Ram Dantu

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RESEARCH INTERESTS

Mobile Security, Network Security, Security Informatics, Safe transportation using mobile networking, Tele-medicine, Telecommunication networks and protocols, Voice over IP security, Mobile social networks, and 9-1-1 Emergency networks and dispatch protocols.

EDUCATION

- **Concordia University**, Montreal, Canada, Computer Engineering, **Doctor of Philosophy (GPA 4.0/4.0)**, 1990.
- **Madras University**, India, Applied Electronics Engineering, **Master of Engineering, University first rank**, 1979.
- **Madras Institute of Technology**, Madras, India, Electronics Engineering, **Bachelor of Engineering**, 1977**.**

EMPLOYMENT HISTORY

- **Visiting Scientist**, School of Engineering, Massachusetts Institute of Technology, Cambridge, MA, January 2012 – April 2015.
- **Visiting Professor**, School of Engineering, Massachusetts Institute of Technology, Cambridge, MA, January 2011 – January 2012.
- **Professor,** Department of Computer Science and Engineering, University of North Texas, Denton, September 2011 – present.
- **Associate Professor**, Department of Computer Science and Engineering, University of North Texas, Denton, August 2008 — September 2011.
- **Director,** Center for Information and Computer Security, University of North Texas, Denton, August June 2007 — present.
- **Assistant Professor**, Department of Computer Science and Engineering, University of North Texas, Denton, January 2003 — August 2008.
- **Courtesy Faculty Appointment,** Department of Information System Engineering, George Mason University, Washington, July 2006 — present.
- **Faculty,** University of Texas at Dallas; and **Consultant**, Netrake Corporation, September 2002 — December 2002.
- **Technical Director**, Netrake Corporation, Plano, Texas, July 2001 — September 2002.
- **Technology Director** (Senior Technical Leader), Cisco/IPmobile, Richardson, Texas, Dec. 1999 — June 2001.
- **Principal Engineer**, Alcatel USA, Plano, Texas, June 1998 — November 1999.
- **Principal Engineer**, Fujitsu Network Systems, Richardson, Texas, December 1995 — May 1998.
- **Senior Member, Scientific Staff,** Bell-Northern Research, Ottawa, Canada, April 1990 — November 1994
- **Scientific Officer,** Indian Institute of Science, Bangalore, India, January 1981-1983.

AWARDS and HONORS

- UNT Research Leadership Award, May 2016.
- Several PhD mentees in our lab won awards (last 3 years) for their research work for innovations and creativity in competitions such as first place in USICOC (US India Chamber of Commerce) innovation competition, first place in Barsanti award, third place in 3MT Competition, best dissertation award, outstanding student awards and a gold water scholar.
- Thanks a Teacher Recognition – 2014
- Received Honors Day recognition as an inspirational faculty at UNT commencement in 2011, 2012, 2013, 2014 and 2016.
- Professor-of-the-year award, College of Engineering, UNT, 2011-2012.
- 1 of 21 teams selected out of 324 for NSF Innovation Corps Award, October 2011.
- Visiting Professor, Massachusetts Institute of Technology, 1/1/2010- 1/1/2012.
- Nominated for the best paper award in SocioCom'2011 (for privacy, social relevance in twitter)
- #21 of top 25 down loaded articles in the Journal of Computers & Security, 2011 (VoIP Security)
- #8 of top 25 down loaded articles in the Journal of Computers & Security, 2010 (VoIP Security)
- Nominated for best paper award in ISI'2010 (work on security informatics).
- Nominated for best paper award in ICDCN'2010 (work on spam detection).
- Received Honors Day recognition as an inspirational faculty at UNT commencement in 2005, 2006, 2007, 2008, 2009 and 2010.
- #2 of top 3 papers in ICDCN'2010 (work on email spam/botnet detection)
- #7 of top 25 papers in Journal of Computers and Security, 2010 (work on VoIP Security)
- Nominated for best paper award in ISI'2009 (work on privacy in Facebook).
- Nominated for best paper award in Sociocom'2009 (work on location detection).
- Nominated for Tech Titan Award, in 2007, 2008, and 2009, Metroplex Business Council.
- #4 of top 10 cited articles in Journal of Network Security, Science Direct, 2009 (work on hospital network security).
- Nominated for best paper award in ISI'2009 (work on privacy in Facebook).
- Nominated for best paper award in Sociocom'2009 (work on location detection).
- Received Honors Day recognition as an inspirational faculty at UNT commencement in 2005, 2006, 2007, 2008, 2009 and 2010.
- #13 of top 25 hottest articles in Journal Computer and Network Applications, Science Direct, 2008 (work on network testing).
- Finalist for Tech Titan Award, 2008, Metroplex Business Council.
- University 1st Rank, Madras University, Master of Engineering, 1979.
- Received 6 NSF awards during 2005-2008 totaling more than $3M
- #6 of Top 10 accessed documents, IEEE Network, 2007 (work on VoIP security)
- #1 of top 25 hottest articles in Journal of Computer Standards and Interfaces, Science Direct 2006 and 2007 (work on wireless security)

- Work on VoIP security was selected as one of the top 10 cutting-edge network research projects by Network World Magazine. March, 2006.
- Nominated for best paper award in ISI'2005 (work on attack graphs).

ACHIEVEMENTS and CONTRIBUTIONS

1. **Invention of Next Generation Telecommunication Network Protocols**
   - Invented signaling interworking protocols such as M2PA, M2UA, M3UA, SUA, and SCTP for the interworking of SS7 and IP networks (received several patents for this effort).
   - Worked with several industries (e.g., Cisco, Nortel, Alcatel, Lucent) and achieved the full standards status for all the above protocols.
   - Author of CRLDP protocol which is a part of the widely deployed MPLS protocol stack. This protocol has more than 500 citations by the academia.
   - All of the above protocols were implemented by the leading network vendors and deployed by service providers such as AT&T, Verizon and Vodafone.
   - Created a new Internet architecture by separating routing and forwarding planes in IP protocols (received several patents, please see patents section). The IETF ForCES working group was created around this architecture. This architecture also became a candidate for NSF sponsored next generation Internet architecture (January 2006).
2. **Research and Design of New Technologies**
   - Architected and designed Enterprise Traffic Management in packet switches for Nortel Networks (deployed in several airlines and banks)
   - Architected and designed signaling mechanisms for Residential Broadband Switch for Nortel Networks (deployed by New Brunswick Telecom)
   - Architected and designed SONET rings using IP over Optics for OC-3, OC-12, OC-48 and OC-192 for Fujitsu Networks (deployed by several service providers in US)
   - Architected SS7 Gateway for Alcatel-Lucent (deployed by US and Europe service providers)
   - Architected Air Gateway and a wireless router for Cisco/IPMobile (put together all the pieces in the puzzle, that includes multiple disciplines such as RF, CDMA, 3G, 3GPP2, IP, MPLS, DiffServ, SS7, IN, and VoIP protocols (received more than 10 patents for the system and methods in wireless router).
   - Architected a high speed VoIP firewall for Netrake/Audiocode. Received a patent for this work, and the firewall was deployed by several service providers in United States.
3. **Ground breaking research in VoIP Security**
   - Started a visionary research area called "VoIP security", and led a large group of researchers, practitioners and government agencies (2002).
   - Organized and chaired security workshops in 2004, 2005, 2006 and 2007 in this topic. Several startup companies sprung out of this continuous effort and fueled this research through several gifts. In particular, our fundamental research in *voice spam detection, telephone telepathy, nuisance detection, socioscope, and e-shape* has been recognized by several world-class researchers who have ultimately collaborated with us for NSF funding.
4. **Transformative Research in 9-1-1 Dispatch Protocols**: Partnered with fourteen 9-1-1 centers in order to create new protocols for dispatching resources in next generation 9-1-1 using Voice over IP. Currently, dispatchers have no process to expedite the acquisition of vital signs from 911 callers and thus take several minutes to figure out the status of the victim to

send help. We transformed existing emergency dispatch protocols to a NG9-1-1 platform; this transformation can reduce the response time to less than 60 seconds. For example, using a cell phone of a caller, we are able to measure heart rate, blood pressure, respiratory rate and the frequency and depth of chest compressions in CPR which are critical for revival of the 9-1-1 victims.

5. **Discovery of Invisible Landmarks and Guideposts**: We have discovered invisible landmarks and guideposts which are used to create special maps for an indoor navigation system. These landmarks/guideposts are useful for the blind, visually impaired and during power outages and disasters. Indeed we found these magnetic maps are useful for sighted people as well. We have also discovered the magnetic signatures to identify rooms in a building. We believe this to become a new research area in mobility and navigation for the next 3-5 years. We have submitted an NSF proposal and filing patents (pending).
6. **Transformative Research in Detecting Unsafe Driving:** Served as invited speakers at relevant scientific conferences in areas such as communication and vehicular technologies. Synchronized information from EEG-based brain waves, on-board computers in vehicles and mobile phones to detect distract driving. As a recognition, received recently an NSF Innovation Corps award (21 proposals selected out 324). Demonstrated a proof concept of a mobile application (Mobile Life Guard) for detecting unsafe driving in a meeting in Stanford University http://www.nbcdfw.com/news/local/Program-makes-daily-commute-easier-and-safer--132493033.html
7. **Scholarly Publications and Federal Restricted Research Funding**
   - Journal, Conferences and others 200
   - Patents ***26***
   - IETF standards (peer-reviewed) ***5 published + 10 standard-track drafts***
   - Federal restricted research funding ***$5M (12 NSF awards in the last 10 years)***

Area II. Scholarly, Creative and Professional Activities

Area II A. *Journal Publications*

1. Garima Bajwa and **Ram Dantu**, "Neurokey: "Towards a New Paradigm of Cancelable Biometrics based Key Generation using Electroencephalograms", *Computer & Security*, Elsevier Publications, 2nd revision March 2015.
2. Garima Bajwa and **Ram Dantu**, "Detecting on-road driver distraction events using a single channel dry sensor EEG", Journal of Neuro Engineering and Rehabilitation, Biomedical Central, Springer Link, 2nd revision, March 2015.
3. Yessir Hashem, Hassan Takabi, Mohammad GhasemiGol, **Ram Dantu**, "Inside the Mind of the Insider: Towards Insider Threat Detection Using Psychophysiological Signals", Journal of Internet service and information security, Vol. 6, No. 1 (February 2016), invited paper.
4. Neeraj Gupta, **Ram Dantu**, "Effective CPR Procedure with Real Time Evaluation and Feedback Using Smartphones", *IEEE Journal on Journal of Translational Engineering in Health and Medicine,* Volume 2, June 2014.
5. Vikram Chandrasekaran, **Ram Dantu**, Kalyan Pathapati Subbu, "Socio-technical aspects of remote media control for a NG9-1-1 system," *Multimedia Tools Appl*. 62(3), Pages 733-759, 2013.

