

R. VENKATESHA PRASAD

Asst. Professor, IEEE Distinguished Lecturer, Fellow IETE
Embedded Software, EEMCS,
Delft University of Technology

Mekelweg 4, 2628 CD Delft, The Netherlands
rvprasad@ieee.org | +31 (0) 15 278 6272 | [LinkedIn](#)

PROFILE

Dr. R Venkatesha Prasad is an assistant professor at Embedded Software group of Delft University of Technology (TU Delft) since 2013. Between 2005 and 2012, he was a senior researcher and adjunct faculty at TU Delft. At TU Delft, he has supervised 18 PhD students (15 graduated, 3 ongoing) and 43 MSc students (36 graduated). He has (co-)authored more than 200 publications in the peer-reviewed international transactions/journals and conferences in the areas of Tactile Internet, Internet of Things (IoT), Cyber Physical Systems (CPS), Energy-harvesting, 60 GHz mmWave networks, Smart-energy systems, Personal networks, Cognitive Radios and Voice over Internet Protocol (VoIP). He has been successful in acquiring and executing several European and Dutch national projects in the areas of IoT, Future home networks (60 GHz), Smart-energy systems, Personal networks, and Cognitive Radios.

Venkatesha Prasad received his **4TU University Teaching Qualification diploma** with **excellence** in 2015. Recognizing his research contributions to IoT, he has been selected as an **IEEE Communication Society (ComSoc) Distinguished Lecturer** on Internet of Things for the period 2016-2018. He has been contributing significantly to valorise research to practice by contributing to standards on Cognitive radios and Tactile Internet. He is currently the vice-chair of IEEE Tactile Internet standardization group. He is also leading many IEEE activities through positions in standards boards (secretary in the ComSoc standards board) and technical committees (vice-chair of cognitive networking committee in 2013-16). He is on the editorial board of many international transactions and magazines and is a regular TPC member for many prestigious journals and conferences. He is a **senior member** of IEEE and ACM.

He was responsible for the signing of **MoU between IISc - TU Delft** and he is anchoring **ISRO-TU Delft cooperation**. He completed his **PhD from IISc, Bangalore, India in 2003**. During his PhD research, a scalable **VoIP conferencing platform** was designed. **His thesis work led to a start-up venture, Esqube Communication Solutions**. While at Esqube, **eight patent** applications and three PCT applications were filed along with his colleagues. He was instrumental in Esqube's selection as top 100 IT innovators in India in 2006 by NASSCOM and top 100 promising companies in Asia by RedHerring in 2008.

RESEARCH INTERESTS

Broad research interests include many aspects of wireless networking. In particular: **Tactile Internet**, (Space-) **Internet of Things**, **Cyber Physical Systems** and **5G Networks**. Recently he started leading a team on building a **Moon rover**.

ACADEMIC EXPERIENCE

March 2012 - Present	Assistant Professor, Embedded Software, TU Delft (0.7 FTE)
July 2006 - February 2012	Senior Researcher, WMC, TU Delft (0.55 FTE)
March 2005 - June 2006	Post-doctoral researcher, WMC, TU Delft
April 1992 - July 1992	Lecturer, MCE, Hassan, affiliated to Mysore University, India.

PUBLICATIONS (CITATIONS – 3.7K, H-INDEX 30, [GOOGLE SCHOLAR](#))

Journals/Transactions	54	IEEE Standards	12
Peer-reviewed conferences	160	Book Review and Invited Articles	8
Peer-reviewed book chapters	11	Patent Applications	9

ACADEMIC ACTIVITIES

SUPERVISION OF STUDENTS

Post-doctorates	5	PhD students	15 (+3)
MSc students	36 (+7)	Bachelor students	~35 (12 projects)

PROFESSIONAL ACTIVITIES

Successful Project Acquisitions	13	Editorial Board of Journals (Editor, Exe. Editor)	11
Organizing Technical Workshops	33	Organizing Committees, Program Committee chair	42
Conference (Unique)TPC memberships	87	Reviewer Transactions/Journals & Conferences	101
Tutorials and Invited Talks	27	Membership of Technical Committees/Associations	23

INDUSTRY EXPERIENCE

Jun 2006 – Dec 2009	Senior Design Consultant (Part time) , ESQUBE, Bangalore, India
Nov 2003 - Mar 2005	Design Consultant (Full time) , ESQUBE, Bangalore, India
Apr 1999 - Jul 2003	Project Associate and Consultant , CEDT, IISc, Bangalore, India
Feb 1996 - Jul 1996	Project Associate , ERNET Lab, ECE, IISc, Bangalore, India
May 1995 - Feb 1996	Consultant , TPC Energy Management, Bangalore, India
July 1993 - Mar 1994	Project Trainee , Bharat Electronics, Bangalore, India

HONOURS AND RECOGNITIONS (SELECTED)

1. Selected by the **External Affairs Minister of India** as **one of the 10 leading Indian scientists outside India** to discuss/advise on “**Developing Cyber Capacity of India**”.
2. Invited to attend **Microsoft Research Faculty Summit**, 2018.
3. **Best paper award**, ACM/IEEE Internet of Things - Design and Implementation, 2018.
4. IEEE ComSoc **Distinguished Lecturer on Internet of Things** (1 out of 10 newly appointed DLs) in 2017.
5. **My work on TUDelft’s moon & space projects were covered by the Dutch national [TV NOS primetime news](#), May 2018.**
6. **Impact:** High school students could implement our ACM/IEEE IPSN 2015 work for saving hedgehogs ([link](#)).
7. **Best paper award**, IEEE PIMRC, 2009.
8. **IEEE Outstanding Contributor Award** for IEEE P1900.2 Workgroup contributions, 2008.

MAJOR POSITIONS HELD (SELECTED)

1. **Vice-chair** of IEEE P1918.1 standard on Tactile Internet.
2. IEEE TCCN **Vice-chair** (2011-2016), **Secretary** (2009-2010).
3. **Secretary** of IEEE ComSoc Standards Development Board, 2012-2013.
4. Elected as IEEE CSDB Liaison for IEEE TCCC, IEEE TCCN, TCGCC and IEEE AHSNTC.
5. Selected as **Dutch national representative** to COST IC0905 (Cognitive Networks), 2009-2013.

EDITORIAL BOARDS AND CONFERENCE ORGANIZATIONS (SELECTED)

1. Editor, IEEE Communication Surveys and Tutorials.
2. Editor, IEEE Transaction on Green Computing and Networking.
3. Organizing Committee, IEEE INFOCOM.
4. Organizing Committee, ACM MobiHoc.

ACADEMIC ACTIVITIES (DETAILED)

Project Proposals

- Project acquisitions with a success rate of ~37%.
- Funded by Dutch national government agencies and the EU FP7 and H2020 program.

