would like to thank our sponsors of this event, Movimento Inc. for financials sponsorship, International Technological University for hosting the event, IEEE Communications Society Santa Clara Valley Chapter for the technical sponsorship, and Aarhus University for supporting the workshop.

Dr. Ramjee Prasad  
Founder President, CTIF Global Capsule  
Professor, Aarhus University, Denmark



Ramjee Prasad



Time	Program
8:30-	Registration
9:00-10:30	<b>Session 1: Opening and Introduction</b> <b>Session Chair: Ashutosh Dutta, AT&amp;T, USA</b>
9:00-9:30	Welcome Speech: Gregory O' Brien, International Technological University, USA
9:30-10:00	Introduction to CGC and CNS: Ramjee Prasad, CTIF Global Capsule, Aarhus University, Denmark
10:00-10:30	"Convergence of Human Sensing and IoT: Evolution towards the New Era of Wearables and Holistic Experience", Sudhir Dixit, Skydoot, USA
10:30-11:00	<b>Coffee Break</b>
11:00-13:00	<b>Session 2: Cross-/Inter-Disciplinary Innovation</b> <b>Session Chair: May Huang, Research and Development, International Technological University, USA</b>
11:00-11:30	"Integrating novel technologies to understand normal breast and breast cancer biology at individual level ", Harikrishna Nakshatri, Indiana University, USA
11:30-12:00	"Tangible and Intangible Relations in Multi Business Model Innovation", Peter Lindgren, Aarhus University, Denmark
12:00-12:30	"Combining Cognitive Networking and Computing for Mobile IoT", R. Chandramouli, Stevens Institute of Technology, USA
12:30-13:00	"Science and Technology of Ancient India ", Asok De, National Institute of Technology, Patna, India
13:00-14:00	<b>Lunch Break</b>
14:00-15:30	<b>Session 3: Network and Security</b> <b>Session Chair: Peter Lindgren, Aarhus University, Denmark</b>
14:00-14:30	"Challenges and Opportunities In the New Networking Era", Doru Calin, Nokia Mobile Networks, USA
14:30-15:00	"Next Gen Cyber Security Challenges in Cloud", Venkat Rayapati, SAI Technology, USA
15:00-15:30	"The Rise Of Internet Of Things", Mahbulul Alam, Movimento Inc., USA
15:30-16:00	<b>Coffee Break</b>
16:00-17:30	<b>Round Table Discussions: Chitt-Kaya Nivesh Sthaan (CNS: Home for Mind and Body)</b> <b>Moderator: Neeli R. Prasad, SPA Solutions LLC, USA</b>
	<b>Panelists:</b> Karl Wang, International Technological University, USA Asok De, National Institute of Technology, Patna, India Rasmus H. Nielsen, Movimento Inc., USA Seshadri Mohan, University of Arkansas, USA.
17:30-17:45	Concluding Remark Ramjee Prasad, CTIF Global Capsule, Aarhus University, Denmark
-18:00	Closure



## *Session 1: Opening and Introduction*



## ASHUTOSH DUTTA

*Director, Technology Security,  
AT&T's Mobility and Cloud Security Division,  
USA*



*Ashutosh Dutta is currently Director Technology Security at AT&T's Chief Security Office in Middletown, New Jersey. His more than 25 years of career includes CTO of Wireless at a Cybersecurity company NIKSUN, Senior Scientist in Telcordia Research, Director of Central Research Facility at Columbia University, adjunct faculty at NJIT, and Computer Engineer with TATA Motors. He has more than 80 conference and journal publications, three book chapters, and 30 issued patents. Ashutosh is co-author of the book, titled, "Mobility Protocols and Handover Optimization: Design, Evaluation and Application," published by IEEE and John & Wiley. Ashutosh served as the chair for IEEE Princeton / Central Jersey Section, Industry Relation Chair for Region 1 and MGA, Pre-University Coordinator for IEEE MGA. As the vice chair of Education Society Chapter of PCJS, he co-founded the IEEE STEM conference (ISEC) in 2011 and helped to implement EPICS (Engineering Projects in Community Service) in the high schools within PCJS. Ashutosh currently serves as the director of Industry Outreach for IEEE Communications Society Board of Governors and is the co-lead for IEEE 5G initiative. He was recipient of the prestigious 2009 IEEE MGA Leadership award and 2010 IEEE-USA professional leadership award. Ashutosh obtained his BS in Electrical Engineering from NIT Rourkela, India, MS in Computer Science from NJIT, and Ph.D. in Electrical Engineering from Columbia University, New York. Ashutosh is a senior member of IEEE and ACM.*