6. Vikram Chandrasekaran, **Ram Dantu**, Srikanth Jonnada, Shanti Thiyagaraja, Kalyan Pathapati Subbu, "Cuffless Differential Blood Pressure Estimation Using Smart Phones", *IEEE Trans. Biomed. Engineering*, 60(4), Pages 1080-1089 (2013)
7. Kalyan Pathapati Subbu, Brandon Gozick, **Ram Dantu**, "LocateMe: Magnetic-fields-based indoor localization using smartphones", *ACM Transactions on Intelligent System Technology*, 4(4), 73, September 2013.
8. **Ram. Dantu**, M. Fazeen, M. Bhukhiya and B. Gozick. "Safe Driving Using Mobile Phones," *IEEE Transactions on Intelligent Transportation Systems*, Volume 13, Issue 2, pages 1462-1468, September 2013.
9. Xiaohui Yang, **Ram Dantu**, and Duminda Wijasekara, "Securing VoIP I Telecommunication Networks," Handbook on Securing Cyber-Physical Critical Infrastructure: Foundations and Challenges, edited by Sajal K. Das, Krishna Kant and Nan Zhang (Eds.), pp 743-769, Morgan Kaufmann, ISBN: 978-0-12-415815-3, published in January 2012 (selected after several peer reviews).
10. Gozick, B., Subbu, K.P., **Dantu, R**., Maeshiro, T., "Magnetic Maps for Indoor Navigation," *IEEE Transactions on Instrumentation and Measurement*, vol.60, no.12, pp.3883-3891, Dec. 2011.
11. Vikram Chandrasekaran, **Ram Dantu**, Kalyan Pathapati Subbu, "Socio-technical Aspects of Remote Media Control for a NG9-1-1 System," *Multimedia Tools and Applications*, Springerlink, pp. 1-27, Sept 2011
12. Mohamed Fazeen, Ram Dantu and Parthasarathy Guturu, "Leaders, Lurkers, Spammers and Bots in Twitter", International Journal of Social Network Analysis and Mining, Springer Verlag (single column, 30 pages, in press, February 2011)
13. Huiqi Zhang and **Ram Dantu**, "Socioscope: Human Relationship and Behavior Analysis in Mobile Social Networks," *IEEE Transactions on Systems, Man and Cybernetics, Part A: Systems and Humans*, Issue 6, Volume 41, pages 1122-1143, November 2011.
14. Santi Phithakkitnukoon and **Ram Dantu**,, "Towards Ubiquitous Computing with Call Prediction*," ACM SIGMOBILE Journal on Mobile Computing and Communications (MC2R)*, issue 1, Volume 6, January 2011.
15. Neeraj Gupta**, Ram Dantu**, Henning Schulzrinne, and Walt Magnussen, "Next Generation 9-1-1: Architecture and challenges in realizing an IP-multimedia-based emergency service," *Journal of Homeland Security and Emergency Management*, Berkeley Electronic Press, Berkely, CA, December 2010.
16. Santi Phithakkitnukoon, **Ram Dantu**, Robert Claxton, and Nathan Eagle, "Behavior Based Call Predictor for a Smart Phone," *ACM Transactions on Autonomous and Adaptive Systems (TAAS*), July 2010.
17. Santi Phithakkitnukoon and **Ram Dantu**, "ContextAlert: Context-Aware Alert Mode Control for a Mobile Phone," *International Journal of Pervasive Computing and Communications*, Emerald Publishers ISSN: 1742-7371, July 2010.
18. Ahmed Alazzawe, Anis Alazzawe, Duminda Wijesekera, **Ram Dantu**, "A Testbed for Large Mobile Social Computing Experiments," *International Journal of Sensor Networks*, Inderscience Publishers, pp. 1-6, Vol. 2, No.8, July 2010.
19. Paul Sroufe, Steve Tate, **Ram Dantu**, and Ebru Celikel, "Experiences During Inter-collegiate Cyber Defense Competition", *Journal of Applied Security Research*, Taylor & Francis Publications, Academy of Criminal Justice Sciences, Volume 5, issue 3, pp. 382-396, July 2010.

20. S. Phithakkitnukoon and **Ram Dantu**, "Mobile Social Group Sizes and Scaling Ratio," *Journal of AI and Society*, Springer Verlag, accepted, September, 2009.
21. **Ram Dantu**, Henning Schulzrinne, Sonia Fahmy and Joao Cangussu, "Issues and Challenges in Securing VoIP," *Journal of Computers and Security*, Elsevier Publication, pp. 743-753, April 2009.
22. **Ram Dantu** and Parthasarathy Guturu, "An Architecture for IP-based Next Generation Radio Access network," peer-reviewed book chapter in Fourth Generation Wireless Networks, *IGI Global Publications*, pp. 61-76, April 2010.
23. Prakash Kolan, **Ram Dantu** and Joao Cangussu, "Nuisance Level of a Voice Call," *ACM Transactions on Multimedia, Computers, Communications, and Applications*, Vol.5, Issue 1, no. 6, pp. 1-22, February 2009.
24. **Ram Dantu**, Prakash Kolan, and Joao Cangussu, "Network Risk Management using Attacker Profiling," *Journal of Security and Communication Networks*, January/February, John Wiley and Sons, pp. 83-96, 2009.
25. Wade Fagen, Joao Cangussu, **Ram Dantu,** "A Virtual Environment for Network Testing," *Journal of Networking and Computer Applications* (JNCA), Elsevier Publications, pages 184-214, Vol 32, No.1, January 2009.
26. Parthasarathy Guturu, and **Ram Dantu, "**An Impatient Evolutionary Algorithm with Probabilistic Tabu Search for Unified Solution of Some NP Hard Problems in Graph and Set Theory via Clique Finding," IEEE *Transactions on Systems, Man and Cybernetics*, Part-B, Volume 38, Issue 3, pp. 645-666, June 2008.
27. Syed Haider, Joao Cangussu, Kendra Cooper and **Ram Dantu**, "Estimation of Defects based on Detect Decay Model: ED^3M", *IEEE TSE Transactions on Software Engineering*, Vol. 34, No. 3, pp 336-356, May/June 2008.
28. **Ram Dantu**, Srikant Palla and Joao Cangussu, "Classification of Phishers, "*Journal of Homeland Security and Emergency Management*, Volume 5, Issue 1, pages 1-10, January 2008 (200 downloads from the journal website).
29. Santi Phithakkitnukoon, Ram Dantu, and Enkh-Amgalan Baatarjav, "VoIP Security - Attacks and Solutions," The Information Security Journal: A Global Perspective $(ISC)^2$ Security and Privacy Issues in Voice over IP Systems, Volume 17, Issue 3, pp. 114-123, November 2008.
30. Srikant Palla, **Ram Dantu**, and Joao Cangussu, "Spam Classification Based on Email Path Analysis," *International Journal of Information Security and Privacy*, ISSN 1930-1650, IGN Publishing, New York, USA, 2(2), pp. 46-69, April-June 2008.
31. **Ram Dantu** and Joao Cangussu, "An Architecture for Automatic and Adaptive Defense," *Journal of Information Security and Privacy*, ISSN 1553-6548, Ivy League Publishing, Georgia, USA, Vol. 3, Issue 2, pp. 37-55, 2007.
32. **Ram Dantu**, Herman Oosterwijk, Prakash Kolan, and Husain Hasna, "Securing Medical Networks," *Journal of Network Security*, Elsevier Publications, Issue 11, pp. 13-16, June 2007.
33. **Ram Dantu**, Joao W. Cangussu, and Sudeep Patwardhan, "Fast Worm Containment using Feedback Control," *IEEE Transactions on Dependability and Secure Computing*, Vol.5, No.2, pp. 119-136, April-June 2007.
34. Prakash Kolan and **Ram Dantu**, "Socio-Technical Defense Against Voice Spamming," *ACM Transactions on Autonomous and Adaptive Systems*, Vol. 2, No. 1, pp. 1-42, March 2007.
35. **Ram Dantu,** Gabriel Clothier and Anuj Atri, "EAP Methods for Wireless Networks," *International Journal of Computer Standards and Interfaces*, Elsevier Publications, Vol. 29, Issue 3, pp. 289-301, March 2007 **(ranked number 1 out of top 25 hottest journal articles in ScienceDirect**).

36. Hemant Sengar, **Ram Dantu**, Duminda Wijesekera and Sushil Jajodia, "SS7 Over IP: Signaling Interworking Vulnerabilities," *IEEE Network*, Vol.20, No.10, pp.32-41, November 2006 (**ranked #6 out top 10 accessed documents in IEEE Network**).
37. **Ram Dantu**, Deepak Ghosal, and Henning Schulzrinne, "Securing Voice over IP," *IEEE Network*, Vol. 20, No. 5, pp. 5-6, September 2006.
38. V. Iyengar Prasanna, A. Mikler, **R. Dantu,** and K. Abbas, "Dynamic Resource Management in QoS Controlled Networks," *Journal of Telecommunication Systems*, Springer-Verlag, Vol. 32 , Issue 1, pp. 11-30, 2006.
39. S. Kumar, **R. V. Dantu**, "The Era of Full Service Network," *America's Network*, pp. 10-16, March 1997.
40. **R. V. Dantu**, N. J. Dimopolous, R. V. Patel, and A. J. Al-Khalili, "Parallel Algorithms for Low Level Vision on the Homogeneous Multiprocessor," *Journal of Computer & Electrical Engineering*," Vol. 20, No.1, pp. 51-60, 1994.
41. **R. V. Dantu**, N. J. Dimopolous, R. V. Patel, and A. J. Al-Khalili, "Depth perception using blurring and its application in VLSI wafer probing," *Journal of Machine Vision and Application*, Vol. 5, pp. 35-45, 1992.
42. N. J. Dimopolous, K. F. Li, E. C. W. Wong, **R. V. Dantu**, and A. J. Atwood, "Homogeneous multiprocessor system: a status report," *Journal of Computer Systems Science, and Engineering*, Vol. 4, No. 4, pp. 227-239, October 1989.
43. **R. V. Dantu**, N. J. Dimopolous, R. V. Patel, and A. J. Al-Khalili, "Micro-manipulator Vision for Wafer Probing," *IEEE Transactions on Semiconductor Manufacturing*, Vol. 2, No. 3, pp. 114-117, August 1989.

Journal Publications under Review

1. **Ram Dantu**, Paul Sroufe, and Santi Phithakkitnukoon, "B-shape Analysis," *IEEE Transactions on Systems, Man and Cybernetics, Part C*, May 2010 (12 pages, double column).
2. Joao Cangussu, **Ram Dantu** and Neeraj Gupta, "Network Testing Based on Feedback Control," *Journal of Network and Systems Management*, Springer-Verlag Publishers, May 2010 (single column, 24 page).
3. Xiaohui Yang, Duminda Wijesekera, and **Ram Dantu**, "Issues and Challenges in Peer-to-Peer Telecommunication networks," *Journal of Systems and Network Management* (double Column: 10 Pages).
4. Neeraj Gupta and **Ram Dantu, "**Study of Fitts Law for Joints of a Human Body," *IEEE Transaction on Biomedical Engineering*, August 2010 (double column, 7 pages).
5. Neeraj Gupta and **Ram Dantu,** "NG9-1-1 Emergency Dispatch Protocols," *IEEE Transactions on Internet Technologies in Biomedicine*, February 2011.

Book Chapters

1. Huiqui Zhang and **Ram Dantu**, "Smart Phone: Predicting the Next Call," a book chapter in Behavior Computing: Modelling, Analysis, Mining and Decision, edited by Lonbing Cao and Philip Yu, Springer Verlag Publishers, December, 2011 (accepted)
2. Huiqui Zhang and **Ram Dantu**, "Event Detection based on Call Detail Records," a book chapter in Behavior Computing: Modelling, Analysis, Mining and Decision, edited by Lonbing Cao and Philip Yu, Springer Verlag Publishers, December, 2011 (accepted)

Peer-Reviewed Internet Engineering Task Force Publications

1. T. George, B. Bidulock, **R. Dantu**, M. Kalla, H. Schwarzbauer, G. Sidebottom, and K. Morneault, "Signaling System 7 (SS7) Message Transfer Part 2 (MTP2) User Peer-to-Peer Adaptation Layer (M2PA)," *IETF RFC 4165 (Internet Engineering Task Force)*, September 2005 (accepted after 12 reviews, 53 pages, widely deployed and high impact to telecommunication industry, more than 52 citations).
2. L. Yang, **R. Dantu**, and T. Anderson, " Framework and Architecture for separation of IP control and data elements," *IETF RFC* 3746 *(Internet Engineering Task Force)*, April 2004 (40 pages, accepted after 12 reviews, widely cited and became a candidate architecture for NSF organized next-generation Internet workshop, more than 108 citations).
3. T. Anderson, E. Bowen, **R. Dantu,** A. Doria, R. Gopal, J. Salim, H. Khosravi, and M. Wasserman, "Requirements for separation of IP control and data elements," *IETF RFC 365 (Internet Engineering Task Force)*, November 2003 (18 pages, accepted after 14 reviews, 12 citations).
4. K. Morneault, **R. Dantu**, G. Sidebottom, T. George, Brian Bidulock, and J. Heitz, "M2PA: MTP2 User Adaptation Layer," *IETF RFC 3331*, September 2002 (94 pages, pioneering work in MPLS, and resulted in 24 citations).
5. B. Jamoussi, L. Andersson, R. Callon, **R. Dantu**, L. Wu, P. Doolan, T. Worster, N. Feldman, A. Fredette, M. Girish, E. Gray, J. Heinanen, and T. Kilt, "Constraint-Based Label Switched Path Setup using Label Distribution Protocol," *IETF RFC 3212 (Internet Engineering Task Force)*, January 2002 (42 pages, accepted after 10 reviews, 520 citations).