On IoTs, Sensors, Energy, and Personal Networks

1. iCORE (One of the founding members, EU FP7 Project, 2 PhDs, 700k€)
2. GoGreen (IoPGencom, 1 PhD, 230k€)
3. MISCEA (Member, Implementation Work, ~100k€)
4. MAGNET Beyond (with Prof. Niemegeers, 2PhDs, PostDoc, 800k€)
5. Joule Jotter (Initiated this proposal, ACM worldwide community project, US\$27000)
6. SCOTT (EU H2020, 2 PhDs, 535k€)
7. WISHFUL (EU H2020, 46k€)
8. WINLAS (EU Defense Agency, 1 PhD, 230K€)
9. Research Funding by Cognizant Technology Services (Lead, 1.6M€, 2 PostDocs, 4 PhD)

On 5G Networking

10. SOWICI (NWO, 1 PhD, ~230K€)
11. MEANS (NWO, 1 PhD (moved to TU/e), 230K€)
12. FHN (with Prof. Niemegeers, IOP GenCom, 2 PhDs+PostDoc, 700k€)

On Coordination and Support Action

13. PEDCA -Pan-European Data Centre Academy (CSA, 130k€)

Students Supervised

PostDocs

Student's name	Research topic	Year
Vijay Rao	Space Robotics	2018
Kishor Chandra	Tactile Internet	2017
Javad Vazifehdan	Energy Aware Sensor Networks	2012
Xueli An	60GHz Networks Green Networks	2010
Jing Wang	Heterogeneous Networks	2010

PhDs

Student's name	Thesis title	Year
Kees Kroep	Edge computing for Tactile Internet	Current
Nikolaos Kouvelas	Energy Harvesting in IoT for smart infrastructure	Current
Sujay Narayana	The next generation Space Internet of things	Current
Akshay Utama Nambi	Personalized Energy Services: A Data-Driven Methodology towards Sustainable, Smart Energy Systems (currently with Microsoft Research)	2017
Vijay Rao	Ambient-Energy Powered Multi-Hop Internet of Things (currently with TU Delft PostDoc)	2017
Kishor Chandra	Towards realizing 5G: Efficient medium access and beamwidth adaptations in 60 GHz communications (currently with TUDelft)	2017
Chayan Sarkar	Virtualizing the Internet of Things (currently with TCS Research)	2016
Bien Quang	Handoff management in Radio over Fiber 60GHz indoor networks (currently with Vietnam Telecom)	2014
Stefan Aust	Advanced Wireless Local Area Networks in the Unlicensed Sub-1GHz ISM-bands (currently with NEC Japan)	2014

Shi Huai Zhou	Fairness and Resource Allocation in Device-to-Device Wireless Regional Area Network (European Patent Office, Rijswijk)	2014
T V Prabhakar	An Empirical Approach to Zero Energy Networking (currently with Indian Institute of Science)	2012
Javad Vazifehdan	Energy Aware Wireless Multi-hop Networks (Cum Laude) (currently with ASML, Eindhoven)	2011
Jing Wang	Network Technologies for Future Home Networks using 60GHz (currently with CISCO, Germany)	2010
Xueli An	Medium Access Control and Network Layer Design for 60GHz Wireless Personal Area Network (currently with Bell Labs, Belgium)	2010
Cheng Guo	Simple, reliable, scalable and energy efficient wireless sensor networks	2010
Yanying Gu	Personal Networks: Mobility and Clustering (currently with KPN Research)	2010
P. Pawelczak	Opportunistic Spectrum Access – Designing Link and Transport Layers (currently with TU Delft)	2009
Bao Linh Dang	Toward Seamless Networking in Indoor Environments in Millimeter Wave Bands (currently with Intel Research)	2008

Master of Science Thesis

Student's name	Thesis title	Year
Gauri Tawade	Scalability in LoRaWAN	2018
Sergio Soto Munoz	Telehealth and Remote Monitoring of the Elderly, a Generic IoT Approach	2018
Anand Haridas	Extending the lifetime of NB-IoT devices through Energy-Harvesting Techniques	2018
Bontor Humala	Semi-supervised Energy Disaggregation Framework using General Appliance Models	2018
Shruthi Kashyap	Adapting TCP/IP protocol to a Time-Slotted NFC Channel present in a Wireless Power Environment	2017
Duncan Lew	Integration of V2H/V2G Towards Effective Demand-Response Programs	2017
Renukaprasad Manjappa	Crowd Distribution Estimation using Smart Lighting Grids	2017
Anggrit Pinangkis	On Reduction of Beam-Searching Overhead in 60 GHz Communications	2017
Atul Pandaravila Biju	An Energy-Harvesting Facade Optimization System for Built Environments	2017
Luis A. Moreira Cardoso	Solar Powered Passive Wireless Moisture Sensor with Cloud Communication	2017
Nikos Kouvelas	Energy Allocation Strategies for Micro Grids	2017
Alexander de Moes	AirLoc: Pedestrian Dead Reckoning for Passenger Localization	2017
Paul Marcelis	Frame Loss Characterization and Data Erasure Coding for LoraWAN	2016
Rizqi Hersyandika	Characterization of Human Blockage in 60GHz Communication	2016
Henrik John	Enabling Localization based services using wearable and handheld	2016
Luis Alfonso Gonzalez Godinez	Micro Activity Recognition using Wearables for Human Augmentation	2016
Eloi Garrido Barrabes	Opportunistic Routing for Indoor Energy Harvesting WSNs	2016
Arpan Govindraj	Sensing Locations: Occupancy Sensor Data Driven Automatic Determination of Sensor Locations	2016

Andres Moreno	Design of a real-time micro-winch controller for Kite-Power Applications	2015
Xin Wang	Topology Control in Energy-Harvesting Wireless Sensor Networks	2015
Antonio Reyes Lua	Location-aware Energy Disaggregation in Smart Homes (Cum Laude)	2015
Sujay Narayana	Orchestrating Mixed-Criticality Melody: Reconciling Energy with Safety for Mixed-Criticality Embedded Real-Time Systems	2015
Jan Jaap Treurniet	From Check-in/Check-out to Be-in/Be-out: BLE-based Automated Journey Payment in Public Transportation (Cum Laude)	2015
Arjan Doff	Sensor-Assisted Movement Identification and Prediction for Beamformed 60 GHz Links	2015
Zhongxian Pan	Resource Allocation in Cognitive Radio Networks	2014
Prasanna Gururaj	VoIP support in LTE networks	2012
Preethi Prada	BOSCH: Wireless Network Tuning for Real-time Applications	2012
Pavan Gaonkar	TomTom: File Updates in V2V Networks	2012
Shruthi D	Neighbor Discovery in Energy Harvesting WSNs	2012
Ke Dong	Clustering in Wireless Networks	2011
Zhao Yukun	Human Mobility Models	2010
Hani Dabbagh	Free-space Optical Emulator for 60 GHz directional antenna equipment	2009
Vijay S	Allocation of Opportunistic Spectrum for Cognitive Radio Ad hoc Networks (Cum Laude)	2009
Yiyu Zhao	Performance study of scheduling algorithms for WiMAX Networks	2007
Yanying Gu	Clustering for Personal Networks	2006
Yonghua Li	FEW PeaNets: A Framework for Emulation of Wireless Personal Area Networks	2006

Education

Degree/Diploma	Institution/University	Year	Grade
4TU University Teaching Qualification	TU Delft, the Netherlands	2014	“Excellent”
Ph.D	Indian Institute of Science, Bangalore, India	2004	NA
M. Tech (Industrial Electronics)	Mysore University (S. J. C. E Mysore)	1994	Distinction
B. E. (Electronics & Communication)	Mysore University (M. C. E Hassan)	1991	Distinction
Class XII	Karnataka State Pre-University Education Board	1987	Distinction
Class X	Karnataka State Secondary Education. Board	1985	Distinction

Theses

Ph.D Thesis: *A New Paradigm for Audio Conferencing on Voice Over IP (VoIP)* - Indian Institute of Science, Bangalore, India, 2003. Committee: *Prof. H S Jamadagni (IISc), Prof. Martin Vetterli (EPFL), Prof. Vishveshwaran (IIT Delhi)*

This work involved the following aspects: (a) Design of a novel distributed audio conferencing architecture; (b) System design and building various servers and client for the conferencing support on IP networks; (c) Analysis of the real-time packets and designing the systems accordingly; (d) Conceiving various algorithms for the automatic selection of participants; (e) Studying behavioral aspects of humans in a conference; (f) Simple Voice Activity Detection algorithms; and (g) Building the prototype

system and testing them. The work also involved indigenous conferencing protocol design since SIP had no distributed conferencing support when the work was carried out. The work was completely executed and demonstrated with the help of a prototype.

Master's project: Scaled Down Model of an S Band Coupled Cavity Traveling Wave Tube (TWT) Power Supply - Bharat Electronics Ltd., India, 1994.