## Session Chair





## **GREGORY M. ST. L. O'BRIEN**

*President  
International Technological University  
San Jose, California*



*Ph.D., Boston University, Psychology, 1969 M.A., Boston University, Psychology, 1968 A.B. (cum laude), Lehigh University, Social Relations, 1966 Doctor of Humane Letters honoris causa Lehigh University, 1994 Doctor of Laws honoris causa Western State University College of Law, 2006*

*February 2015-Present*

*International Technological University (ITU) is a graduate university, offering Masters degrees in Electrical, Computer and Software Engineering, Engineering Management, Business Administration and Digital Arts. ITU offers doctoral programs in Electrical & Computer Engineering and Business Administration. Founded in 1994 by the late Dr. Shu-Park Chan, ITU has developed a model of industry-linked graduate education that combines preparation in the fundamentals of each graduate discipline with coursework and projects that explore the most current trends and technologies in these disciplines. The Core faculty of ITU are doctorally prepared working professionals who are leaders in Silicon Valley high-technology industries, with a small cadre of full-time faculty leaders who coordinate the programs and offerings in each discipline. The university offers a large internship program for foreign and domestic students, closely tied to the student's major field of study. The university serves approximately fifteen hundred students in evening, weekend, online and hybrid courses. The university is accredited, at the Master's and Doctoral levels, by the WASC Commission for Senior Colleges and Universities (WSCUC).*

## **Welcome Speech**



## Ramjee Prasad

*Founder President, CTIF Global Capsule  
Professor, Future Technologies for Business Ecosystem Innovation,  
Department of Business Development and Technology, Aarhus  
University, Herning, Denmark*



*Dr. Ramjee Prasad is a Professor of Future Technologies for Business Ecosystem Innovation (FT4BI) in the Department of Business Development and Technology, Aarhus University, Herning, Denmark. He is the Founder President of the CTIF Global Capsule (CGC). He is also the Founder Chairman of the Global ICT Standardisation Forum for India (GISFI), established in 2009. GISFI has the purpose of increasing of the collaboration between European, Indian, Japanese, North-American and other worldwide standardization activities in the area of Information and Communication Technology (ICT) and related application areas.*

*He has been honored by the University of Rome "Tor Vergata", Italy as a Distinguished Professor of the Department of Clinical Sciences and Translational Medicine on March 15, 2016. He is Honorary Professor of University of Cape Town, South Africa, and University of KwaZulu-Natal, South Africa.*

*He has received Ridderkorset af Dannebrogordenen (Knight of the Dannebrog) in 2010 from the Danish Queen for the internationalization of top-class telecommunication research and education.*

*He has received several international awards such as: IEEE Communications Society Wireless Communications Technical Committee Recognition Award in 2003 for making contribution in the field of "Personal, Wireless and Mobile Systems and Networks", Telenor's Research Award in 2005 for impressive merits, both academic and organizational within the field of wireless and personal communication, 2014 IEEE AESS Outstanding Organizational Leadership Award for: "Organizational Leadership in developing and globalizing the CTIF (Center for TeleInFrastruktur) Research Network", and so on.*

*He has been Project Coordinator of several EC projects namely, MAGNET, MAGNET Beyond, eWALL, etc. He is Fellow of IEEE, IET, IETE and WWRF.*

*He has published more than 30 books, 1000 plus journal and conference publications, more than 15 patents, over 100 PhD Graduates and larger number of Masters (over 250). Several of his students are today worldwide telecommunication leaders themselves.*