Area II B. *Peer-Reviewed Conference Publications*

1. Logan Widick, Josh Talkington, Garima Bajwa and **Ram Dantu**, "A Framework for Secured Collaboration*", International Conference on Collaboration Technologies and Systems (CTS)*, Atlanta, June 2015.
2. Yassir Hashem Hassan Takabi, **Ram Dantu**, Mohammad Ghasemigol, "Towards Insider Threat Detection Using Psychophysiological Signals", *Proceedings of the 7th ACM CCS International Workshop on Managing Insider Security Threats*, Boulder, Colarado, November 2015.
3. Mayo, Quentin, Renee Bryce and **Ram Dantu,** "A System Identification Approach to Monitoring Network Traffic Security", *The 2nd IEEE International Conference on Cyber Security and Cloud Computing*, New York, November, 2015.
4. Garima Bajwa, **Ram Dantu**, and Arvind Nana, "Quantifying Dynamic Cerebral Autoregulation using Electroencephalograms", *American Congress on Rehabilitation Medicine*, Dallas, Texas, September 2015.
5. Neeraj Gupta, Siva Dantu, Arvind Nana, and **Ram Dantu,** "Fitts Law Extensions for Multiple Joint Movements", *American Congress on Rehabilitation Medicine*, Dallas, Texas, September 2015.
6. Logan Widick, Josh Talkington, Garima Bajwa and **Ram Dantu**, "A Framework for Secured Collaboration in mHealth", *Fifth International Symposium on Security in Collaboration Technologies and Systems (SECOTS*), Atlanta, GA, June 2015.
7. *Garima Bajwa, Mohamed Fazeen Mohamed Issadeen, **Ram Dantu** and Sonal Tanpure, "*Unintentional Bugs to Vulnerability Mapping in Android Applications", *IEEE International Conference on Intelligent Security Informatics*, Baltimore, USA, May 2015.

8. *Cynthia Claiborne, **Ram Dantu** and Cathy Ncube*, "Random Anonymization of Mobile Sensor Data -Modified Android Framework", *IEEE International Conference on Intelligent Security Informatics*, Baltimore, USA, May 2015.
9. *Theogene Bucuti and **Ram Dantu**, "* An opportunistic encryption extension for the DNS protocol*", IEEE International Conference on Intelligent Security Informatics*, Baltimore, USA, May 2015.
10. IEEE Intern *Garima Bajwa, **Ram Dantu** and Ryan Aldridge, "*Pass-Pic: A Mobile User Authentication", *International Conference on Intelligent Security Informatics*, Baltimore, USA, May 2015.
11. M. Fazeen, **R. Dantu**, "Another free app: Does it have the right intentions?" *Twelfth Annual International Conference on Privacy, Security and Trust (PST)*, pp.282-289, 23-24 July 2014.
12. Mohamed Fazeen, Garima Bajwa, **Ram Dantu**, "Context-aware multimedia encryption in mobile platforms," *In Proceedings of the 9th Annual Cyber and Information Security Research Conference (CISR '14)*, Robert K. Abercrombie and J. Todd McDonald (Eds.), ACM, New York, NY, USA, 53-56, 2014. **;**
13. Shanti Thiagraj, Vempati, Jagannadh, **Ram Dantu**, Tom Dantu, Siva Dantu, "Smart phone monitoring of second heart sound split," *Proceedings of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology (EMBC)*, 2181-2184, June 2014.
14. Garima Bajwa, **Ram Dantu**, Mohamed Fazeen, Rajiv M. Joseph, "Self-Tracking via Brain-Mobile-Cloud Interface", *AAAI Spring Symposium: Data Driven Wellness*, 2013
15. Neeraj K. Gupta, **Ram Dantu**: Evaluation of respiration quality using smart phone. PETRA June 2013.
16. Neeraj K. Gupta**, Ram Dantu**, "Quantifying cognitive impairment due to physical or mental stress", *PETRA*, June 2013.
17. M. Fazeen, **R. Dantu**, "Another free app: Does it have the right intentions?" *Twelfth Annual International Conference on Privacy, Security and Trust (PST)*, pp.282-289, 23-24 July 2014.
18. Mohamed Fazeen, Garima Bajwa, **Ram Dantu**, "Context-aware multimedia encryption in mobile platforms," *In Proceedings of the 9th Annual Cyber and Information Security Research Conference (CISR '14)*, Robert K. Abercrombie and J. Todd McDonald (Eds.), ACM, New York, NY, USA, 53-56, 2014. **;**
19. Shanti Thiagraj, Vempati, Jagannadh, **Ram Dantu**, Tom Dantu, Siva Dantu, "Smart phone monitoring of second heart sound split," *Proceedings of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology (EMBC)*, 2181-2184, June 2014.
20. Garima Bajwa, **Ram Dantu**, Mohamed Fazeen, Rajiv M. Joseph, "Self-Tracking via Brain-Mobile-Cloud Interface", *AAAI Spring Symposium: Data Driven Wellness*, 2013
21. Neeraj K. Gupta, **Ram Dantu**: Evaluation of respiration quality using smart phone. PETRA June 2013.
22. Neeraj K. Gupta**, Ram Dantu**, "Quantifying cognitive impairment due to physical or mental stress", *PETRA*, June 2013.

23. Shanti Thiagaraja, **Ram Dantu**, "Finger blood flow monitoring using smart phones", BodyNets', *Proceedings of the 8th International Conference on Body Area Networks,* Pages 237-239, 2013.
24. Garima Bajwa, Ram Dantu, "Cerebral autoregulation assessment using electroencephalograms", *BodyNets'13, Proceedings of the 8th International Conference on Body Area Networks,* Pages 327-330, 2013.
25. Garima Bajwa, **Ram Dantu**, "Cryptographic Key Generation using Electroencephalograms", *Learning From Authoritative Experimental Results, LASER'2013,* September, 2013.
26. Jagannadh Vempati, Garima Bajwa, and **Ram Dantu**, "NFC Based Two-Pass Mobile Authentication", 16th International Symposium on Research in Attacks, Intrusions, and Defenses, RAID 2013, October 23-25, 2013.
27. Cynthia Claiborne, Mohamed Fazeen, and **Ram Dantu**, "Android Sensor Data Anonymization*", 16th International Symposium on Research in Attacks, Intrusions, and Defenses, RAID 2013,* October 23-25, 2013.
28. Enkh-Amgalan Baatarjav and **Ram Dantu**, "Unveiling Hidden Patterns to Find Social Relevance", The Third IEEE International Conference on Social Computing, MIT campus in Cambridge, MA, October 2011 (9.8% acceptance rate, nominated for best paper award)
29. Enkh-Amgalan Baatarjav and **Ram Dantu**, "Current and Future Trends in Social Media", The Third IEEE International Conference on Social Computing - International Workshop on Modeling Social Media: User Interface Modeling in Social Media (MSM11), MIT campus in Cambridge, MA, October 2011.
30. Enkh-Amgalan Baatarjav and **Ram Dantu**, "Social Relevance", Interdisciplinary Workshop on Information and Decision in Social Networks (WIDS 2010) Organized by Laboratory for Information and Decision Systems, MIT campus in Cambridge, MA, May 2011.
31. Pathapati Subbu, K., Gozick, B., Dantu, R., "Indoor localization through dynamic time warping," IEEE International Conference on Systems, Man, and Cybernetics, (SMC) 2011, pp.1639-1644, Oct. 2011.
32. Barthold, C., Pathapati Subbu, K., Dantu, R., "Evaluation of gyroscope-embedded mobile phones," IEEE International Conference on Systems, Man, and Cybernetics, (SMC) 2011, pp.1632-1638, Oct. 2011.
33. Xiaohui Yang, Angelos Stavrou, **Ram Dantu**, and Duminda Wijesekera, "Small World VoIP", Mobicase'2010, *The Second International Conference on Mobile Computing, Applications, and Services,* Santa Clara, CA, October 2010 (9 pages, double column).
34. Huiqi Zhang and **Ram Dantu**, "Event Detection based on Call Detail Records", *Proceedings of the IEEE Workshop on Behavior Informatics (BI2010) conjunction with the 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining* (PAKDD 2010), Hyderabad, India, 2010 (6 pages, double column).
35. Huiqi Zhang and **Ram Dantu**, "Smart Phone: Predicting the Next Call", *Proceedings of the IEEE Workshop on Behavior Informatics (BI2010) conjunction with the 14th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD 2010),* Hyderabad, India, June 2010 (6 pages, double column).
36. Huiqi Zhang and **Ram Dantu**, "Predicting Social Ties in Mobile Phone Networks," *Proceedings of the IEEE International Conference on Intelligence and Security Informatics (ISI-2010),* Vancouver, BC, Canada, May 2010. (29% Acceptance Rate)
37. Huiqi Zhang and **Ram Dantu**. "Human Relationship and Behavior Analysis in Mobile Social Networks," *International Workshop on the Analysis of Mobile Phone Networks (NetMob2010)*

conjunction with International School and Conference on Network Science (NetSci2010), MIT, Cambridge, MA, May 2010.

38. Vikram Chandrasekaran, Siva Dantu, Priyanka Kadiyala, **Ram Dantu** and Santi Phithakkitnukoon, "Socio-Technical Aspects of Video Phones," *Fourth Workshop on Intelligent Networks: Adaptation, Communication & Reconfiguration (part of COMSNETS'2010)*, IEEE Computer Society Publications, pp. 1-7, January 6, 2010.
39. Vikram Chandrasekaran, **Ram Dantu**, Neeraj K Gupta, Xiaohui Yang and Duminda Wijesekera, "Efficiency of Social Connection-based Routing in P2P VoIP Networks," *Fourth Workshop on Intelligent Networks: Adaptation, Communication & Reconfiguration (part of COMSNETS'2010)*, IEEE Computer Society Publications, pages 1-6, January 2010.
40. Paul Sroufe, Santi Phithakkitnukoon, **Ram Dantu** and Joao Cangussu, "Email Shape Analysis," *International Conference Distributed Computing and Networking (ICDCN'2010)*, Springer Verlag Publications, LNCS 5935, pp. 18-29, January 2010 (20% acceptance, #2 of top 3 papers out of 200).
41. Santi Phithakkitnukoon and **Ram Dantu**, "Mobile Social Closeness and Similarity in Calling Patterns," *Seventh IEEE Conference on Consumer Communications & Networking Conference (CCNC 2010)*, Special Session on Social Networking (SocNets) , pp. 1-5, January 9-12, 2010.
42. Enkh Baatarjav, A. Amin, **Ram Dantu**, and N. K. Gupta, "Are You My Friend?," *Seventh IEEE Conference on Consumer Communications & Networking Conference (CCNC 2010)*, Special Session on Social Networking (SocNets) , pages 1-5, January 9-12, 2010, Las Vegas, NV.
43. Lonnie Langle, and **Ram Dantu**, "Are You A Safe Driver", *IEEE International Conference on Embedded and Pervasive Systems*, EAP-09, vol. 2, pp.502-507, Vancouver, Canada, August 2009.
44. Huiqi Zhang, **Ram Dantu** and Joao Cangussu, "Quantifying Reciprocity in Social Networks," *IEEE InternationalWorkshop on Social Mobile Web (SMW09), in conjunction with SocialCom-09*, vol. 4, pp.1031-1035, Vancouver, Canada, August 2009.
45. Kalyan Subbu, Ning Xu, and **Ram Dantu**. "iKnow Where You Are," *IEEE International Symposium on Social Intelligence and Networking (SocialCom-09)*, vol. 4, pp.469-474, Vancouver, Canada, August, 2009.
46. Yugesh Madhavan, Joao Cangussu and **Ram Dantu**, "Spam Penetration Testing", 1st *IEEE International Workshop on Computer Forensics in Software Engineering (CFSE'2009), in conjunction with COMPSAC 2009*, vol. 2, pp.410-415, July 2009.
47. S. Phithakkitnukoon and **Ram Dantu**, "Defense Against SPIT Using Community Signals," Proc. of IEEE Inter. Conf. on Intelligence and Security Informatics (ISI 2009), p. 232-232, Dallas, TX, June 2009.
48. E. Baatarjav, **Ram Dantu**, Y. Tang, and J. Cangussu, "BBN-based Privacy Management System for Facebook," Proc. of IEEE Inter. Conf. on Intelligence and Security Informatics (ISI 2009), pp.194-196, Dallas, TX, June 2009.
49. H. Zhang, **R. Dantu**, and J. Cangussu, "Change Point Detection based on Call Detail Records," in Proc. of IEEE Inter. Conf. on Intelligence and Security Informatics (ISI 2009), pp. 55-60, Dallas, TX, June 2009.
50. Huiqi Zhang, and **Ram Dantu**. "Opt-in Detection based on Call Detail Records". *Proceedings of the 6th Annual IEEE Consumer Communications & Networking Conference (CCNC 2009)*, pp. 607-608, Las Vegas, January 2009 (~30% Acceptance Rate).
51. Paul Sroufe, Santi Phithakkitnukoon, and **Ram Dantu**, "Email Shape Analysis for Spam Botnet Detection," *The 6th Annual IEEE Conference on Consumer Communications &*