TWT used in Radars, needs a high power ripple free DC voltage (45KV, 26KW). The power supply model was developed at Bharat Electronics, Bangalore, India. In this project, I modelled a Resonant Mode DC-DC Converter to avoid high power spikes. Since the power involved is in the order of tens of KW, SCRs were used as the switching devices. To find the values of the L and C of the tank circuit, a mathematical model was developed along with a numerical iterative algorithm to fix the values of L and C. A Pspice simulation a scaled down 0.5KW converter was built and tested successfully.

Undergraduate project: Microprocessor based Real Time Voice Encryption - MCE, Hassan, India, 1991.

This project was intended to protect voice transmission for military and intelligence purposes against possible intrusion through encryption. A pilot system was developed using 8085 Microprocessor. The voice signals were digitized and then were encrypted digitally. A simple algorithm for encryption was developed. An USART based serial transmission and reception was also implemented as part of the project to test and demonstrate the ideas proposed in the project.

Teaching and Lectures

Courses Offered

1. Instructor for MSc course on Ad Hoc Networks (TU Delft, 2013-Present).
2. Instructor for MSc course on Internet of Things (TU Delft, 2013- Present).
3. Instructor for BE courses at MCE, Hassan, India, 1992:
 - a. Computer Networks
 - b. Digital Circuits
4. Innovation in Teaching Courses:
 - a. <http://www.icto.tudelft.nl/nl/icto/nieuws/artikel/detail/it-for-teaching-msc-course/>
(OR) <https://www.youtube.com/watch?v=sjXSGBliakU&feature=youtu.be>
 - b. <https://www.youtube.com/watch?v=O6wzeczNieA&feature=youtu.be>
5. Guided 12 Bachelor Projects (~35 students).

Lectures

1. A Course on TCP/IP for Engineers from British Physical Laboratories (BPL), Bangalore, October 2000.
2. Continuing Engineering Education Programme (CEEP) course on VoIP at CEDT, IISc, Bangalore, for participants from academic institutions and industry, September 2002.
3. Lectures for students at the Dept. of Electrical Engineering, IISc, Bangalore on VAD and Personal Networks, 2008.
4. Cognitive Radio Networks – Guest lecture TU Delft (Ad hoc network course, 2010-2011).
5. Energy Harvesting in WSNs - Guest lectures TU Delft (Ad hoc network course, 2012).

Other Academic Activities (Reviewer & Examiner)

1. Served on 19 MSc Thesis Examination Committees at TU Delft, (2005-2018).
2. Invited to Project Review Panel, Natural Sciences, and Engineering Research Council of Canada (NSERC) Discovery Grant proposals, 2017 & 2018.
3. Project Reviewer, Academy of Finland Natural Sciences and Engineering Research, Finland, 2017.
4. Project Reviewer EU FIESTA Calls, 2016.
5. Invited to Project Review Panel of Research Foundation Flanders (FWO), Belgium, 2016.
6. Textbook Proposal reviewer, Morgan Kaufmann 2015.
7. Project Reviewer, H2020-TWINN-2015.
8. Board of studies for M.Tech program in Communication Engineering and Signal Processing, Amrita Vishwvay Vidya Peetham, Amrita University, 2014.

9. Springer Journal on Green Communication, Proposal reviewer, 2013.
10. Invited as a Juror for the Pirelli Innovation Award 2008.
11. Project Review Panel of Science Foundations of Ireland 2007.
12. Deputy Work Package Leader of WP2 – MAGNET Beyond project, 2006.
13. Developed Microprocessor Lab Primer for BE students of the state of Karnataka, 1992.

Bachelor's Projects Supervised

1. Automated Card Payment Testing.
2. Development of a software system for connecting Zigbee devices to an IoT gateway.
3. Video Mail plug-in for Browsers.
4. Voice Activity Detection.
5. Multipoint Data Acquisition System.
6. Integral Cycle Control of Power (using 8085).
7. Energy Monitoring System (using 8085).
8. Constant Firing Angle Triggering circuit for a variable frequency converter.
9. Industrial Process control.
10. Telephone to IP Gateway.
11. Networking of 8085 Microprocessors using Interrupt Controller and UART.
12. AC Link Inverter.

PROFESSIONAL ACHIEVEMENTS & ACTIVITIES (DETAILED)

Honours, Recognitions and Awards

1. Invited to attend Microsoft Faculty Summit 2018.
2. Fellow of IETE, India, 2018.
3. Best paper award, ACM/IEEE Internet of Things - Design and Implementation (2018).
4. My work (with my students) on TUDelft's moon & space projects was covered by the [Dutch national TV NOS primetime news](#), May 2018.
5. Selected by External Affairs Minister of India as one of the 10 leading Indian scientists outside India to discuss/advise on "Developing Cyber Capacity of India".
5. Invited by the Indian Prime Minister, Mr. Narendra Modi, when he visited the Netherlands.
6. Best paper runner up award, ACM/IEEE Internet of Things - Design and Implementation (2017).
7. IEEE ComSoc Distinguished Lecturer on Internet of Things (1 out of 10 newly appointed) in 2017.
8. Awarded Grassroots Prize (two times) for innovations in teaching 2015, 2016.
9. IEEE Bangalore section – Publication award 2014 & 2015.
10. Selected for IEEE Public Visibility Initiative – My interview and Article on IoT (2014).
11. Covered by IBC News under the heading, Invisible Network of the Future, 2014.
12. Recognition by IEEE for contributions to the IEEE ComSoc Standards Program Development, 2014.
13. Invited to Dagstuhl seminar on *Physical Cyber Social Computing*, 2013.
14. Award for IEEE P1900.5 Workgroup contributions, 2012.
15. Our article in *IEEE Communication Letters*, "An Analytical Energy Consumption Model for Packet Transfer over Wireless Links", was selected as the top 0.5% of papers IEEE ComSoc in Feb 2012.
16. Best paper award, IEEE PIMRC, 2009.
17. IEEE Outstanding Contributor Award for IEEE P1900.2 Workgroup contributions, 2008.
18. First place for DC Motor drive and consolation prize for AC Motor Drive in Karnataka state level, India, for 'Do It Yourself' competition at S.J.C.E, Mysore, India, 1993.

Editorial Boards

1. Associate Editor, Transaction on Emerging Telecommunication Technology, 2011-2017.
2. Editor IEEE Communications Magazine, 2015-2018.
3. Editor IEEE Surveys and Tutorials, 2015-.
4. Editor IEEE Systems Journal, 2018-.
5. Guest Editor Research to standards Next Generation IoT and M2M Applications Networks-and Architectures, IEEE Communications 2016.

6. Associate Editor, IEEE JSAC on SDN and Network Virtualization, 2018-
7. Editor IEEE Transaction on Green Communication Networks
8. IEEE Communication Magazine Green Track.
9. Editor Elsevier-Journal on Networking and Computer Applications, 2015-2018.
10. Editor Elsevier-Communication Networks, 2017-2018.
11. Editor for the IEEE Communications Society Communications Technology (CTN).

PhD Thesis Examination Committee

1. Mr.Ramachandra Budhihal, “Unified Cognitive Radio Architectural Analysis, Design, and Implementation” Indian Institute of Science, Bangalore, India.
2. Mustafa Moussa, Flood and Traffic Wireless Monitoring System for Smart Cities, KAUST, Saudi Arabia
3. Nahina Islam, Energy efficiency in wireless communication, RMIT, Melbourne, Australia.
4. Reema Sharma, Modeling and Analysis of Dynamic Packet Scheduling Scheme in Internet of Things, VTU, India.
5. Suma K V, Analysis of Nailfold capillary morphology for diagnosis of Type 2 Diabetes Mellitus and hypertension in Indian Population, VTU, India.