### **Introduction to CGC and CNS**



## Sudhir Dixit

Founder Skydoot,  
USA



*Sudhir Dixit is the CEO and a Co-Founder of Skydoot, Inc ([www.skydoot.com](http://www.skydoot.com)), a start-up in the content sharing and collaboration space. He is also a Fellow and Evangelist of Basic Internet at the Basic Internet Foundation (<http://basicinternet.org/>) in Norway. From December 2013 to April 2015, he was a Distinguished Chief Technologist and CTO of the Communications and Media Services for the Americas Region of Hewlett-Packard Enterprise Services in Palo Alto, CA, and prior to this he was the Director of Hewlett-Packard Labs India from September 2009. From June 2009 to August 2009, he was a Director at HP Labs in Palo Alto. Prior to joining HP Labs Palo Alto, Sudhir held a joint appointment with the Centre for Internet Excellence (CiE) and the Centre for Wireless Communications (CWC) at the University of Oulu, Finland. From 1996 to 2008, he held various positions with leading companies, such as with BlackBerry as Senior Director (2008), with Nokia and Nokia Networks in the United States as Senior Research Manager, Nokia Research Fellow, Head of Nokia Research Center (Boston), and Head of Network Technology (USA) (1996-2008). From 1987 to 1996, he was at NYNEX Science and Technology and GTE Laboratories (both now Verizon Communications) as a Staff Director and Principal Research Scientist.*

*Sudhir Dixit has 21 patents granted by the US PTO and has published over 200 papers and edited, co-edited, or authored six books (Wi-Fi, WiMAX and LTE Multi-hop Mesh Networks by Wiley (2013), Globalization of Mobile and Wireless Communications by Springer (2011), Technologies for Home Networking by Wiley (2008), Content Networking in the Mobile Internet by Wiley (2004), IP over WDM by Wiley (2003), Wireless IP and Building the Mobile Internet by Artech House (2002)). He is presently on the editorial boards of IEEE Spectrum Magazine, Cambridge University Press Wireless Series and Springer's Wireless Personal Communications Journal and Central European Journal of Computer Science (CEJS). He is Chairman of the Vision Committee and Vice Chair of the Americas region of the Wireless World Research Forum (WWRF). He also chairs the IEEE ComSoc Sub-Technical Committee on Fiber and Wireless Convergence.*

*From 2010 to 2012, he was an Adjunct Professor of Computer Science at the University of California, Davis, and is now a Docent of Broadband Mobile Communications for Emerging Economies at the University of Oulu, Finland. A Fellow of the IEEE, IET, and IETE, Dixit received a Ph.D. degree in electronic science and telecommunications from the University of Strathclyde, Glasgow, U.K. and an M.B.A. from the Florida Institute of Technology, Melbourne, Florida.*

**Title: Convergence of Human Sensing and IoT: Evolution towards the New Era of Wearables and Holistic Experience**





*Session 2: : Cross-/Inter-Disciplinary  
Innovation*



## MAY HUANG

*Director,  
Research and Development,  
International Technological University (ITU)*



*Dr. May Huang is chair of the electrical and computer engineering department and director of research and development at International Technological University (ITU). She also serves as a professor at School of Software and Microelectronics, Peking University (PKU) in China. She's an invited professor for teaching at Tsinghua University as well as Beijing University of Post and Telecommunication. She leads research activities at ITU including a joint research team with members from ITU and PKU. Dr. Huang brings more than 20 years of Silicon Valley IC design and software design experience to her work. She was a designer and project manager at VLSI Technology, Inc., Hitachi Semiconductor America, and Virtual Silicon Technology, etc. She participated as a member of working group and balloter on VITAL, Verilog and Analog Extensions of VHDL toward IEEE standard.*

*Dr. Huang holds a bachelor's degree from South China University of Technology, a master's degree from Santa Clara University and a doctorate from ITU, all in electrical engineering. She was the first PhD graduate at ITU completed under the supervision of ITU founder Dr. Shu-Park Chan. Her research interests are low power IC design and methodology and artificial intelligence.*

### Session Chair



## HARIKRISHNA NAKSHATRI

*Co-Program Leader, Breast Cancer Program, IU Simon Cancer Center  
Indiana University School of Medicine  
Research Scientist, VA Roudebush Medical Center, Indianapolis, USA*