Networking Conference (CCNC 2009), pp. 1-2, Las Vegas, NV, January 2009. 2 Pages (Acceptance Ratio: 30%).

52. Xiaohui Yang; **R. Dantu**, and D. Wijesekera. "Achieving Peer-to-Peer Telecommunication Services through Social Hashing", *The 6th Annual IEEE Conference on Consumer Communications & Networking Conference (CCNC 2009)*, pp. 1-2, Las Vegas, NV, January 2009. 2 Pages (Acceptance Rate: 30%).
53. Enkh Baatarjav, **Ram Dantu,** and Santi Phithakkitnukoon, "Privacy Management for Facebook," *The International Conference on Information Systems Security (ICISS 2008)*, pp. 273-286, Hyderabad, India, December 2008 (≈*20% Acceptance Rate*).
54. Huiqi Zhang and **Ram Dantu**. "Discovery of Social groups using Call Detail Records," *OnTheMove Federated Conference (OTM 2008) - The 3rd International Workshop on MObile and NEtworking Technologies for social applications (MONET'08)*, LNCS 5333, pp. 489-498, Monterrey, Mexico, November 2008 (≈*25% Acceptance Rate*).
55. Santi Phithakkitnukoon and **Ram Dantu**, "CPL: Enhancing Mobile Phone Functionality by Call Predicted List," *OnTheMove Federated Conference (OTM 2008) - The 3rd International Workshop on MObile and NEtworking Technologies for social applications (MONET'08)*, LNCS 5333, pp. 571-581, Monterrey, Mexico, November 2008 (≈*25% Acceptance Rate*).
56. Santi Phithakkitnukoon and **Ram Dantu**, "Inferring Social Groups using Call Logs," *OnTheMove Federated Conference (OTM 2008) - The International Workshop on Community-Based Evolution of Knowledge-Intensive Systems (COMBEK'08)*, LNCS 5333, pp. 200-210, Monterrey, Mexico, November 2008 (≈*28% Acceptance Rate*).
57. Enkh-Amgalan Baatarjav, Santi Phithakkitnukoon, and **Ram Dantu**, "Group Recommendation System for Facebook," *OnTheMove Federated Conference (OTM 2008) - The First International Workshop on Community-Based Evolution of Knowledge-Intensive Systems (COMBEK'08)*, LNCS 5333, pp. 211-219, Monterrey, Mexico, November 2008 (≈ *28% Acceptance Rate*).
58. Santi Phithakkitnukoon and **Ram Dantu**, "Adequacy of Data for Characterizing Caller Behavior," *The 13th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining - The 2nd Workshop on Social Network Mining and Analysis (SNA-KDD 2008)*, Las Vegas, NV, August 2008 (≈*35% Acceptance Rate*).
59. Santi Phithakkitnukoon, Husain Husna, and **Ram Dantu**, "Behavioral Entropy of a Cellular Phone User," *The 1st International Workshop on Social Computing, Behavioral Modeling, and Prediction (SBP 2008), Springer Lecture Notes in Computer Science (LNCS)*, pp. 160-167, April 2008.
60. Paul Sroufe, **Ram Dantu**, and Henning Schulzrinne, "Experiences in Building a Multi-University Testbed for Research in Multimedia Communications," *ACM International Conference in Parallel & Distributed Processing*, pp. 1-5, Miami, FL, April 2008 (≈*25% Acceptance Rate*).
61. Santi Phithakkitnukoon, Husain Husna, Enkh-Amgalan Baatarjav, and **Ram Dantu,** "Quantifying Presence using Calling Patterns," *The 3rd Annual IEEE International Conference on Communication System Software and Middleware (COMSWARE 2008)*, pp. 184-187, Bangalore, India January 2008 (≈*30% Acceptance Rate*).
62. Husain Husna, Santi Phithakkitnukoon, Srikanth Palla, and **Ram Dantu,** "Behavior Analysis of Spam Botnets," *The 3rd Annual IEEE International Conference on Communication System Software and Middleware (COMSWARE 2008)*, pp. 246-253, Bangalore, India, January 2008 (≈*30% Acceptance Rate*).

63. Husain Husna, Santi Phithakkitnukoon, and **Ram Dantu**, "Traffic Shaping of Spam Botnets," *The 5th Annual IEEE Conference on Consumer Communications and Networking Conference (CCNC 2008),* pp. 786-787, Las Vegas, NV, January 2008 (*≈32% Acceptance Rate*).
64. Huiqi Zhang and **Ram Dantu**. "Quantifying the presence of Phone users," *The 5th Annual IEEE Conference on Consumer Communications and Networking Conference (CCNC 2008)*, pp. 883-887, Las Vegas, NV, January 2008 (*≈32% Acceptance Rate*).
65. Santi Phithakkitnukoon, and **Ram Dantu**, "Predicting Calls: New Service for an Intelligent Phone," IFIP/IEEE International Conference on Multimedia, and Mobile Networks (MMNC), San Jose, Springer Verlag, Volume. 4787, pp. 27-36, October 2007.
66. **Ram Dantu**, Prakash Kolan, and Robert Akl, "Classification of Attributes and Behavior in Risk Management Using Bayesian Networks," *IEEE International Conference on Security Informatics (ISI)*, New Jersey, pp. 71-74, May 2007.
67. Wade Fagen, Joao Canussu, and **Ram Dantu**, "Goliath: A Configurable Approach for Network Testing," *IEEE Trident*, pp. 1-9, May 2007.
68. Srikanth Palla and **Ram Dantu**, "Unwanted SMTP Paths and Relays," *IEEE 2nd International Conference on COMmunication System softWAre and MiddlewaRE (COMSWARE 2007)*, pp. 1-8, January 2007 (30% acceptance rate).
69. Prakash Kolan, Ram Vaithialingam, and **Ram Dantu,** "Automatic Calibration Using Receiver Operating Characteristics Curves," *IEEE First Workshop on Information Assurance Middleware for COMmunications (IAMCOM), pp. 1-8*, January 2007 (50% acceptance rate).
70. Srikant Palla and **Ram Dantu**, "Detecting Phishing in E-mails," *MIT Spam Conference,* pp.1-7, MIT, Boston, March 2006.
71. Hemant Sengar, **Ram Dantu,** and Duminda Wijesekera, "Securing VoIP and PSTN from Integrated Signaling Network Vulnerabilities," *1st IEEE International Workshop on VoIP Security and Management (VoIPMaSE)*, pp.1-7, Vancouver, BC, Canada, April 2006 (8 out of 18 papers accepted).
72. **Ram Dantu** and Prakash Kolan, "Detecting Spam in VoIP Networks," *Proceedings of USENIX, SRUTI (Steps for Reducing Unwanted Traffic on the Internet) workshop*, pp. 31-38, July 2005 (13 out of 35 papers accepted).
73. **Ram Dantu** and Joao Cangussu, "An architecture for Network Security Using Feedback Control," *IEEE International Conference on Intelligence and Security Informatics*, ISI 2005, Lecture Notes in Computer Science (LNCS), Springer-Verlag, pp. 636-637, May 2005 (blind review).
74. **Ram Dantu**, Joao Cangussu, and J. Turi, "Sensitivity Analysis of an Attack Containment Model," *IEEE International Conference on Intelligence and Security Informatics*, ISI 2005, Lecture Notes in Computer Science (LNCS), Springer-Verlag, pp. 127-138, May 2005 (blind review).
75. **Ram Dantu** and Prakash Kolan, "Risk Management using Behavior based Bayesian Networks," *IEEE International Conference on Intelligence and Security Informatics*, ISI 2005, Lecture Notes in Computer Science (LNCS), pp. 115-126, Springer-Verlag, May 2005 (blind review, **nominated for best paper award**).
76. **Ram Dantu** and Prakash Kolan, "Detecting Spam in VoIP Networks," *IEEE GLOBECOM workshop on VoIP Security*, GLOBECOM 2004, Dec. 3, 2004, Dallas, USA (full paper review and 12 out of 20 accepted).
77. **Ram Dantu**, Kaja Abbas, Marty O'Neill, and Armin Mikler, "Data Modeling of Environmental Sensor Networks," *IEEE GLOBECOM Workshop on Adaptive Wireless*

Networks, IEEE GLOBECOM 2004, pp. 447-452, December 2004, Dallas, USA (full paper review and 14 out of 60 papers accepted).

78. **Ram Dantu,** Joao Cangussu, and Arun Yelimeli, "Dynamic Control of Worm Propagation," *IEEE International Conference on Information Technology*, ITCC 2004 and special track on information assurance and security, pp. 419-423, April 2004 (full paper review and 40 out of 80 papers accepted).
79. **Ram Dantu** and Sachin Joglekar, "Collaborative Vision using Networked Sensors," *IEEE International Conference on Information Technology*, pp. 305-399, special track on sensor networks, ITCC 2004, April 2004 (full paper and blind review).
80. **Ram Dantu**, Kall Loper, and Prakash Kolan, "Risk Management using Behavior based Attack Graphs," *IEEE International Conference on Information Technology*, special track on information assurance and security, ITCC 2004, pp. 445-449, April 2004 (full paper review and 40 out 80 papers accepted).
81. **R. V. Dantu**, "An Architecture of Security Engineering," *ACSA Workshop on Application of Engineering Principals for Security System Design*, November 2002.
82. **R. V. Dantu**, "IP in Radio Access Networks," *19th IEEE Annual CVT Symposium*, April 2001, Dallas.
83. Bhumip Khasnabish and **R.V. Dantu**, "Traffic Management in an Enterprise Networking Switch, Few Case Studies," *First International Workshop on Enterprise Networking* (part of ICC '96), pp. 1-10, June 1996.
84. **R. V. Dantu**, N. J. Dimopolous, R. V. Patel, and A. J. Al-Khalili, "Micro-manipulators for Wafer Probing," *Proceedings of SPIE Conference on Application of Artificial Intelligence*, pp. 711-722, April 1990.
85. **R. V. Dantu**, R. V. Patel, N. J. Dimopolous, and A. J. Al-Khalili, "Vision Algorithms for VLSI Wafer Probing," *Proceedings of SPIE*, pp. 54-65, November 1989.
86. **R. V. Dantu**, N. J. Dimopolous, R. V. Patel, and A. J. Al-Khalili, "A micro-manipulator vision in IC manufacturing," *Proceedings of the 1988 IEEE International Conference on Robotics and Automation*, pp. 1455-1460, April 1988.
87. N. J. Dimopolous, K. F. Li, E. C. W. Wang, and **R. V. Dantu**, "The Homogeneous Multiprocessor System – An Overview," *Proceedings of the 1987 IEEE International Conference on Parallel Processing*, pp. 592-599. August 1987.
88. **D. V. Ramanamurthy**, N. J. Dimopoulos, K. F. Li, R. V. Patel, and A. J. Al-Khalili, "Parallel Algorithms for Low-level Vision on the Homogeneous Multiprocessor," *Proceedings of IEEE International Conference on Computer Vision (CVPR'86)*, Miami, pp. 421-423, June 1986.