Memberships and Positions

1. Senior Member of ACM
2. Senior Member IEEE and IEEE ComSoc, IEEE Computer society, IEEE Vehicular Technology Society.
3. IEEE Standards Association Member.
4. Vice-Chair IEEE P1918.1 standard on Tactile Internet, 2016-2018
5. Member of Examination Committee, CE & CS, EWI, TU Delft, (2013-present).
6. Vice chair for Standards, IEEE TCGCC 2017-2018.
7. Member IEEE ComSoc Education Services Board (2018-2019).
8. Elected as IEEE CSDB Liaison for IEEE TCCC, IEEE TCCN, TCGCC and IEEE AHSNTC, 2017.
9. Member of IEEE CSPDB, 2015-2017.
10. Member IEEE FiWi Sub-TC 2016.
11. Member IEEE TITC, 2016.
12. Elected IEEE TCCN Vice Chair (Europe) 2011-2016.
13. Member IEEE-SA Rapid Standardization on 5G and SDN, Berlin, 2016.
14. Secretary of IEEE ComSoc Standards Development Board, 2012-2013.
15. Member IEEE-SA Internet of Things Ecosystem Study, New Jersey, 2014
16. Member – IEEE DySPAN (2011-) & IEEE SCC41, Standards Coordination Committee (2005-2011).
17. IEEE P1723 standards on SOA (2012).
18. Member of ECMA PN Standardization workgroup, (2011).
19. Elected IEEE TCCN Secretary 2009-2010.
20. Member -- IEEE SCC41 Policies and Procedures Subgroup, Web-master of SCC41, DySpan-SC, 2010.
21. Selected as Dutch national representative to COST IC0905, 2009-2013.
22. Member of the *Society of Industry Leaders - Standard & Poor's Vista Research*, 2009 (by Invitation).
23. Member – Open Spectrum Alliance (OSA) (by Invitation).

Tutorials, Invited Talks, Demonstration

1. IEEE Distinguished Lectures at three universities in Srilanka, 2018 – *IoT and Applications*.
2. IEEE Distinguished Lectures at Four universities in New Zealand, 2018 – *Internet of Things, Approximate Services and Virtual Sensing*.
3. Keynote speech IEEE Edgecom, 2018 -- *Constructive Interference – Does it Really Exist?*
4. Invited Talk, Rotary Club International, Bangalore, India, 2018 -- *Internet of Things Applications*.
5. Tutorials on *Internet of Things* at IEEE CCNC, 2014, 2015, 2016, 2017, 2018.
6. Keynote at IEEE SCIoT, Iran, 2018 -- *Low Latency Low Energy Cost Data Collection in Sensor Networks*.
7. One of the panel members along with Dr. Jie Liu (Microsoft Research), Prof. Prabal Datta (UCB) and others for “New directions” at ACM SenSys, Nov. 2017.
8. Keynote IEEE ISCC, Greece, 2017 -- *Murphy Loves Constructive Interference*

9. IEEE Distinguished Lectures at three universities in Srilanka, 2017 -- *Introduction to IoT*
10. Keynote Speech at UBICNET, Bangalore 2017-- *Murphy Loves Constructive Interference*
11. Panel talk for Young Scientists and Engineers (IEEE-YES), IEEE GlobeCom-2016, Washington DC – *Academic Life Goals*.
12. Speaker at EE and CE Education afternoon, 2016 – *How to Get and Give Feedback using FeedbackFruits*.
13. Fine-tuned Lighting Control Leveraging Smartphone-based Occupancy Detection, International Conference on Embedded Wireless Systems and Networks (EWSN), ACM, 2016.
14. Keynote speech, International Conference on Intelligent and Autonomous Systems, Hassan, 2015 - *Internet of Things- What else?*
15. IEEE Distinguished Lectures at (a) BMSCE, Bangalore, 2015; (b) Amrita College of Engineering, 2016; (c) MCE Hassan, 2016 -- *IoT & Applications*
16. Keynote speech Workshop on 5G Internet of Things (IoT) jointly with 25th GISFI Standardization Series Meeting (GSSM) 2015 -- *Various Aspects Internet of Things Design*
17. Invited Talk Technology for Concept Design, IDE, TU Delft 2015 – *IoT Application Design*.
18. Distinguished Lecture in 3ME, TU Delft, 2015 -- *Internet of Things and Energy*.
19. Keynote Speech CYCLONE, IoT360, Rome Oct, 2015 – *IoT Applications and Approximate Services*.
20. IEEE GlobeCom-2015 Lightning Talk, San Diego -- *Non-Sense!*
21. Invited IEEE ComSoc Talk at New Jersey Institute of Technology, NJ, USA, 2013 -- *Approximate Services in Internet of Things*.
22. IEEE GlobeCom-2012 Lightning Talk, Anaheim -- *Approximate Services*.
23. Invited speaker IEEE ANTS-2012, Bangalore, -- *iCore - Internet Connected Objects for Reconfigurable Ecosystem*.
24. Keynote Speaker -- IEEE-ACM WINBIS, Katmandu, Nepal, 2009 -- *Personal Networks*.
25. Online Person Tracking System, MobiHoc 2016 [Demo]
26. Demonstration of the VoIP-testbed developed at CEDT, IISc, Bangalore, to members of Communication Software Industry and venture capital members. This helped in establishment of start-up firm Esqube Communication Solutions Pvt. Ltd. in 2003.
27. Lab demonstrations for workshop on “A Course on Internet Telephony” conducted by Dept. of ECE, IISc, Bangalore, 2002.

Organizing Committees and TPC Chairs

1. Tutorials Chair WF-IoT 2019.
2. Tutorials Chair Globecom 2019.
3. Symposium Chair ICC 2020.
4. Tutorial Chair, WF-IoT 2019.
5. Steering Committee, WF-IoT, 2019.
6. Organizing committee member, ACM MobiHoc-2013-2019.
7. Publicity Chair ACM MobiHoc 2013-2019.
8. IEEE INFOCOM Demo & Poster Chair 2018, 2019.
9. Student Travel Chair MobiHoc 2019.
10. UBICNET TPC Chair 2017 & 2019.
11. Best Paper Award Chair CCNC 2017 & 2019.
12. IEEE SmartNets 2018 - Industry 4.0 Track chair.
13. IEEE SECON Student Travel Grant Chair, 2014-2018.
14. Organizing Committee Member, Publicity Chair, IEEE ICC, Kansas, 2018.
15. Juror, Selection Committee, IEEE Student Competition on *Communication Technology Changing the World*, 2014-2018.
16. Demos and Poster Chair MobiHoc, 2018.
17. Industry Track Chair, WF-IoT, 2018.
18. Organizing Committee Member, Publicity Chair, IEEE GlobeCom, Singapore, 2017.
19. Track Chair, Consumer Communication & Networking Standards, IEEE CCNC, LasVegas, 2015-2016.
20. Organizing Committee Member, Tutorial Chair, Demonstration Co-Chair and Publicity Chair of IEEE CCNC, Las Vegas 2009 - 2017.

21. Organizing Committee Member, Green Track Chair, IEEE GlobeCom, Washington DC, 2016.
22. Student Travel Grants Chair, IEEE GlobeCom, Washington DC, 2016.
23. TPC Chair, Telecom Policies Development of Global Access, GIIS 2016 conference.
24. Track Chair IEEE CSCN 2016.
25. TPC Chair Telecom Policies and Development of Global Access, track, GIIS conference 2016.
26. Publicity Chair WF-IoT, 2015.
27. Publicity Chair IEEE CCSNA, 2013, 2015, 2016.
28. Organizing Committee Online GreenCom 2015 & 2016.
29. General Chair STEMCOM 2015.
30. Technical Program co-Chairs, Green Standardizations and Industry Issues for ICT and Relevant Technologies (GSICT), Globecom 2015.
31. Organizing Committee Member, Tutorial Chair, IEEE GlobeCom, San Diego, 2015.
32. Publication co-Chair, IEEE CSCN, Tokyo, 2015.
33. Publicity Chair IEEE WCNC, 2015.
34. IEEE Globecom-CRN Track Chair, 2015.
35. IEEE CSCN- Publications Chair, 2015.
36. TPC Chair, 21st IEEE Symposium on Communications & Vehicular Technology (SCVT), Delft, 2014.
37. Steering Committee, iC3I, New Delhi, 2014.
38. Publication and EDAS Co-Chair, IEEE CCSNA, GlobeCom, Austin, 2014.
39. Organizing committee member, Publicity Chair ACM MobiHoc, Bangalore, 2013.
40. IEEE VTC-CRSS Track Chair, 2013.
41. Organizing Committee Member, Publication Chair, COMSWARE, Dublin, 2009.
42. Late Breaking Results Committee Associate Chair SIGCHI, 2004.