- 1/96-6/02 Assistant Professor, Indiana University School of Medicine, Department of Surgery, Indianapolis, IN*
- 1996-present Associate Member, Graduate Faculty, Indiana University, Indianapolis, IN*
- 9/97-6/02 Assistant Member, Walther Oncology Center, Indiana University School of Medicine, Indianapolis, IN*
- 12/00-04/06 Adjunct Faculty, Veterinary Clinical Science, Purdue University, West Lafayette, IN*
- 7/02-06/08 Associate Professor, Indiana University School of Medicine, Departments of Surgery, Biochemistry and Molecular Biology, Indianapolis, IN*
- 7/02-2009 Member, Walther Oncology Center, Indiana University School of Medicine, Indianapolis, IN*
- 2004-2008 Marian J. Morrison Investigator in Breast Cancer Research, Indiana University School of Medicine, Indianapolis, IN*
- 2006-2010 Associate Professor (Adjunct), Basic Medical Sciences, Purdue University, West Lafayette, IN*
- 2006-2009 Co-leader, Molecular Carcinogenesis program, IU Cancer Center*
- 07/08- Professor, Indiana University School of Medicine, Departments of Surgery, Biochemistry and Molecular Biology, Indianapolis, IN*
- 09/08- Marian J. Morrison Chair in Breast Cancer Research, Indiana University School of Medicine*
- 10/09- Associate Director of Education, IU Simon Cancer Center*
- 04/10- Program Co-Director, Cancer Biology Training Program*
- 02/11- Co-Program Leader, Breast Cancer Program, IU Simon Cancer Center*
- 05/11-2014 Director, IUPUI Breast Cancer Signature Center*
- 06/11-2013 Director, Future Scientist Program, IUSCC- American Cancer Society*
- 03/13- Associate Member, Center for Computational Biology and Bioinformatics*
- 05/15- Research Health Scientist, VA Roudebush Medical Center, Indianapolis*
- 12/17 Research Scientist, VA Roudebush Medical Center, Indianapolis.*

**Title: Integrating novel technologies to understand normal breast and breast cancer biology at individual level**



## PETER LINDGREN

*Professor,  
Multi business model and Technology innovation ,  
Aarhus University,  
Denmark*



*Professor Peter Lindgren, Peter Lindgren holds a full Professorship in Multi business model and Technology innovation at Aarhus University – Business development and technology innovation and has researched and worked with network based high speed innovation since 2000. He is author to several articles and books about business model innovation in networks and Emerging Business Models. He has been researcher at Politecnico di Milano in Italy (2002/03) and Stanford University, USA (2010/11) and has in the time period 2007 – 2010 been the founder and Center Manager of International Center for Innovation [www.ici.aau.dk](http://www.ici.aau.dk) at Aalborg University. He works today as researcher in many different multi business model and technology innovations projects and knowledge networks among others E100 - <http://www.entovation.com/keadmap/>, Stanford University project Peace Innovation Lab <http://captology.stanford.edu/projects/peace-innovation.html>, The Nordic Women in business project - [www.womeninbusiness.dk/](http://www.womeninbusiness.dk/), The Center for TeleInFrastruktur (CTIF) at Aalborg University [www.ctif.aau.dk](http://www.ctif.aau.dk), EU FP7 project about "multi business model innovation in the clouds" - [www.Neffics.eu](http://www.Neffics.eu). He is co-author to several books. He has an entrepreneurial and interdisciplinary approach to research and has initiated several Danish and International research programmes.*

*His research interests are multi business model and technology innovation in networks, multi business model typologies and new global business models.*

**Title: Tangible and Intangible Relations in Multi Business Model Innovation**



## **R. CHANDRAMOULI (MOULI)**

*Thomas Hattrick Chair Professor,  
Department of Electrical and Computer Engineering,  
Stevens Institute of Technology, USA*



*Dr. Chandramouli (Mouli) is the Thomas Hattrick Chair Professor of Information Systems in the Department of Electrical and Computer Engineering (ECE) at Stevens Institute of Technology and the Director of the NSF SAVI: Institute for Cognitive Networking. He is a Co-Founder and CEO of Spectronn, a cognitive mobile IoT company and a Co-Founder and CTO of Jaasuz, a cognitive computing based FinTech start-up.*