Other Publications

1. W. Knitl and **R. Dantu**, "ATM Forum Draft on QOS in MPOA, Multiprotocol Over ATM," 1998.
2. **R. Dantu**, "ATM Forum Draft on OC-48c Physical Layer Specification," 1998.
3. **R. Dantu**, "ATM Forum Draft on I-PNNI Requirements," 1997.
4. **R. V. Dantu**, N. J. Dimopolous, R. V. Patel, and A. J. Al-Khalili, "An Integrated Micro-manipulator System for Integrated Circuit Manufacturing," *Proceedings of the 1986 Canadian Conference on Industrial Computer Systems*, Montreal, May 1986.
5. **R. V. Dantu** and N. V. S. Rao, "Teaching Aids for Microprocessor Interfacing Devices," *International Conference on Teaching Aids in Physics Education (TAPE)*, National University of Singapore, July 1982 (invited talk, presentation of slides).

Presentations

- Keynote address in ITBI'2011 "Next Generation Networks and Services," November'2011.
- NSF I-Corps Program, "Mobile Life Guard: Getting Out of the Building," Presentation in Stanford University, NSF I-Corps Program, October, 2011.
- Mobile Heath Summit (mHealth'2011), "Cuff-Less Blood Pressure Measurement," presentation in research track, December 2011.
- NSF I-Corps Program, "Mobile Life Guard: Demo and Final Presentation," December'2011.
- Invited talk on "Current Research Projects", Department of Civil and Environmental Engineering, MIT, February, 2011.
- Invited talk on "Brain Says Right and Mobile Says Left: Who is Right ?, Conference on Driver-Facing Challenges and Urban Mobility, MIT, February, 2011.
- Invited talk on Telephone Telepathy, ICSCI'2011, January, 2011.
- Invited talk on mobile social networks, Texas A&M Computer Science, Departmental seminar, 19th October, 2010
- P2PSIP security, MobiCASE'2010, 23rd of October 2010.
- Email spam analysis using e-shape, Fourth Workshop on Intelligent Networks: Adaptation, Communication & Reconfiguration (part of COMSNETS'2010)), IEEE Computer Society Publications, January 6, 2010 .
- Email spam analysis, International Conference Distributed Computing and Networking (ICDCN'2010), Springer Verlag Publications, LNCS 5935, pp. 18-29, January 3-6, 2010
- Email spam research in NSF Indo-US workshop on Infrastructure Security, Bangalore, India, January 2010
- Network security research projects, UNT delegation presentation, IIT Madras, January 2010.
- Next Generation 9-1-1, DFW 9-1-1 Dispatchers Meeting, February 2010.
- Privacy in online social networks, Seventh IEEE Conference on Consumer Communications & Networking Conference (CCNC 2010), Special Session on Social Networking (SocNets) , January 9-12, 2010, Las Vegas, NV
- Safe driving using mobile phones, IEEE International Conference on Embedded and Pervasive Systems, EAP-09, Vancouver, Canada, August, 2009
- Sociocope, IEEE InternationalWorkshop on Social Mobile Web (SMW09), in conjunction with SocialCom-09, Vancouver, Canada, August, 2009.
- Location detection using mobile phones, IEEE International Symposium on Social Intelligence and Networking (SIN09), in conjunction with SocialCom-09, Canada, August, 2009.
- Mobile social networking, IEEE Information Security Informatics, ISI'2009, Dallas.
- Privacy in online social networking, IEEE Information Security Informatics, ISI'2009, Dallas.
- Mobile applications, Invited to talk in conference in MOBAPPlications, Bangalore, India, 2009
- Mobile applications, Invited to talk in Siddartha Engineering College, Vijayawada, India, 2009.
- Quantifying Presence using Calling Patterns, The 3rd Annual IEEE International Conference on Communication System Software and Middleware (COMSWARE 2008), Bangalore, India, January 2008
- Privacy in online social networks, The International Conference on Information Systems Security (ICISS 2008), pp. 273-286, Hyderabad, India, December 2008.
- Experiences in Building a Multi-University Testbed for Research in Multimedia Communications , ACM International Conference in Parallel & Distributed Processing, pp. 1-5, Miami, FL, April 2008.

- Demonstration of Next Generation 9-1-1 Services, *IPTComm*, New York, July 2007.
- A Testbed for Research and Development for Securing IP Multimedia Communication Services, *NSF CRI PI Meeting*, Poster presentation, Boston, June 2007.
- Future Threats, *NSF Workshop on Future Topics for Cyber Trust*, Sept. 2006.
- CISE and Global Implications, *NSF Workshop on Computing Research Infrastructure*, Snowbird, Utah, June 2006.
- A Testbed for Research and Development for Securing Multimedia Communication Services, *NSF Workshop on Computing Research Infrastructure*, Snowbird, Utah, June 2006.
- Top 3 challenges in VoIP Security and Management, *1st IEEE International Workshop on VoIP Security and Management (VoIPMaSE)*, Vancouver, BC, Canada, Apr. 2006.
- Securing IMS and VoIP," *3rd Workshop on Voice over IP Security*, 1 June 2006, West Berlin, Germany, hosted by Franhofer Fokus Research Institute, sponsored by Tekelec in cooperation with ACM.
- Securing Voice over IP, *Special Issue of IEEE Network*, July 2006 (co-editing with Henning Schulzrinne of Columbia University and Dipak Ghosal of University of California at Davis).
- Security and Privacy issues in Radiology, *NSF Cyber Trust PI meeting*, Sept. 2005 (invited by Cyber Trust Program Director).
- Technology and Policy in securing Voice over IP, *2nd Workshop on Voice over IP Security*, June 1, 2005, Washington, DC, hosted by CSIA and sponsored by 8 companies.
- Panel: What do you mean security VoIP, *IEEE ENTNET conference in conjunction with Supercom 2005*, June 6, 2005.
- Hospital Network Security: A Blueprint for Implementing Security in Radiology, *First Annual Internet Security Conference*, Plano, Texas, June 2005.
- A Blueprint for Implementing Security in Radiology, *AHRA Electronic Imaging Conference*, Apil. 2005**.**
- IEEE Workshop on Challenges and Issues in VoIP Security. Proposal was reviewed and accepted by the IEEE program committee. This workshop was organized as a part of IEEE GLOBECOM in Dallas, December 2004.
- Differences between VoIP and Data Security, *Internet2 workshop on VoIP*, Austin, Texas, USA, September 2004.
- Survey on Hospital Network Security and Privacy, around 40 hospitals across the USA and presented the results to Barco Ltd, August 2004.
- VoIP Security, *Annual DFW Secret Service Agents Meeting*, Dallas, Texas, USA, July 2004.
- VoIP: Are We Secured, *First Annual Internet Security Conference*, Plano, Texas, USA, June 2004.
- VoIP Security, *3rd Annual Dallas Wireless Security Conference*, DallsCon 2004, May 2004, Dallas, Texas, USA.
- *19th Annual ACSAC Conference on Practical Solutions to Real Security Problems*, Dec. 2003 (presented by MS student in WIP session).
- Latest developments in sensors and security, The Indus Entrepreneurs Association, Dallas, April 2003.

Area II C. *Patents Granted and Pending*

1. **R. Dantu**,, Neeraj Gupta, and Vikram Chandrasekharan, Method and system for 911 services and vital signs measurements utilizing mobile sensors and applications, US Patent and Trademark Office, UNTD-63, September 2012 (filed), response filed on February 2016.
2. **R. Dantu**, Neeraj Gupta, Vishnu Dantu, and Zachary Morgan, "Effective CPR Procedure with Real Time Evaluation & Feedback," UNTD-0085PRO (122302.188), June 2014.
3. System and Method for Navigation and Location Finding for Blind and Visually Impaired Using Mobile Phones (filed on October 2011, **Principal Inventor**)
4. System and Method for alerts during Unsafe Driving and a Data Recorder (Black Box) for Automobiles (Filed in October 2011, **Principal Inventor**)
5. System and Method for Measuring Heart Rate, Respiratory Rate, Blood Pressure and CPR (Provisional patent filed, November 2011, **Principal Inventor**)
6. Method and system for configuring wireless routers and networks, Application, **Co-Inventor**, *US Patent* 7,826,463**,** November 2, 2010.
7. Method and system for providing wireless-specific services for a wireless access network, **Principal Inventor**, *US Patent* 7,639,647, December 27, 2009
8. Method and system for managing wireless bandwidth resources, **Co-Inventor**, *US Patent* 7,539,499, May 26, 2009
9. Method and system of control signaling for a wireless access network, ***Principal Inventor***, *US Patent* 7,471,674, December 30, 2008.
10. Method and system for providing supplementary services for a wireless access network, ***Principal Inventor***, *US Patent*, 7,444,151, October 28, 2008.
11. Method and system for redundancy scheme for Network Processor Systems, **Co-Inventor**, *US Patent, 7,272,746*, September 18, 2007.
12. Method and system for providing services for wireless data calls, **Principal Inventor**, *US Patent, 7,225,238*, May 29, 2007.
13. Method and system of control signaling for a wireless access network, **Principal Inventor**, *US Patent 7,173,925***,** February 6, 2007.
14. System and method for packet level restoration of IP traffic using overhead signaling in a fiber optic ring network, **Principal Inventor**, *US Patent 7,167,443*, January 23, 2007**.**
15. Method and system for providing supplementary services for a wireless access network, **Principal Inventor**, *US Patent 7,164,913***,** January 16, 2007.
16. Quality indicator and method for frame selection in wireless network, ***Co-Inventor***, *US Patent, 7,079,512*, July 18, 2006.
17. Wireless router and method for processing traffic in a wireless communications network, ***Principal Inventor***, *US Patent, 7,068,624*, June 27, 2006.
18. Method and system for providing wireless-specific services for a wireless access network, ***Principal Inventor***, *US Patent, 7, 058, 033*, June 6, 2006.
19. Method and system for configuring wireless routers and networks, ***Co-Inventor***, *US Patent, 7,031,266*, April 18, 2006.
20. System and method for transporting in/ain signaling over an internet protocol (IP) network, ***Principal Inventor***, *US Patent, 7,006,433*, February 28, 2006.
21. Method and system for managing wireless bandwidth resources," ***Co-Inventor***, *US Patent, 6,957,071*, October 18, 2005.
22. Method and system of integrated rate control for a traffic flow across wireline and wireless networks, **Principal Inventor**, *US Patent, 6,904,286*, June, 7, 2005.
23. System and Method for Packet Level Distributed Routing in Fiber Optic Rings", **Principal Inventor**, *US Patent 6,532,088***,** March 11, 2003.

24. System and Method for Packet Level Restoration of IP Traffic Using Overhead Signaling in a Fiber Optic Ring Network, **Principal Inventor** *European Patent, EP1083706,* March 14, 2001.
25. System and Method for Packet Level Distributed Routing in Fiber Optic Rings, **Principal Inventor,** *European Patent, EP1083696*, March 14, 2001.
26. Method and Apparatus for Transport of SS7 Messages Over IP Network, **Principal Inventor,** *European Patent, EP1089575*, April 4, 2001.