Workshops Conducted

1. Co-founder, Steering committee, IEEE Next Generation Green ICT Workshop ICC-2016 Kuala Lumpur.
2. Co-founder, TPC Chair and Organizing Committee Member, IEEE Next Generation Green ICT Workshop ICC-2015 London.
3. Co-founder, TPC Chair and Organizing Committee Member, IEEE E2Nets: Workshop on “Energy Efficiency in Wireless Networks and Wireless Networks for Energy Efficiency”, ICC-2010 Cape town, ICC-2011 Kyoto, ICC-2012 Ottawa, ICC-2013 Budapest, ICC-2014 Sydney.
4. Co-founder, Steering Committee and Organizing Committee Member, TPC Chair for IEEE Personalized Networks Workshop, San Jose 2006, Philadelphia 2007, Las Vegas 2009 - 2012.
5. Co-founder, TPC Chair and Organizing Committee Member, IEEE CogNet: Workshop on “Towards Cognition in Wireless Networks”, ICC-2007, Glasgow, ICC-2008 Beijing, CogWiNets ICC-2009, Dresden.
6. Organizing Committee Member, Publicity Chair – Mobicare, Mobile Health Care Workshop, Mobiquitous, Toronto, 2009.
7. Co-Chair and Organizing Committee Member, Workshop WILLOPAN: Wireless Personal and Local Area Networks, COMSWARE, Bangalore, 2008.

Projects Executed (selected)

As a senior design consultant at Esqube Communication Solutions (P) Ltd. Bangalore, India (2003-2009)

1. CQube a ‘click to talk’ application for enabling the websites with interactive voice and video.
2. VoIP Player for decoding and playing back the voice data after snooping VoIP packets from the Internet.
3. VQube - a VoIP application suite.
4. Flash Player for enabling the websites with text, voice and video communications.
5. Callback facility for portals bringing PSTN and Web together.
6. PSTN Phone aliasing and Anonymous dialing applications.
7. PSTN Conferencing Solution with Web interworking.
8. SIP based PSTN Callback service.

9. PSTN-Web enabled Voice Mail service.

As a Project Associate & Consultant at CEDT, IISc, Bangalore (1999-2003)

1. Large Scale Conferencing System and Protocol design.
2. Design of Value added services on a VoIP conferencing suite and VoIP testbed.

As a trainee (BEL) and project associate (ERNet)

1. Development of Switched Mode Power Supplies and High power Resonant Converters for Radars (1994).
2. Design of high frequency magnetic components and high-voltage and High Frequency Power Supplies (Project Tempest for Indian military) at Bharat Electronics, Bangalore (1994).
3. Implementation of DQDB protocol cards (1996).

EXTRA-CURRICULAR ACTIVITIES

1. **Organising Committee member** during 1997 - 1998, and **Secretary, Samskrita Sangha**, a Cultural Organization at IISc, Bangalore, during 1998- 1999. <http://www.iisc.ernet.in/ssangha/>

I was involved in leading a team of *ten* members in conducting/organizing cultural programmes that reflected Indian Heritage and Culture.

2. **Member, Students Advisory Committee (SAC)** to the Director, IISc, Bangalore, for *two* years during 1999 and 2000.

This committee represents the students of the Institute; I was involved with academic affairs. I was also involved with relief activities under Students' Council during Orissa Cyclone and Gujarat Earthquake.

3. **President - Mess Committee**, IISc Hostels, during June 2000-Dec. 2000

I was responsible for smooth running and maintenance of the Messes catering to about 1500 students. Mess committee is an interface between Workers, Students and the Wardens/Authorities. As a mess president I lead a team of about *twelve* members team and I responsible of handling a budget of rupees Rs.1.5M per month.

4. **Member - Core-Committee and Treasurer, Prasthutha**, - a Students' Forum of IISc, during 1999-2002; <http://www.iisc.ernet.in/prasthu/>

I was part of a four-member team building this organization. We were involved in arranging lectures/debates by eminent personalities on various issues - Scientific, Social and Cultural. I was holding the additional duties of *Treasurer*, responsible for generating funds for all our activities and maintaining accounts during 1999 to 2000.

5. **Member - Department Curriculum Committee (DCC)** of CEDT, IISc, during 1998-2002.

I was responsible for representing research students of the department and act as a buffer between students, the chairman, and the faculty.

6. **Giving back to the Nature**

I am trying to nurture at least 100 trees in a big city like Bangalore, in India. Planting, watering and protecting them has been my passion for the last 5 years. It is important for me to leave *zero* carbon footprint. See: <https://www.facebook.com/selfiewithmytrees>

7. I write articles for [TU Delta](#) and on [LinkedIn](#).

APPENDIX – A

Patents

Patent No	Title	Type
900/CHE/2006	<i>A system "click to video talk" for establishing a VoIP video and method thereof, with R S Varchas, S Vinay, Vijay S, H S Jamadagni, N K Rajasekharan.</i>	Indian - Granted (Esqube, Bangalore)
PCT/IN06/000289	<i>A system "click to video talk" for establishing a VoIP video and method thereof, with R S Varchas, S Vinay, Vijay S, H S Jamadagni, N K Rajasekharan.</i>	International - PCT Granted (Esqube, Bangalore)
1545/CHE/2006	<i>A method for broadcasting on a network, with C R Anand, R S Varchas, Vijay S, H S Jamadagni, N K Rajasekharan.</i>	Indian -under process (Esqube, Bangalore)
01291/CHE/2007	<i>A method to enable web page with media/integrated media communication engine with R S Varchas, Vijay S, H S Jamadagni, N K Rajasekharan.</i>	Indian -under process (Esqube, Bangalore)
00887/CHE/2007	<i>A dependable and anonymous peer to peer buy and sell system through buddy services with R S Varchas, Vijay S, H S Jamadagni, N K Rajasekharan.</i>	Indian -under process (Esqube, Bangalore)
PCT/IN07/000028	<i>Speech detection using order statistics with R M Shankar, Vijay S, H N Shankar</i>	PCT - Granted (PESIT, Bangalore)
PCT/IN2008/000875	<i>Determining the presence of a user in an online environment with R M Shankar, Vijay S, H N Shankar</i>	PCT Granted (PESIT, Bangalore)
3003/CHENP/2009	<i>Speech detection using order statistics with R M Shankar, Vijay S, H N Shankar</i>	Indian - under process (PESIT, Bangalore)
12/515,536	<i>Speech detection using order statistics with R M Shankar, Vijay S, H N Shankar</i>	US - Granted (PESIT, Bangalore)

List of Publications

Citations – H-Index: 30

Erdős number: 5 (Paul Erdős > Joel H. Spencer > Remco van der Hofstad > Piet Van Mieghem > Ramin Hekmat > Venkatesha Prasad)

Journals

- [1] Rao, Vijay Sathyanarayana; R Venkatesha Prasad, Prabhakar, Tamma Venkata; Sarkar, Chayan; Koppal, Madhusudan; Niemegeers, Ignas Understanding and Improving the Performance of Constructive Interference using Destructive Interference in WSNs", IEEE/ACM Transaction on Networking (accepted).
- [2] Sujay Narayana, R. Venkatesha Prasad, Kevin Warmerdam, Mind Your Thoughts: BCI Using Single EEG Electrode, IET Cyber-Physical Systems: Theory and Applications, 2018 (accepted).
- [3] Oliver Holland, E. Steinbach, R. Venkatesha Prasad, Kishor Chandra, Vijay Rao, The IEEE 1918.11 "Tactile Internet" Standards Working Group and its Standards, in the Proceedings of IEEE, 2018. (Accepted)
- [4] M. Mukherjee, L. Shu, R. Venkatesha Prasad, D. Wang, and G. P. Hancke, "Sleep Scheduling for Unbalanced Energy Harvesting in Industrial Wireless Sensor Networks," IEEE Communications, 2018, (accepted).
- [5] Luis Henrik John, Chayan Sarkar, R. Venkatesha Prasad, Where is PELE?: pervasive localization using wearable and handheld devices, ACM SIGBED Review, Volume 15 Issue 2, pp. 8-15, March 2018.