**Title: Combining Cognitive Networking and Computing for Mobile IoT**





## ASOK DE

*Director,  
National Institute of Technology Patna, India*



- 1) *Member of Central Counselling Board, Ministry of HRD, Govt. of India.*
- 2) *Programme Director, Central Counselling Board, Ministry of HRD, Govt. of India, 2004-05, 2005-06, 2006-07.*
- 3) *Member of the Technical Committee for introduction of Smart Card in Ministry of Transport, Govt, of Delhi.*
- 4) *Member of Accreditation team of AICTE*
- 5) *Head, Deptt. Computer Engineering, Delhi College of Engineering, 1998-2002*
- 6) *Head, Deptt. of Information Technology, Delhi College of Engineering, 2003 -2005*
- 7) *Chairman of Different Administrative Committee of Delhi College of Engineering*
- 8) *Member of the committee for affiliating engineering colleges under Govt. of NCT of Delhi*
- 9) *Chief Warden, Delhi College of Engineering, 1998-2002.*
- 10) *Member of the MHRD expert committee on Community Polytechnic.*
- 11) *Member of court, University of Delhi, 2006.*
- 12) *Chairman and member of different committees of Board of Technical Education, Govt. of NCT of Delhi.*
- 13) *Principal, Ambedkar Institute of Technology, Geeta Colony, Delhi-110 031.*
- 14) *Expert Member for the automation of weight and measure department of Govt. of Delhi.*
- 15) *Co-Chairman, Assessment board of Electronics, RAC, DRDO, Govt. of India.*
- 16) *Member, Academic Council, GGSIP University.*
- 17) *Member, Board of Management, GGSIP University*
- 18) *Member, Academic Council, Delhi Technological University.*
- 19) *Member, Board of Management, DTU Delhi.*
- 20) *Member Court, CUB, Bihar.*

**Title: Science and Technology of Ancient India**



## *Session 3: Network and Security*



## PETER LINDGREN

*Professor,  
Multi business model and Technology innovation ,  
Aarhus University,  
Denmark*



*Professor Peter Lindgren, Peter Lindgren holds a full Professorship in Multi business model and Technology innovation at Aarhus University – Business development and technology innovation and has researched and worked with network based high speed innovation since 2000. He is author to several articles and books about business model innovation in networks and Emerging Business Models. He has been researcher at Politecnico di Milano in Italy (2002/03) and Stanford University, USA (2010/11) and has in the time period 2007 – 2010 been the founder and Center Manager of International Center for Innovation [www.ici.aau.dk](http://www.ici.aau.dk) at Aalborg University. He works today as researcher in many different multi business model and technology innovations projects and knowledge networks among others E100 - <http://www.entovation.com/leadmap/>, Stanford University project Peace Innovation Lab <http://captology.stanford.edu/projects/peace-innovation.html>, The Nordic Women in business project - [www.womeninbusiness.dk/](http://www.womeninbusiness.dk/), The Center for TeleInFrastruktur (CTIF) at Aalborg University [www.ctif.aau.dk](http://www.ctif.aau.dk), EU FP7 project about "multi business model innovation in the clouds" - [www.Neffics.eu](http://www.Neffics.eu). He is co-author to several books. He has an entrepreneurial and interdisciplinary approach to research and has initiated several Danish and International research programmes.*

*His research interests are multi business model and technology innovation in networks, multi business model typologies and new global business models.*

### Session Chair



## DORU CALIN

*Director and Domain Leader,  
Nokia Mobile Networks, USA*



*Doru Calin is a Bell Labs Fellow, Director and Domain Leader with Nokia Mobile Networks CTO in Murray Hill, with broad responsibilities for accelerating innovations in 5G, mobile network virtualization, mobile cloud computing, cloud based technologies, IoT and verticals for adding business value to networks. He serves also as an Adjunct Professor with Columbia University, New York City and as an Associate Editor of IEEE Communications Letters. At Nokia, he held a variety of positions in research, applied research, and management of research. Prior to joining Bell Labs in 2001, he was a researcher with the Institut National des Telecommunications (now TELECOM and Management SudParis), Paris, France, a Technical Consultant with Bouygues Telecom, and a Senior Research Engineer with Motorola Research Labs, Paris.*

*Dr. Calin has been leading the creation and incubation of novel, disruptive technologies from inception stage to field trials in Operator specific environments and commercialization. He was awarded the Bell Labs Fellowship in 2016 with the citation 'for bridging the gap between theory and practice with key innovations at the foundation of the first metro cell products, commercial wireless capacity planning services and network protocols optimization solutions'.*