Magazine Articles

1. **Ram Dantu**, Siva Dantu, and Herman Oosterwijk, "Securing Radiology Networks," *Hospital IT in Europe*, Sept. 2007 (2 pages).
2. Herman Oosterwijk, Prakash Kolan and **Ram Dantu**, "Top Ten Recommendations for PACS Security Implementation," *Health Imaging & IT Magazine*, Mar. 2005 (1 page).
3. **Ram Dantu and** Herman Oosterwijk, "To Patch or Not to Patch," *Health Imaging and Technology News Magazine*, pp. 48-49, Apr. 2005.

Area II E. *Research Grant Activities*

Industry Gift for Research

1. Industry Gift for Research, March 2015.
   Principal Investigator
   Title: Hot Topics in Network Security
   Amount: $3,000
2. Industry Research Grant: Lucent, TekVizion, Nexttone Communication, Juniper Networks, Kayote Networks, VoIP Shield, BearingPoint, and Qovia Solutions Group, June 2005
   Principal Investigator
   Title: Gift for research in VoIP Security
   Amount: *$18,000*
3. Industry Research Grant: Samsung USA, Nokia America, Acme Packet, Newport Networks, Qovia Solutions Group, Kagoor Networks, and Nextone Communications, Dec. 2004
   Principal Investigator
   Title: Gift for research in VoIP security
   Amount: *$14,000*

4. Industry Research Grant, OTech Inc., July 2004
   Principal Investigator, Industrial Research Grant
   Title: Hospital Network Security
   Amount: *$10,000*

Area: II F: Federal Restricted Research Awards (2005-2017)

Award Description	Total, $
1. NSF Research Grant: Research Grant: 9/01/2015-8/31/2017	**$140,845**

Principal Investigator EAGER: Mobile Solutions for Multifold Increase of Survival Rates Through High Quality Chest Compressions **PI: Ram Dantu**	
2. NSF Research Grant: 9/1/12-8/31/2018 **Principal Investigator** Title: SFS-NEW: Advancing Learning and Leadership Through an Integrated Multidisciplinary Doctoral Program in Information Assurance (**PI: Ram Dantu**, Co-PIs: Suliman Hawamdeh and Dan Kim	$1,200,070
3. NSF Research Grant: 9/1/2012-8/31/2017 **Principal Investigator** Title: MRI: CloudCar: Development of a Diverse Distributed Instrument for Vehicles in the Cloud (**PI: Ram Dantu,** Co-PIs: Sanjay Sarma of MIT and David Tam of UNT	$500,000
4. NSF Research Grant: 10/2011 – 3/2012, Principal Investigator (sole PI) Title: I-Corps: Mobile Life Guard	50,000
5. NSF Research Grant: 6/2010- 9/2012 **Principal Investigator** **Title:** REU: Development of Next Generation 9-1-1 Services, 2010-2012 (**PI: Ram Dantu,** sole PI)	32,000
6. NSF Research Grant: 6/2010- 9/2012 **Principal Investigator** **Title:** RET: Development of Next Generation 9-1-1 Services, 2010-2012 (**PI: Ram Dantu,** sole PI)	24,000
7. NSF Research Grant: 9/2008 – 8/2011 **Principal Investigator:** **Title**: NSF: CNS: Development of a Flexible Instrument and Tools for Experimental Research in Next-Generation 9-1-1 Services (**PI: Ram Dantu**, Co-PIs: Parthasarthy Guturu and Krishna Kavi)	500,000
8. NSF Collaborative Research Grant: 9/2008-8/2012 **Principal Investigator:** **Title:** NSF: CNS: A Testbed for Research and Development of Next Generation 9-1-1 Services (Collaborative research with Columbia University and Texas A & M) (**PI: Ram Dantu**, Co-PIs: Henning Schulzrinne, Walt Magnussen, Ana Goulart, and Guy Almes, Parthasarathy Guturu, and Krishna Kavi)	1,342,000
9. NSF CT-ER: Collaborative Research: September 2006-2009 **Principal Investigator** Detecting Spam in IP Multimedia Communication Services (**PI: Ram Dantu**, Co-PI: Henning Schulzrinne, Columbia University)	253,516
10. NSF IA Capacity Building grant: 9/2006-8/2009 **Principle Investigator** **Title:** A Regional Partnership to Build and Strengthen IA in North Texas (**PI: Ram Dantu**, Co-PI: Steve Tate and Matt Wright)	247,183

11. NSF Research Grant: 9/2006 –8/2010 **Principle Investigator** Title: Development of a Flexible Platform for Experimental Research in Secure IP Multimedia Communication Services (**PI: Ram Dantu**, sole PI)	300,000
12. NSF Collaborative Research Grant: 3/2006 – 2/2010 **Principal Investigator** **Title:** A Testbed for Research and Development of Secure IP Multimedia Communication Services (**PI: Ram Dantu**, Co-PIs: Elisa Bertino of Purdue University, Sonia Fahmy of Purdue University, Dipak Ghosal of University of California, Davis, and Henning Schulzrinne of Columbia University	600,000
13. NSF Cyber Trust Research Grant: 9/2005 – 9/2007 **Principal Investigator** Title: SGER: Preventing Voice Spamming **(PI: Ram Dantu**, sole PI)	60,150
Total (for the last 5 years)	**$5,249,764**

II G. *Professional Activities of Discipline*

- Organized booth for UNT booth for women in cyber security and scholarship, March 2016
- Denco911 lead to congressional team to capitol hill, February 2016
- NSF panel on Smart Connected Communities, February 2016
- NSF panel on Cyber Security Education, December, 2015
- Organized workshop on Hot Topics in Network Security, March 2015.
- Lead PI for Center for Academic Excellence for Information Assurance Education, 2012-2019
- Lead PI for CISSE Security Certificates 4011, 4012, June 2014
- PI for Center for Academic Excellence in Information Assurance Education (CAE-IAE), June 2014.
- Writing evaluation letters for promotion to a faculty in a tier-1 university
- Program Chair, SOMIC (Workshop on Security On the Move and In the Clouds), 2013
- Reviewer for NSF Panel, November 2013.
- Technical Program Committee member for ISI'2013.
- Reviewer for IEEE Transactions on Mobile Computing, 2013.
- Program Chair, SOMIC (Workshop on Security On the Move and In the Clouds)
- Reviewer for NSF Panel, November 2012.
- Technical Program Committee member for ISI'2012.
- Reviewer for IEEE Transactions on Automation Science and Engineering, 2012.
- Reviewer for NSF Panel, May 2011.
- Technical Program Committee member for ISI'2011.
- Reviewer for Journal of Computers and Security, 2011.
- **DFW 9-1-1 Quarterly Meetings and BTOP Grant Proposal for $5.054M (3/15/2010):** North Central Texas Council of Governments, Workforce Solutions of North Central Texas, and University of North Texas have come together to form a collaborative effort for a BTOP grant application. This collaboration includes a total of 13 countywide and 5 municipal systems, which include 44 Public Safety Answering Points(PSAPs), 15 workforce locations and one University. The purpose of this grant is the research, design and development of an

IP based NG9-1-1 emergency service for the DFW area network and the training of 9-1-1 dispatchers. In this grant PI is Christy William, program manager for NCTCG and co-PI is Ram Dantu.

- **IETF Standard Activities: May 1995 – August 2002:** Authored and participated in several IETF (Internet Engineering Task Force) standards activities in MPLS, SIGTRAN, FORCES and SIPPING working groups. Submitted eight drafts and five of them were selected as standards after peer reviews. These standards are deployed in several networks and various products in Nortel, Alcatel, Fujitsu and Cisco.
- Reviewer for MIT internal grant competition, 2010.
- Reviewer for IEEE SMC Part-A, 2010
- Reviewer for Journal of Social Networks and Data Mining, Springer Vergal, February 2011.
- Reviewer for ACM TOMCCAP, 2010
- Reviewer for NSF Review Panel, 2010
- Reviewer for CCNC'2009
- Reviewer for ISI 2009
- Reviewer of IEEE TDSC, Oct.2008
- Reviewer for IPTCOMM 2008
- Reviewer of IEEE TKDE, Sep. 2008
- Reviewer of NSF Career panel, June 2008
- Reviewer of IEEE TPDS, Oct. 2007.
- Reviewer of IEEE ICC, Oct. 2007.
- Panelist, NSF Cyber Trust, Washington, DC, Oct. 2007.
- Session Chair, NSF CRI PI meeting, Boston, June 2007.
- Demo of 9-1-1 services at IPT Comm, July 2007.
- Reviewer of IEEE COMSAC, Mar. 2007.
- Reviewer of IEEE Broadnets, Mar. 2007.
- Reviewer of IEEE International Conference on Communications, 2007.
- Voice over IP Workshop organization in June, New York, July 2007
- Program Chair, Voice over IP Security Workshop, sponsored by ACM SIGCOM, Frankfurt, Germany, June 2006
- Guest editorial VoIP Security in IEEE Network, September 2006
- Guest Editor, IEEE Network, Special Issue on Securing Voice over IP, Sept. 2006.
- Technical Program Chair for 3rd Workshop on VoIP Security, West Berlin, June 2006.
- Panelist for NSF Workshop on Future Topics for Cyber Trust, Pittsburgh, Sept. 2006.
- Panelist for NSF Workshop on CISE Global Challenges, Utah, June 2006.
- Panelist for 1st IEEE International Workshop on VoIP Security and Management (VoIPMaSE), Vancouver, BC, Canada, Apr. 2006.
- Technical Program Chair for 2nd Workshop on VoIP Security, Washington, DC, June 2005.
- Reviewer of IEEE International Conference on VoIP Security and Network Management, VoIPMase, Vancouver, Apr. 2006.
- Program Chair, Voice over IP Security Workshop, sponsored by Cyber Security Industry Alliance, Washington DC, June 2005
- Reviewer and Session Chair for IEEE International Conference on Intelligence and Security Informatics, ISI 2005.

- Program Committee member for IEEE International Conference on Intelligence and Security Informatics, ISI 2005.
- Session Chair on Security and Privacy issues in Radiology, NSF Cyber Trust PI meeting, Sept. 2005 (invited by Cyber Trust Program Director).
- Technical Advisory Board Member in PACS Administrators in Radiology Certification Association, Dec. 2004 to date.
- Technical Advisory Board Member for SIPTrain for training and certification in VoIP, Dec. 2004 to date.
- Workshop Chair for IEEE Workshop on Challenges and Issues in VoIP Security, IEEE GLOBECOM, Dallas, Dec. 3, 2004.
- Session chair for the information security track in IEEE Conference on Information Technology (ITCC 2004), Apr. 2004.
- Reviewer for *International Society Journal for Computers and Applications,* Oct. 2004.
- Reviewer for *Journal of Network and Computer Applications*, Elsevier Publications, Oct. 2004.
- Reviewer for *Journal of Telecommunications Systems*, June 2004.
- ATM Forum Standards Activities: April 1992 – April 1996: Active participation in ATM Forum standards in UNI, NNI, Traffic Management, Signaling and MIB specifications. This includes submission of drafts for the specifications. These standards are deployed in all the real-life networks.
- Program Chair, Voice over IP Security IEEE Globecom Workshop, Dallas, Texas, December 2004.
- Design team member for IETF Midcom working group, 2002.
- Reviewer for IEEE Workshop on IP Control and Management, Southern Methodist University, 2002.
- Design team member for IETF ForCES working group, 2001.
- Design team member for IETF Sigtran working group, 2000.
- University of Victoria, Canada, evaluated the promotion of a Professor, Oct. 1991.
- University of Victoria, Canada, evaluated candidates for Assistant Professor in Oct. 1991.
- Penn State University, evaluation of candidates for Assistant Professor, 1991.
- Reviewer of IEEE International Conference on Circuits and Systems, 1993.
- Reviewer for the IEEE Interventional Conference on Robotics and Automation, 1988.
- Reviewer for the IEEE Control Systems Magazine, 1988.
- Reviewer for the IEEE International Conference on Systems and Circuits, 1988.