- [6] Prabhakar T, V, Vishwas Shashidhar, G S Aishwarya Meghana, R. Venkatesha Prasad, Garani Vittal Pranavendra, Zero energy visible light communication receiver for embedded applications, ACM SIGBED Review, Volume 15 Issue 2, pp. 37-43, March 2018.
- [7] Chayan Sarkar, Jan Jaap Treurniet, Sujay Narayana, R. Venkatesha Prasad, and Willem de Boer, SEAT: Secure Energy-efficient Automated Public Transport Ticketing System, Transactions on Green Communications and Networking (TGCN), IEEE, 2017.
- [8] Kishor Chandra, Andrea Marcano and Shahid Mumtaz and R Venkatesha Prasad, "Combining Millimeter Wave and Non-Orthogonal Multiple Access for Power-Efficient Ultra-dense 5G Networks' in IEEE Vehicular Technology, 2018.
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- [15] Stefan Aust, R. Venkatesha Prasad, Ignas G. M. M. Niemegeers, Outdoor Long-Range WLANs: A Lesson for IEEE 802.11ah, IEEE COMST, pp 1761-1775, 2015.
- [16] Kishor Chandra, R Venkatesha Prasad and Ignas Niemegeers, "CogCell:Cognitive Interplay between 60GHz picocells and 2.4/5GHz hotspots in the 5G Era," IEEE Communication, Emerging Applications, Services and Engineering for Cognitive Cellular Systems (EASE4CCS), July, 2015.
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- [18] Bien Van Quang, Kishor Chandra, R. Venkatesha Prasad, Ignas Niemegeers "Resource Management in Indoor Hybrid Fi-Wi Network", Transaction on Emerging Technologies, 2014.
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- [20] Stefan Aust, Venkatesha Prasad, Ignas G.M.M. Niemegeers, Codebook Selection Strategies in Long-range Sub-1GHz WLANs, Elsevier, Procedia Computer Science, Volume 32, 2014, pp 133-140
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- [2] Ricardo Neisse, Bertrand Copigneaux, Abdur Rahim Biswas, R. Venkatesha Prasad, Gianmarco Baldini, A Policy Based approach for Informed Consent in Internet of Things, in Book: Security and Privacy in Internet of Things (IoTs): Models, Algorithms, and Implementations, ed. Fei Hu, CRC Press, 2016.
- [3] John Soldatos, et al., "IoT Analytics: Collect, Process, Analyze, and Present Massive Amounts of Operational Data – Research and Innovation Challenges", in IERC Cluster Book, "Building the Hyperconnected Society - Internet of Things Research and Innovation - Value Chains, Ecosystem and Markets", River Publishers, 2015.
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Standards

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Book Review and Invited Articles

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Peer Reviewed Conferences and Workshops

IoT's and WSNs

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1. IEEE Sensors.
2. IEEE Systems Journal.
3. IEEE Intelligent Systems.
4. European Transaction on Telecommunication.
5. International Journal of Modeling and Simulation.
6. IEEE Communication Letters.
7. IEEE Transactions on Mobile Computing.
8. IEEE Transactions on Dependable and Secure Computing.
9. ACM Mobile Computing and Communications Review (MC2R)
10. IEEE Transactions on Knowledge and Data Engineering.
11. IEEE Transactions on Networking.
12. IEEE Transactions on Industrial Informatics.
13. IEEE Transactions on Computers.
14. IEEE Transactions on Communication.
15. IEEE Transactions on Multimedia.
16. IEEE Transactions on Software Engineering.
17. IEEE Transactions on Wireless Communication.
18. IEEE Transactions on Automation Science and Engineering.
19. IEEE Transactions on Parallel and distributed Systems.
20. IEEE Transactions on Vehicular Technology.
21. IEEE - JSAC, special Issue on Cognitive Radio, 2006, 2010.
22. IEEE Internet Computing Journal.
23. IEEE Communications Magazine.
24. IEEE Transaction on Multimedia.
25. IEEE Security and Privacy Journal.
26. IEEE Multimedia.
27. IEEE Micro.
28. IEEE Networks.
29. IEEE Computer Magazine.
30. IEEE Software.
31. IEEE Wireless Magazine.
32. IEEE IoT Journal.
33. Elsevier Journal of Network and Computer Applications.
34. Elsevier Journal of Speech Communication.
35. Elsevier Journal of Parallel and Distributed Computing
36. Elsevier Journal of Computer Networks.
37. Elsevier Journal of Computer Communications.
38. Elsevier Journal of Telecommunication Policy.
39. Elsevier Journal of Neurocomputing.
40. Elsevier Journal of Pervasive and Mobile Computing.
41. Elsevier Telecommunications Policy.
42. EURASIP JWCN.
43. IEEE Transaction Information Forensic & Security.
44. EURASIP Journal on Audio, Speech, and Music Processing
45. Wiley Wireless Communications and Mobile Computing
46. Elsevier Ad-Hoc & Sensor wireless Networks Journal.

47. Zhejiang University-SCIENCE A.
48. IET Communications (formerly IEE Communication Proceedings).
49. IGI Global book series.
50. Journal of Ad-Hoc & Sensor wireless Networks.
51. International Journal of Sensor Networks.
52. J. Scientific Research and Essays.
53. Int. J. of Sensor Networks.
54. Informatica - Int. J. on Computing and Information.
55. IEEE JSAC Nano-Communication.
56. IEEE JSAC- Emerging Technologies in Communications
57. IEEE JSAC- Cognitive Radio Networking and Communications.
58. Springer Journal of Network, and Systems Management.
59. Journal of Communications and Networks.
60. IEEE Communication Surveys and Tutorials.
61. IEEE JSTP.
62. Journal of Network and Systems Management.
63. IEEE Access.
64. IEEE Intelligent Systems.
65. IEEE Transactions on Cyber-Physical Systems.
66. IEEE Transactions on Control of Network Systems.

TPC Membership

Chaired Sessions in many of the following conferences.

1. IEEE INFOCOM 2019 SMILING Workshop
2. IEEE Infocom 2016 to 2019.
3. IEEE WF-5G 2018.
4. International Conference on the Network of the Future (NoF) 2018.
5. Workshop on LPWAN Systems and Applications (LPWANSys) 2018.
6. IEEE DySpan 2015 to 2018.
7. SENSORNETS-2013 to 2017.
8. IEEE ICC (Various tracks) 2008-2019.
9. IEEE Globecom (Various tracks) 2008-2019.
10. IEEE CLEEN workshop, 2018 - 2019
11. CORAL Workshop 2012, 2013, 2015, 2016.
12. IEEE International Symposium on Software Defined Systems, 2016.
13. ACM EWSN 2016.
14. Workshop: IoT as driver for the co-created Smart City, WF-IoT 2016.
15. IEEE VTC Spring-2009, 2010, 2015, Fall-2008, 2010, 2012, 2013, 2016.
16. IEEE TenSymp, 2015.
17. ComsNets PhD Forum, 2015.
18. ComsNets 2015.
19. IEEE SWANSITY (SECON) 2015.
20. conference on sensing systems and software, IoT Summit, 2015.
21. Self-IoT 2015.
22. CiviTech in the context of SmartCity 360, 2015.
23. IoTIP 2015.
24. IEEE International Conference on Computer and Information Technology (CIT 2015).
25. IEEE SDS 2015.
26. IEEE MCV 2014.