*He has received a number of major awards, including two Bell Labs President's Gold Awards (2005, 2008), four Bell Labs Teamwork Awards (2003, 2004, 2006, 2011), IEEE WCNC 2015 best paper award, IEEE Globecom 2013 HetNets Workshop best paper award, and the Motorola 3GPP Standard Award (2000).*

*He received the M.S. degree in electrical engineering from the University of Bucharest, Romania, in 1994, the M.S. degree in electrical and computer engineering from the University of Versailles, in 1995, and the Ph.D. (high honors) degree in electrical and computer engineering from TELECOM SudParis and University of Versailles, France, in 1998.*

*He holds 29 independent patents awarded in multiple countries, over 25 patents filed and pending, and has authored over 70 papers in scientific journals, book chapters, and refereed conferences.*

### **Title: Challenges and Opportunities In the New Networking Era**



## VENKAT RAYAPATI

*Founder & CEO  
SAI Technology, Inc*



*Prior to SAI, Dr. Rayapati worked as Vice President of Design Engineering at Chartered Semiconductor, and served as Chief Technology Officer & Chief Operating Officer of Xalted Networks Inc. Rayapati also co-founded Portal Player Inc. (now part of NVidia) as their VP of Engineering & CTO. He has over twenty years of experience in Cyber Security, Wireless Video, and Artificial Intelligence. Before that he worked at Lucent Technologies as Director of Product Development, responsible for development of the broadband access products. He won Bell Labs President Award for the innovation of Stinger and Eagle Products.*

*He held several technical positions at Nortel Networks, National Semiconductor (Chief Architect) and AMD (Architecture Manager of K6 & K7). Dr. Rayapati was also on the Board of Directors at Digital Video Systems Inc. and has held various technical advisory board memberships at Zarlink Semiconductor. Dr. Rayapati holds a Doctoral degree in Electrical and Computer Engineering from University of Montreal, Canada.*

*He has also taught several courses at UC Berkeley and UC Santa Cruz in emerging Wireless, Optical Communications, Telecom, Artificial Intelligence and Cyber Security related advanced technologies. Dr. Rayapati has published approximately 35 papers in various reputable International Journals and Conferences.*

**Title: Next Gen Cyber Security Challenges in Cloud**





## MAHBUBUL ALAM

*Chief Technology Officer,  
Movimento Group, USA*



*Mahbulul Alam joined Movimento as CTO/CMO in 2015 and is responsible for aligning automotive and information technology with corporate strategy to enable Movimento to lead the automotive industry's transition to software-defined vehicles. A 17-year industry veteran, Mahbulul works with Movimento customers to maximize the potential of secure over-the-air (OTA) updates and enable new connected services for the vehicle.*

*Previously, Mahbulul led Cisco Systems strategy in IoT and M2M at where he pioneered and developed this business from the ground up through vision, strategy, platform, and execution. He also helped initiate the company's smart connected vehicle roadmap. Before joining Cisco, Mahbulul held technical leader positions at Siemens and worked as a technical advisor to the Dutch government.*

*Mahbulul holds a Master of Science degree in electrical engineering from Delft University of Technology, the Netherlands.*

### **Title: The Rise Of Internet Of Things**



*Round Table Discussions: Chitt-Kaya Nivesh Sthaan*  
*(CNS: Home for Mind and Body)*



## Neeli R. Prasad

*Founder CEO, SPA Solutions-LLC,  
USA*



*Neeli Prasad is the Founder CEO of the SPA solutions-LLC, Mount View, California, USA. She was Research Head, CTIF, Aalborg University, Denmark and Director CTIF-USA, Princeton, NJ.*

*She is a security and wireless technology strategist, who through her career has been driving business and technology innovation, from incubation to prototyping to validation. She has focus and the abilities to transform organizations and networking technologies to address changes in markets. She has made her way up the waves of secure communication technology by contributing to the most groundbreaking and commercial inventions. She has general management, leadership, and technology skills, having worked for service providers and technology companies in various key leadership roles.*