Area II I. *Societal Impact of Our Research* :

1. Telephone Telepathy and Minimizing Communication-Induced Stress

With the widespread adoption of mobile and wireless technologies, we are rapidly approaching the point of reaching the promise made in many conference keynote addresses; namely, "anywhere, anytime, any media" communications. Our approach computes a nuisance level of incoming voice calls (emails) and creates automated mechanisms to delay, reject, automatically answer, or redirect incoming communications. We predict incoming and outgoing real-time communications (called "telephone telepathy"). The ultimate objective is that a phone should ring only when we want to

answer and that a caller should be able to predict when a call or an instant message is most likely to be welcome rather than be a disruption.

2. Next-Generation 9-1-1 Services

Adding other media for 9-1-1 presents opportunities and challenges. Text messages, images captured by cell phones, video clips, and automatic crash notification messages can dramatically enhance 9-1-1 services by expediting emergency responses and reducing crash clearance times. Our lab research concerns locating 9-1-1 callers, securing public safety answering points, ensuring continuous availability of 9-1-1 services during large-scale emergencies, predicting emergencies, providing citizen alerts (reverse 9-1-1), improving inter-agency coordination, and enhancing 9-1-1 services for the deaf and hearing-impaired by using video phones and instant messaging.

3. **Social Networks as First Responders in Emergencies**

With the introduction of high-speed connectivity at home, at work, and on the road, it is now possible to add family and friends as first responders in 9-1-1 situations. These middle people (call them "first responders") can arbitrate the requests and responses or even help and rescue using the new research in remote feedback control, human-machine interactions (HMI), and privacy/traffic management. New algorithms and models are being used for the remote control of cameras in mobiles (human in the loop) to vary focus, tilt, lighting, contrast, sound, bandwidth, and other sensors in order to help prepare the 9-1-1 call takers to better respond to an emergency. We are devising new emergency dispatch protocols for CPR, and the collection of vital signs. This system is particularly beneficial in serving children and the elderly during emergencies.

4. **Navigation for the Blind and the Visually Impaired**

For a visually impaired person, navigation inside a building presents a multitude of problems. With the proliferation of mobile phones with built-in sensors such as camera, touch, accelerometer, compass, microphone, light, and touch, we are motivated to look into solving day-to-day problems. We use mobile sensors along with external sensors as tactile sensors in a cane to assist the visually impaired to reach their destination in a building. The tactile sensor communicates to the mobile phone about obstructions and objects via Bluetooth. In addition, we are exploring landmarks inside the building using magnetic maps. To be precise, by using a blueprint of a building, we are calculating the optimal route, directions for walking, and the number of turns required to reach the destination.

5. Navigation for Safe Driving

Another novel research opportunity is to obtain an understanding of vehicle motion by using cell phones to classify safe and unsafe driving. For example, we use a car's braking distance, acceleration, deceleration, and lane changes to detect safe versus unsafe driving. Our preliminary measurements have been successful and accurate. For example, a mobile phone can make 9-1-1 calls automatically during fatal accidents or fall detection.

AREA II J. *Comments from the National Science Foundation (NSF)*

NSF Press Release, Comments by NSF Director, Dr. France A. Córdova, November 2015
*The University of North Texas' Ram Dantu (*pronounced "Dan-Tu"*) is director of the UNT Center for Information and Computer Security and researches* Voice over IP (VoIP) security*. This research as led to a number of new companies: Sipera Systems, VoIP shield Systems, Kagoor Networks (which was acquired by Juniper Networks, a leading networking company with 2014 revenues nearly $5B) and Kayote Networks.*
http://www.nsf.gov/news/speeches/cordova/15/fc151113_TAMEST.jsp

NSF Press Relese 13-104, *Researchers Reveal Next-Generation Emergency Response Technology, 2013*
http://www.nsf.gov/news/news_images.jsp?cntn_id=128252&org=NSF

NSF Press Release on Safe Driving, November 2012
http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=125913

NSF Press Release, *Professor Works on Overhaul of 911 Services, July 2008.*
http://www.nsf.gov/news/news_summ.jsp?cntn_id=112045

Comments from Karl Levitt, Cyber Trust Program Director
Since last year, NSF has supported Dantu to investigate specific methods to prevent voice spamming. Karl Levitt, who directs NSF's CyberTrust program commented, "Dantu has a keen awareness of the nation's vital need to expedite research into VoIP security. His work identifying and applying intrusion detection methods will help alleviate the nuisance created by spam and fits well with the goals of the new test bed award." ***NSF Press Release, 4th April 2006***

Comments from Rita Rodriguez, CRI/MRI Program Director
Rita Rodriguez, program coordinator for the science foundation, said this project is important because this technology is emerging so quickly. "Right now we are invaded with all kinds of calls we don't want, but they are not harmful", she said. "I suspect with this we might get calls that might do us harm, leave incorrect messages, or mess up our phone system." "The information Dantu and his team gather will help governmental officials and lawmakers impose security measures," Rodriguez said. "If safeguards aren't put into place soon, the technology could open the door to corporate espionage or even terrorism," she said. ***Denton Record-Chronicle, May 2006.***

Rita Virginia Rodriguez, the NSF program director who oversees the project, said, "VoIP security requires immediate attention, and this research addresses a number of critical aspects needed to help prevent imminent threats." Rodriguez believes the work will have immediate and long-term impact for the technology, and importantly, will provide faculty and students at each university with real-life telecommunications research experience. ***NSF Press Release, 4th April 2006***.

Comments from Alison Mankin, NeTS Program Director
UNT's research will be timely and important to the country, said Allison Mankin, program director in National Foundation. "The bottom line is E911 is here now but it is not well." "This project is going to bring great insights into some pressing and challenging problems," said Makin. **Research Texas Magazine, Fall 2008**.

Comments from Taieb Znati, NSF Division Director
The grants, one aimed at infrastructure and the other for research, will be important to everyone in the country said Taieb Znati, divisional director at National Science Foundation. With 911 Internet,

you have to address multiple issues," Znati said, "It was an exciting proposal that was highly competitive." He said National Science Foundation grants are only given to about 10 percent of applicants each year. ***Denton Record-Chronicle, 15th January 2009.***

Area II H. *Research Collaborators*

- Sanjay Sarma, MIT, College of Engineering
- Marta Gonzalez, MIT, College of Engineering
- Henning Schulzrinne, Columbia University
- Carlo Ratti, MIT
- Nathan Eagle, MIT
- Sonia Fahmy, Purdue University
- Elisa Bertino, Purdue University
- Deepak Ghosal, University of California at Davis
- Jeff Hancock, Cornell University
- Martin Raubal, University of California at Santa Barbara

Area I. Instructional Activities

Area I A. *Instructional Assignments and Teaching Responsibilities*

Spring 2016

CSCE 6581 Advanced Topics in Network Security (12)
CSCE 5520/4520 Wireless Networks and Protocols (13 students)
CSCE 5900 Special Problems (1 student)
CSCE 5934 Direct Study (3 students)
CSCE 5950 Thesis (1 student)
CSCE 6940 Individual Research (4 students)
SLIS 6900 Special Problems (1 student)
CSCE 6950 Dissertation (3 students)

Fall 2015

CSCE 6581 Advanced Topics in Network Securiity (12)
CSCE 5520/4520 Wireless Networks and Protocols (13 students)
CSCE 5900 Special Problems (1 student)
CSCE 5934 Direct Study (3 students)
CSCE 5950 Thesis (1 student)
CSCE 6940 Individual Research (4 students)
SLIS 6900 Special Problems (1 student)
CSCE 6950 Dissertation (3 students)

Spring 2014

CSCE 5950 Thesis (2 students)
CSCE 5934 Direct Study (1 student)
CSCE 6940 Individual Research (7 students)
CSCE 6950 Dissertation (3 students)

Fall 2014:
CSCE 6581 Advanced Topics in Network Securiity (8)
CSCE 4520 Wireless Networks and Protocols (13 student).
CSCE 5520/4520 Wireless Networks and Protocols (13 students)
CSCE 5934 Direct Study (1 student)
CSCE 6940 Individual Research (5 students)
SLIS 6900 Special Problems (1 student)
CSCE 6950 Dissertation (2 students)

Spring 2013
CSCE 6581 Advanced Computer Networks (9 students)
CSCE 4890 Direct Study (1 student)
CSCE 5934 Direct Study (1 student)
CSCE 6940 Individual Research (5 students)
CSCE 6950 Dissertation (2 students)

Fall 2013:
CSCE 3530 Introduction to Computer Networks (35 students)
CSCE 4520 Wireless Networks and Protocols (13 student).
CSCE 5520 Wireless Networks and Protocols (13 students)
CSCE 5934 Direct Study (1 student)
CSCE 6940 Individual Research (5 students)
SLIS 6900 Special Problems (1 student)
CSCE 6950 Dissertation (2 students)

Spring 2012:
CSCE 6581 Mobile Cloud Computing (9 students)
CSCE 4890 Direct Study (1 student)
CSCE 5580 Computer Networks (28 students)
CSCE 5934 Direct Study (1 student)
CSCE 5950 Thesis (2 students)
CSCE 6581 Mobile Cloud Computing (new course, 9 students)
CSCE 6940 Individual Research (3 students)
CSCE 6950 Dissertation (2 students)

Fall 2012
CSCE 4520 Wireless Networks and Protocols (3 student)
CSCE 5520 Wireless Networks and Protocols (14 students)
CSCE 5934 Direct Study (1 student)4520
CSCE 5950 Thesis (1 student)
CSCE 6940 Individual Research (4 students)
CSCE 6950 Dissertation (2 students)

Spring 2010
CSCI 4890 Direct Study (1 student, 3 credits)

CSCI 6581 Advanced Computer Networks (6 students)
CSCI 5950 Thesis (1 students, 3 credit)
CSCI 5934 Directed Study (1 student, 3 credits)
CSCI 6940 – Individual Research (3 students, 12 credits)
CSCI 6950 – Dissertation (1 student, 3 credits)

Fall 2010

CSCI 4520 Wireless Networks (11 students, 33 credits)
CSCI 4950 CSE Special Problems (1 student, 3 credits)
CSCI 5520 Wireless Networks (14 students, 52credits)
CSCI 5934 Directed Study (2 students, 6 credits)
CSCI 5950 Thesis (2 students, 6 credits)
CSCI 6940 – Individual Research (2 student, 6 credits)
CSCI 6950 – Dissertation (2 students, 6 credits

Spring 2009

CSCI 6590 Advanced Wireless Networks (10 students, 30 credits)
CSCI5934 Directed Study (2 students, 6 credit)
CSCI 6940 Individual Research (1 student, 3 credits)
CSCI 6950 Dissertation (2 students, 6 credits

Fall 2009

CSCI 4520 Wireless Networks (8 students, 24 credits)
CSCI 5520 Wireless Networks (16 students, 48 credits)
CSCI 5950 Thesis (2 students, 6 credit)
CSCI 6940 – Individual Research (3 student, 12 credits)
CSCI 6950 – Dissertation (2 students, 6 credits

Spring 2008

CSCE 4850 CSCE special problems in computer science
CSCI 5580 – Computer Networks (27 students, 81 credits)
CSCI 6590 – Advanced Computer Networks (11 students, 33 credits)
CSCI 6940 – Directed Study (1 student, 3 credits)
CSCI 6950 – Dissertation (2 students, 6 credits)

Fall 2008

CSCI 4520 –Wireless Networks (11 students, 33 credits)
CSCI 5520 Wireless Networks (16 students, 48 credits)
CSCI 5934 Directed Study (2 students, 6 credit)
CSCI 6940 – Individual Research (1 student, 3 credits)
CSCI 6950 – Dissertation (2 students, 6 credits

Spring 2007

CSCI 5580 – Computer Networks (25 students, 75 credits)
CSCI 6590 – Advanced Wireless Communications and Networks (11 students, 33 credits)
CSCI 6940 – Directed Study (1 student, 3 credits)

CSCI 6950 – Dissertation (2 students, 6 credits)

Summer 2007
CSCI 5934 – Direct Study (1 student, 3 credits)
CSCI 5950 – Thesis (1 student, 3 credits)
CSCI 6940 – Individual Research (1 student, 3 credits)
CSCI 6950 – Dissertation (1 student, 3 credits)