27. CROWNCOM 2007-2014.
28. CCNC-14 Demos.
29. IEEE goSMART 2012 – 2014.
30. IEEE WCNC-2008 to 2013.
31. Networking Track IEEE CCNC-2009, 2010, 2013
32. IEEE SECON-2009 to 2013, 2019.
33. IEEE GreenCom 2011 to 2016.
34. Future Network and MobileSummit 2013.
35. PerCom CCC 2012, 2013 Workshop.
36. USENIX Self-IoT 2012, 2013 Workshop.
37. International Conference on Telecommunications 2012, 2013.
38. Future Network Summit-2013.
39. Symposium on Communications Engineering - JIEEEEC 2013
40. MobileCloud-2013 at MobiHoc 2013.
41. MILCOM-2013,
42. ICUFN-2013,
43. IEEE RAICS 2013,
44. LCDNET-2013 at MobiCom 2013.
45. ICCVE-2013.
46. Internet Technology and Applications (iTAP) 2012 and 2013.
47. GlobeCom AHSN 2010 to 2012.
48. Cognitive, Cooperative & Diversity Techniques (CCDT), 2012
49. Cooperative and Cognitive Communication IEEE Infocom-2012
50. Cognitive, Cooperative & Diversity Techniques (CCDT) 2012 Workshop.
51. ICBME–2012, India
52. IEEE ICC-CQR, 2012.
53. IWCMC Wireless Networks track, 2011, 2012.
54. WCSP'12 – WNS.
55. GlobeCom SAC 2008 to 2011
56. WoNGeN-2008, 2011 (with IEEE HiPC).
57. Cognitive and Resource Aware Communication (CRWC), ICCCN 2011
58. NCC, Bangalore, 2011
59. Mobihealth, at MobiHoc, 2011
60. Cognitive and Cooperative Networks Workshop at Infocm 2011.
61. CogArt 2011.
62. IEEE PIMRC-2008, 2010
63. IEEE LCN -2009, 2010.
64. MOBILIGHT-2009, 2010.
65. SDR/Whitespace Workshop with SECON, 2010.
66. Workshop Cognitive Radio Resource Aware Networks (CR-RAN), 2010
67. Workshop on CR-TVWS, IPCCC, 2010
68. Advances in Next Generation Services and Service Architectures (ANGSA) 2010
69. Wireless Telecommunication Symposium (WTS), 2010
70. International Conference on Ubiquitous and Future Networks (IEEE ICUFN) 2009, 2010.
71. Ubi-Islands 2009, 2010
72. CoRoNet-2009, Mobicom, Beijing.
73. ACM WICON-2008, 2009.
74. Member International Conference on Future Information Networks (ICFIN), 2009
75. International Conference on Computer Science and Global Communications Technology, Nepal, 2009.
76. Wireless VITAE 2009.

77. COGCOM 2009 (ICCCN).
78. IEEE IMSAA 2009
79. ChinaCom-2007, 2008.
80. IEEE ICCCN-2008
81. IEEE Symposium on Computer and Communications 2002 to 2008.
82. IEEE ICCCN-2008, Cognitive Radio Track.
83. IEEE ADCOM-2008, Chennai.
84. COMSWARE-2007.
85. ACM MM (Networking) -2007.
86. CoNET-2007.
87. ATNAC-04.

Conference Reviews

1. ACM – SIGCHI - 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012.
2. British HCI – 2006, 2007, 2008.
3. ACM-SIGCHI DIS2004: Designing Interactive Systems, Cambridge, Massachusetts.
4. ACM- Computer Supported Collaborative Work - CSCW 2004, 2008, 2010, 2013.
5. ACM workshop on Modeling, Analysis and Simulation of Wireless and Mobile Systems, San Diego, 2003, and Venice, Italy, 2004.
6. IEEE VTC 2017
7. IEEE International Conference on Communication Systems - 2006.
8. IEEE International Conference on Network Protocols - 2006.
9. IEEE International Conference on Telecommunications - 2013.
10. IEEE International Conference on Communications and Electronics - 2006
11. IEEE European Wireless 2006.
12. ACM HCI 2006, 2008
13. CCCT 2004, Texas Austin, CCCT 2005 - University of Texas, Austin.
14. Risk Management and Cyber Informatics (RMCI- 2005, 2006, 2007, 2008, 2009).
15. IEEE International Conference on Computer Communications and Networks, ICCN-2007.
16. ACM VRST-2007.
17. SCVT-2007
18. IWCMC 2010
19. IEEE TenCon-2008.
20. IEEE DySpan 2008, 2010,
21. Infocm Workshop on Mobile Cloud Computing, 2014.
22. Third International IFIP Conference on New Technologies, Mobility and Security – 2009
23. IEEE ICC-2010, Signal Processing Track.
24. IEEE ADCOM – 2009.
25. International Conference on Wireless Communication and Signal Processing.
26. ICCCN 2007
27. IEEE ICNP 2006
28. IEEE Conference on Wireless Communication and Signal Processing 2009
29. Workshop on Mobile Computing and Networking Technologies (WMCNT). 2011
30. Workshop on Ubiquitous Computing and Networks, with Globecom, 2011
31. ACM EICS 2010
32. ACM CSCW 2011
33. European Wireless Technology Conference (EuWiT) 2010
34. Future Network and Mobile Summit 2010, 2013
35. NTMS Mobility Track, 2009

Assistant Professor/Senior Researcher at Embedded Software/Wireless and Mobile Communications (WMC), TU Delft, Netherlands (March 2005 – Present)

I initially worked as a Postdoctoral researcher in Wireless and Mobile Communications group, TU Delft from March 2005 to January 2008 and then a permanent research faculty in WMC group from January 2008-2011. My major contributions/responsibilities can be summarized briefly as:

1. Acquisition, research and implementation of Dutch national and European projects.
2. Initiated and organized three workshops: Personalized Networks (PerNets), Cognitive Networks (CogNets) and Energy Efficiency in Wireless Networks and Wireless Networks for Energy Efficiency (E2Nets) have been successfully running now with IEEE ICC.
3. Organizing workshops, conferences, and chairing sessions apart from reviewing papers for a large number of conferences, journals and magazines.
4. Contributed significantly to IEEE P1900.x standardization work on Cognitive Radios. WG member of six standards.
5. Supervising MSc and PhD students.
6. Published over 150 conference and journal papers (including book chapters) and contributed to technical reports/deliverables of the projects.
7. Contributed to EU project proposals representing the group.
8. I am also involved in the task of setting up of collaboration with Indian universities.
9. I am taking leadership role in being standards liaison for IEEE TCs and I was Secretary of IEEE CSDB and member of IEEE CSPDB.
10. I had been the Secretary of IEEE TCCN, currently the Vice-chair of IEEE TCCN.

My main task had been to work on European projects EU funded MAGNET and MAGNET Beyond, and IST funded PNP2008. I was involved in Future Home Networks project. In these Personal Network based projects, I have mainly contributed on network architectures, Personal Network (PN) clustering, Foreign Communications and PN Federations. I have guided PhD and MSc students and have also published on these topics. I have also worked on auto-configuration and self-configuration, service discovery in PNs, localization algorithms in sensor networks.

I supervised PhD theses on 60GHz indoor communications and handoffs, Cognitive Radios, Group-Mobility models especially for PNs and Vertical Handoff in Future Home Networks. Our work on OPT-Online Person Tracking system has been demonstrated at Mobihoc conference and has been used as one of the context generator in MAGNET Beyond projects. Many research publications based on our new ideas in 60GHz Future Home Networks lead to funding of curiosity driven project in the domain of Fi-Wi networks with directional antennas.