*She was leading a global team of 20+ researchers across multiple technical areas and projects in Japan, India, throughout Europe and USA. She has been involved in projects and plays a key role from concept to implementation to standardization. Her strong commitment to operational excellence, innovative approach to business and technological problems, and aptitude for partnering cross-functionally across the industry have reshaped and elevated her role as project coordinator making her the preferred partner in multinational and European Commission project consortium.*

*Her notable accomplishments include enhancing the technology of multinationals including CISCO, HUAWEI, NIKSUN, Nokia-Siemens and NICT, defining the reference framework for Future Internet Assembly and being one of the early key contributors to Internet of Things. She is also expert member of governmental working groups and cross-continental forums.*

*Previously, she has served as chief system/network architect on large-scale projects from both the network operator and vendor looking across the entire product and solution portfolio covering security, wireless, mobility, Internet of Things, Machine-to-Machine, eHealth, smart cities and cloud technologies. She was one of the key contributors to the commercialization of WLAN for which she has published two books*

**Moderator: Round Table Discussions: Chitt-Kaya Nivesh Sthaan (CNS: Home for Mind and Body)**



## KARL WANG

*Director of Technologies  
Vice President of Technology and Research  
Professor of Electrical and Computer Engineering  
International Technological University (ITU)*



*Karl brings 30 years of Silicon Valley technology industry expertise to ITU as VP of Technology and Research and as professor of electrical and computer engineering. His focus is building mutually beneficial relationships between ITU's growing research programs and Silicon Valley's most innovative companies and industries. For example, with Karl's guidance, ITU students develop an IoT system and applied to design prototype systems including smart meter energy management system, battery management system, and wearables. He is interested in seeking an industry partner to further develop and commercialize these systems.*

*During his career as an electrical engineer, Karl has contributed to the birth and development of Silicon Valley technology and its worldwide renown. He has guided international research and development teams at leading high-tech companies, including Motorola, Silicon Motion, ARM, Texas Instruments and UMC. As director of microprocessor development at Hitachi, Inc., he led a team of 60 design engineers from Hitachi and ST Microelectronics in a joint venture to develop a 400MHz, 64-bit SH5 embedded microprocessor core for "system on chip" products. At Motorola, he developed the first generator of PowerPC microprocessors. These leadership positions gave Karl the opportunity to coach and develop the careers of many young engineers. He found sharing his expertise to be so personally rewarding that he decided to teach full time at the university level.*

*Today, Karl is a leading educator in the fields of electrical engineering and computer architecture. As the Laspa professor of electrical engineering practice at Harvey Mudd College, he used his industry expertise to educate students via real-world experiences—the approach he now uses with students at ITU. Karl has published 22 technical papers and holds 24 patents with several more pending. He also has served as committee chairman for two IEEE International Electron Devices Meetings and a VLSI Circuit Symposium.*

*Karl enjoys giving students hands-on experience and helping them to mature and know what is relevant in the industry. His goal is to inspire them to do their best work and be successful in their careers. Through his industry contacts and deep knowledge of the field, Karl ensures that research done at ITU is interesting to both his students and their future employers.*

*Karl earned his bachelor's degree from Rice University and his master's and Ph.D. degrees from the Massachusetts Institute of Technology, all in electrical engineering. He speaks Mandarin Chinese in addition to English.*

## Panelist: Round Table Discussions: CNS



## ASOK DE

*Director,  
National Institute of Technology Patna, India*



- 1) *Member of Central Counselling Board, Ministry of HRD, Govt. of India.*
- 2) *Programme Director, Central Counselling Board, Ministry of HRD, Govt. of India, 2004-05, 2005-06, 2006-07.*
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- 11) *Member of court, University of Delhi, 2006.*
- 12) *Chairman and member of different committees of Board of Technical Education, Govt. of NCT of Delhi.*
- 13) *Principal, Ambedkar Institute of Technology, Geeta Colony, Delhi-110 031.*
- 14) *Expert Member for the automation of weight and measure department of Govt. of Delhi.*
- 15) *Co-Chairman, Assessment board of Electronics, RAC, DRDO, Govt. of India.*
- 16) *Member, Academic Council, GGSIP University.*
- 17) *Member, Board of Management, GGSIP University*
- 18) *Member, Academic Council, Delhi Technological University.*
- 19) *Member, Board of Management, DTU Delhi.*
- 20) *Member Court, CUB, Bihar.*

## Panelist: Round Table Discussions: CNS





## **RASMUS HJORTH NIELSEN**

*Senior Director of Product Management,  
Movimento Inc., USA*



*Currently heading product management at Movimento for over-the-air software updates in automotive. More than ten years of R&D and business experience in industry and academia. Founder and partner of R&D intensive network planning companies. Working in the field of Communications and Networks focusing on Secure Network Architectures, Wireless Sensor Networks, Internet of Things, Optical Network Planning and Optimization, Virtualization and Management. From 2010 in academia as Postdoc and from 2011 to 2012 as Assistant Professor. Technical manager on several industrial and European Commission (EC) projects. Project management and write-up for several project proposals. Formerly principal architect in New Ventures as part of IOTG, Cisco Systems, driving IoT platform, edge computing and deterministic Ethernet. Broad R&D knowledge in architectures, operational research and optimization. Expertise in applied R&D for market and industrial needs. Current focus on Internet of Things (Wireless Sensor Networks, RFID, etc.), planning, monitoring, optimization, security and virtualization of next generation networks/future internet (NGN/FI) and architectures.*

### **Panelist: Round Table Discussions: CNS**



## SESHADRI MOHAN

*Professor,  
University of Arkansas , USA*



*Seshadri Mohan is currently a professor in Systems Engineering Department at University of Arkansas at Little Rock, where, from August 2004 to June 2013, he served as the Chair of the Department of Systems Engineering. Prior to the current position he served as the Chief Technology Officer (CTO) and Acting CEO of IP SerVoniX, where he consulted for several telecommunication firms and venture firms, and served as the CTO of Telsima (formerly known as Kinera). Besides these positions, his industry experience spans a decade at New Jersey-based Telcordia (formerly Bellcore) and Bell Laboratories. Prior to joining Telcordia, he was an associate professor at Clarkson and Wayne State Universities.*

*Dr. Mohan has authored/coauthored over 100 publications in the form of books, patents, and papers in refereed journals and conference proceedings with citations to his publications in excess of 2390. He has co-authored the textbook *Source and Channel Coding: An Algorithmic Approach*. He has contributed to several books, including *Mobile Communications Handbook* and *The Communications Handbook* (both CRC Press). He holds fourteen patents in the area of wireless location management and authentication strategies as well as in the area of enhanced services for wireless. He is the recipient of the SAIC Publication Prize for Information and Communications Technology. He has served or is serving on the Editorial Boards of *IEEE Personal Communications*, *IEEE Surveys*, *IEEE Communications Magazine*, and *International Journal on Wireless Personal Communications* (Springer) and has chaired sessions in many international conferences and workshops. He has also served as a Guest Editor for several Special issues of *IEEE Network*, *IEEE Communications Magazine*, and *ACM MONET*. He served as a guest editor of 2015 October *IEEE Communications Feature Topic* titled “Social Networks Meet Next Generation Mobile Multimedia Internet,” March 2012 *IEEE Communications Feature Topic* titled “Convergence of Applications Services in Next Generation Networks” as well as the June 2012 *Feature Topic* titled “Social Networks Meet Wireless Networks.” In April 2011, he was awarded 2010 *IEEE Region 5 Outstanding Engineering Educator Award*. He received the best paper award for the paper “A Multi-Path Routing Scheme for GMPLS-Controlled WDM Networks,” presented at the 4th *IEEE Advanced Networks and Telecommunications Systems* conference.*

*Dr. Mohan holds a Ph.D. degree in electrical and computer engineering from McMaster University, Canada, the Masters degree in electrical engineering and computer science from the Indian Institute of Technology, Kanpur, India, and the Bachelors degree in Electronics and Telecommunications from the University of Madras, India.*

### **Panelist: Round Table Discussions: CNS**



Second Workshop of CTIF Global Capsule (CGC) jointly with the  
Round Table Discussions on Future Technologies for Business  
Ecosystem Innovation  
(FT4BI)

**Venue**

Department of Business Development and Technology  
Aarhus University, Birk Centerpark 15, Herning, Denmark

**Date**

April 26-28, 2017



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