I was an IEEE working group member of the IEEE SCC41, P1900.1, P1900.2, 1900.5/a/1, 1900.6 and P1900.4. I am part of IEEE P1900.1/a, P1900.2, 1900.5 and 1900.6/a standards. I have contributed significantly to them, especially P1900.2 for which I have received a certificate of appreciation for the outstanding contribution. I also take care of IT subcommittee of IEEE DySpan-SC. I am a member of IEEE ComSoc Standards Board. I have been an active member, secretary and now the vice chair of IEEE TCCN. I am a member of IEEE CSPDB providing impetus for identifying and helping new standards in wireless networking, mobile communication, etc. I served as the Secretary of IEEE CSDB, which governs all the IEEE ComSoc sponsored IEEE Standards.

Apart from these, I have conducted and chaired conferences, tutorials and, workshops on Personal Networks and Cognitive Radio. I have been invited on to the Organizing Committee and Technical Programme Committee of many prestigious conferences and I have been a reviewer for many IEEE transactions and Elsevier journals. Further, I have contributed and lead proposals for new workshops.

I have been coordinating setting up of collaboration between TU Delft and Indian Institute of Science. Recently IISc and TU Delft signed an MoU to further the cause of joint work in many areas of interests and research, especially in the field of computing and communications. I have received letter of appreciation from the chair of WMC and the dean of EWI, TU Delft for my contribution in the group seven times. Recognizing my work at WMC, TU Delft, I was invited as a juror for Pirelli Mathematics track awards and as a reviewer of Ireland Science Foundation funded project proposals with gratification.

From 2012 onwards, I am working as a tenured Assistant Professor at Embedded Software group in EEMCS, TU Delft. My research work profile involves Internet of Things, Cyber Physical Systems, Energy Harvesting WSNs, 60GHz indoor home networking with directional antennas. I am specifically working on Approximate services, Virtual Sensing, IEEE 802.15.3c, IEEE 802.11ad for 60GHz networks and Fairness in IEEE 802.22 WRANs. I am teaching two master's level courses – Ad hoc networks that I handle independently, and seminar course on Internet of Things that I offer with another colleague. Currently, I am (co-)supervising seven Ph.D students and 3 Master students. Further, my work profile also deals with acquisition of projects funded by EU and National agencies. As a tenured faculty I am involved in Examination Committee and also helped the support staff for improving wireless network infrastructure.

APPENDIX - D

Senior Design Consultant at Esqube Communication Solutions Pvt. Ltd., Bangalore, India.

Voice Enabled Applications and Services (July 2006 – 2009)

I was working as a senior design consultant taking care of the innovative voice-enabled applications for Web as well as standalone applications mainly on Windows platform. The products/applications that I was involved in during this period are:

1. CQube a 'click to talk' browser-based application for enabling the websites with interactive voice and video.
2. Web-based Voice Mail – a voice mail application for the webpages.
3. VoIP Player for decoding and playing back the voice data after snooping the VoIP application packets from the Internet.
4. VQube - a VoIP application suite indigenously developed at Esqube – I worked on the design of various modules, testing, and debugging.
5. Flash Player for enabling the websites with text, voice and video communications.
6. Worked on design and development of Telecom and VoIP related service orientated projects such as web based calls, multiparty conferencing , etc.
7. Callback facility for portals bringing PSTN and Web together.
8. PSTN Phone aliasing and Anonymous dialing applications.
9. PSTN Conferencing Solution with web interface and management.
10. SIP based PSTN Callback service.
11. PSTN-Web enabled Voice Mail service.
12. Wrote project proposals for external funded research projects as well as R&D proposals for customers.
13. From Esqube, I have filed a total of 4 patents out of which 1 is awarded, 1 has PCT acceptance.

I was also involved in managing and team building including recruitment and interacting with clients at Esqube.

Development of P2P VoIP Services and an Ad hoc Service network (November 2003 – 2005)

I was leading a team of ten members that developed a customizable VoIP application stack. I was responsible for guiding the team members, testing, discussing with customers and managing the work flow. At Esqube I was involved in infrastructure development of P2P VoIP services. This included server deployment and client development too. Mainly, I was involved in design of VoIP services and fine-

tuning the application core for very low bandwidth conditions, aiming at long distance low cost solutions at low bandwidth. I designed the servers and developed newer algorithms that suit the requirements for dial up users for example, Adaptive playout delay algorithm and VAD.

Further, I was involved in the development of a VoIP application called VQube along with scalable servers, Web based VoIP clients and Web based Voice Mail system (called CQube). My work also included solving many network issues for VoIP such as Firewall, NAT, etc. I integrated many Codecs and facilities such as customizable Answering Machine, Voice Mail Service, Call recording, Network quality measurement and P2P conferencing. The aim was to have a VoIP solution that would try to be a Personal Voice Assistant as well.

I was also involved in leading a team of four towards implementing an “Ad hoc Service Network”. We used Bluetooth enabled sensors from *ImpulseSoft* for the purpose. We connected these small sensor nodes in ad hoc mode with a “Personal Area System” (PAS), which is connected to the backbone network. I started two processes - Employee selection and Network administration processes. I was responsible for network maintenance and network administration.

APPENDIX – E

Project Associate and Consultant at CEDT, IISc, Bangalore, India (1999 – 2003)

Design and Implementation of Voice over IP (VoIP) Testbed

This project was aimed at providing a complete corporate telecom solution with the facilities of conferencing, voice mail, PBX facilities and gateway connectivity to the PSTN. The setup for the product involved these components: Call Processor, Conference Server, PSTN Gateway, Voice Mail Server, PBX Server and Soft Clients. Initially, I joined the project as a Project Associate and after one year of completion I was designated as Project Consultant. As a project associate, I was designing and coding the Conference server and Call Processor, along with the overall design of the complete VoIP system. I developed a proprietary protocol to implement a novel system for conferencing. In the second year I developed a distributed conferencing solution and built a prototype of the whole system. The coding of the software was carried out using C++. I was involved coding, designing the architectures and in guiding project assistants towards achieving the aim of building the prototype. New idea generation and new algorithms for implementations were necessary part of my work profile.

In the third year, Voice Mail Server design was carried out and implemented with other project assistants working in the team. I was also involved in designing PBX functionalities for VoIP clients. The testing of the various entities in the prototype formed essential aspects of the work carried out.

In the fourth year a PSTN Gateway was designed and guided project assistants in implementing the gateway. The work involved extensive work in understanding Dialogic (Intel) hardware and the associated API. The gateway design involved an additional server and its integration into the Call Processor. It also included testing of various entities of the VoIP test-bed collectively.

I was also involved in guiding a project trainee from a foreign university to implement SIP Proxy and Client. The discussions and brainstorming with him paved way to design work for providing conferencing support using SIP. The ideas from these discussions ultimately lead to presenting a few papers in international conferences.

The conferencing system was tested with multiple parties and some of the results were published in the PhD thesis which was part of this work. Performance studies were done during the course of this project. Later this work was productized and branded as VQube at Esqube communication Solutions Pvt. Ltd.

Apart from the development work, I have given many short lectures on VoIP. Many industry courses were conducted in our department and I have supported the team by giving lectures. One of them was

the weeklong VOIP workshop that was organized by our department and I had given 12 hours of lectures on various issues in VoIP and development of a VoIP Product. We successfully demonstrated our project to leading corporate CEO's and they have applauded our work. The basic ideas, the experiences and the lessons learned during this exercise were taken to the next stage to make a product VQube, at a start-up by professors from IISc - Esqube Communication Solutions. I have also guided three groups of undergraduate students for their final year project and many short-term projects for B.E. students in the third and fourth years.