Fall 2007
CSCI 4520 –Wireless Networks (6 students, 18 credits)
CSCI 5520 Wireless Networks (23 students, 72 credits)
CSCI 5934 Directed Study (1 student, 3 credit)
CSCI 5950 – Thesis (1 student,3 credits)
CSCI 6940 – Individual Research (2 students, 9 credits)
CSCI 6950 – Dissertation (2 students, 6 credits)

Spring 2006
CSCI 6590 – Advanced Wireless Communication and Networks (24 students, 72 credits)
CSCI 5580 – Computer Networks (22 students, 66 credits)
CSCI 6940 – Individual Research (one student)
CSCI 5950 – MS Thesis (2 students)
CSCI 6590 – Dissertation (one student)

Summer 2006
CSCI 5890 – Directed Study (1 student, 3 credits)
CSCI 6940 – Individual Research (1 student, 3 credits)
CSCI 6950 – Dissertation (1 student, 3 credits)

Fall 2006
CSCI 5520 – Wireless Networks and Protocols (14 students, 42 credits)
CSCI 4520 – Wireless Networks and Protocols (6 students, 18 credits)
CSCI 5950 – MS Thesis (1 student, 3 credits)
CSCI 5890 – Directed Study (2 student)
CSCI 6940 – Individual Research (2 student, 11 credits)
CSCI 6950 – Dissertation (1 student, 3 credits)

Spring 2005
CSCI 5780 – Computer Networks (29 students)
CSCI 5330 – Wireless Networks (12 students)
CSCI 4330 – Wireless Networks (5 students)
CSCI 5890 – Directed Study (3 students)
CSCI 5900 – Special Problems (1 student)
CSCI 5950 – MS Thesis (2 students)
CSCI 6940 – Individual Research (1 student, 6 credits)

Summer 2005
CSCI 5890 – Directed Study (3 credits, 1 student)

CSCI 6940 – Individual Research (1 student, 6 credits)

Fall 2005
CSCI 5520 – Wireless Networks and Protocols (31 students, 93 credits)
CSCI 6581 – Advanced Computer Networks (17 students, 51 credits)
CSCI 5950 – MS Thesis (1 student, 3 credits)
CSCI 4890 – Directed Study (1 student, 3 credits)
CSCI 5890 – Directed Study (1 student, 3 credits)
CSCI 6940 – Individual Research (1 student, 3 credits)
CSCI 6950 – Dissertation (1 student, 3 credits)

Spring 2004
CSCI 5780 – Computer Networks (25 students)

Summer 2004
CSCI 5330 – Wireless Networks and Protocol (15 students)

Fall 2004
CSCI 4330 – TCP/IP (28 students)
CSCI 6781 – Advanced Computer Networks (9 students)

Spring 2003
CSCI 3780 – Computer Networks (30 students)
CSCI 3100 – Computer Organization (30 students)

Fall 2003
CSCI 6781 – Advanced Computer Networks (14 students)

Area I B. *Statement of Teaching Philosophy and Goals*

I believe that the primary purpose of teaching is to impart knowledge and stimulate a learning environment that ultimately has real world applicability. I like to encourage creative thinking in assignments, projects, and exams. I think setting up deadlines for homework, projects, and tests is good because deadlines cultivate time management. However, the final thing that matters to me is how much students learn in a course and how much they can apply their learning in the real world. I will work toward this objective until they complete the course up till the last minute of the final exam. If all the students feel that it is hard to solve a problem in an exam, I will motivate them with some tips so that they can at least attempt and learn how to solve the problem instead of not attempting at all. However, I make sure that whatever I do is fair to all the students.

I worked over 12 years in industry and practiced different sub-fields of computer networks. I would like to share the practical knowledge that I have gained in the industry. In this context, I emphasize how to translate theoretical knowledge into practice and make this process productive. I believe that these skills help both undergraduate and graduate students to be successful scientists and engineers. Finally, I like to be their friend and offer encouragement irrespective of their interaction, behavior, and performance in the class.

Area I C Student Evaluations **(a separate document available upon request)**

Area I D. *New Preparations and Revisions*

I prepared the following courses, which were approved by the departmental, college, and university graduate curriculum committees:

CSE 6581 Advanced Topics in Computer Networks (Mobile Cloud Computing),Spring'2012
CSCI 6590 – Advanced Wireless Communication and Networks (Mobile social networks)
CSCI 5520 – Wireless Networks and Protocols (new projects on Google phone platform and applications)
CSCI 6581 – Advanced Computer Networks on emergency services
CSCI 4520 – Wireless Networks and Protocols (new projects on Google phone platform applications)

Area I E. *Student Advising Related to the Instructional Process and Programming Competitions*

In addition to the standard department advising of undergraduate and graduate students, I have served as faculty advisor for the students participating in local seminars and talks. I organized a trip to the CCDC competition in 2007 and 2008, and the Message security seminar in 2007. In 2008, we organized a security job fair for UNT students (Ascent Day). Several companies presented their requirements to the students, and more than 30 students participated in this fair.

Director, Center for Information and Computer Security

The Center for Information and Computer Security (CICS) is an interdisciplinary center, bringing together individuals and organizations with an interest in the areas of information security, computer security, information assurance, and cybercrime. CICS has been recognized by the National Security Agency and Department of Homeland Security as a *Center of Academic Excellence in Information Assurance Educati*on. As the director, I coordinate security courses offered by the University of North Texas that have been certified as a 100% mapping to the Committee on National Security Systems (CNSS) National Standards 4011 and 4013. This certification is made by the Information Assurance Courseware Evaluation (IACE) Program, a part of the National INFOSEC (Information Security) Education and Training Program administered by the U.S. National Security Agency (NSA). Led the UNT team for successful awards for Center for Academic Excellence for Information Assurance Education (CAE-IAE) and Center for Academic Excellence for Information Assurance Research (CAE-R). UNT is one of 30 universities receiving both the designations.

Area I F. *Graduate Student Advising*

Ph.D Dissertations

1. Prakash Kolan, "System and Methods for Detecting Unwanted Voice Calls", PhD Dissertation, University of North Texas, July 2007 (**Awarded outstanding student**, currently employed as Research Team Lead in Niksun Inc., New York)

2. Hemant Sengar, "Securing Public and IP Telephone and Networks", PhD Dissertation Co-adviser, George Mason University, August 2007.
3. Santi Phithakkitnukoon, "Inferring Social and Internal Context using a Mobile Phone", University of North Texas, October, 2009 (**Awarded outstanding student**, currently employed in SENSeable CITY Lab, MIT).
4. Huiqi Zhang, "Socioscope: Human Relationship and Behavior Analysis in Mobile Social Networks", PhD Dissertation, University of North Texas, Summer 2010.
5. Kalyan Pratap Subbu, "Navigation in the Dark", PhD Dissertation, Major Professor, University of North Texas, defended December 2011 **(received university-level best thesis award).**
6. Neeraj Gupta, "Modelling and Analysis of NG9-1-1 Services", PhD Dissertation, University of North Texas, Qualifying completed, May 2013. (currently working as faculty in University of Texas, Dallas).
7. Enkh-Amgalan Baatarjav, "Privacy Management Systems for Online Social Networks", PhD Dissertation, University of North Texas, Qualifying completed, June 2013 (completed, **received best dissertation award**)
8. Xiaohui Yang, "Socially Cognizant VoIP Services", PhD Dissertation, Co-adviser, George Mason University, completed qualifying exam, August 2012.
9. Fazeen Mohamed, "Mobile Black Box: System and Methods for Safe Driving", PhD Dissertation, University of North Texas, September 2013 (graduated Fall'2014), **received 2nd prize in graduate student poster competition).**
10. Garima Bazwa, "Prediction Models using Brain-Mobile-Interface", PhD Dissertation, University of North Texas, December 2013 (comprehensive completed, **expected to graduate in May 2016, received 3rd prize in graduate student poster competition, Outstanding student award, first place 3MT Competition).**
11. Shanti Thiagaraj "Models for Detecting Vital Signs using Mobile Phones", PhD Dissertation, University of North Texas, May 2016 (comprehensive completed). **Received 1st prize in Sprit of Innovation Competition USICOC competition in Texas Instruments**
12. Michael Jaynes, "Privacy, Security, and Safety of CAN-Bus Networks for Vehicles in the Cloud", University of North Texas (expected to complete the comprehensive in Spring'2015)
13. Jagannath Ambraeesh Vempati, "Privacy and Security of Routing Protocols", PhD Dissertation, University of North Texas, (expected to complete the comprehensive in Spring'2015)
14. Cynthia Claiborne, "Privacy and Anonymization of Sensors in a Mobile Phone", University of North Texas, August 2014 (expected to complete the comprehensive, Springn'2015)
15. Quentin Mayo, "Security Automation Using Feedback Control", University of North Texas, (Co-advising with Dr. Bryce, completed qualifying Fall'2014)
16. Srikanth Jonnada, "Securing Mobile Adhoc Services", University of North Texas, August 2016 (expected to complete the comprehensive).
17. Josh Takington, "DTLS for Constrained Devices", University of North Texas, August (expected graduation, 2018)
18. Logan Witick dissertation in secured collaborative technology for IoT (expected graduation 2018)
19. Nilanjan Sen dissertation in wireless security (expected graduation 2018)
20. Tianyu bai dissertation in theoretical aspects of network security (expected 2018)
21. Sahil Pujani, dissertation in SDN architecture and security (expected graduation 2018)
22. Yassir Hesham (expected graduation 2018, co-advising with Dr. Hassan Takabi)

MS Thesis Advising

1. Arun Yelmeli, "Dynamic Control of Worm Propagation", MS Thesis, University of North Texas, April 2004 (employed Cigna Insurance Inc).
2. Cody Brookshear, "Securing VoIP Phones", MS Thesis, August 2005, University of North Texas, August 2005 (employed in Avaya Labs, Colarado)
3. Sudeep Patwardhan, "Fast Worm Containment using Feedback Control", MS Thesis, May 2007", MS Thesis, University of North Texas, May 2005 **(Awarded outstanding student, currently employed by Alcatel)**.
4. Husain Hasna, " Models to Combat Email Spam Botnets and Unwanted Phone Calls", MS Thesis, University of North Texas, January 2008 (**Awarded outstanding student**).
5. Srikant Palla, "A Multi-variate Analysis of SMTP Paths and Relays to Restrict Spam and Phishing Attacks in Emails", MS Thesis, University of North Texas, October 2008 (**Awarded outstanding student** and currently working Microsoft)
6. Paul Srofe, "Eshape Analysis", MS Thesis, University of North Texas, December 2009 (**Awarded Outstanding student**, currently employed by UNT).
7. Vikram Chandrasekaran , "Collecting Vital Signs Using Mobile Phones", MS Thesis, University of North Texas, August 2010 (**Awarded outstanding student)**.
8. Srikant Jonnada, "Robust Measurement of Blood Pressure using Smart Phones", Depart of Computer Science and Engineering, University of North Texas, December 2011 (completed)
9. Brandon Godzick, "Safe Driving using Mobile Phones", Department of Computer Science and Engineering, University of North Texas, August 2012 **(Awarded outstanding student)**
10. Chaitra Urs, "Assessing Road Conditions, Crash Detection and Notification", Department of Computer Science and Engineering, University of North Texas, December 2012.
11. David Jensen, "DDoS Attacks on Smartphone Servers", Department of Computer Science and Engineering, University of North Texas, May 2014
12. Rajasekhar Ganduri, "Modeling and Analysis of Schedulers for Real-time Communications in a Cloud (May 2016)
13. Paula Mears (August 2017)
14. Htoo Winn (August 2017)
15. I-Chen Yes (December 2016)

Member of Dissertation/Thesis Committees:

Paul Miller (MS, 2007)
He Ge (Ph.D., Dissertation Committee, graduated Spring 2006)
Vandana Gunupudi (Ph.D., Dissertation Committee, Fall 2007)
Ping Yu (Ph.D., Dissertation Committee, Fall 2008)
Ke Xu (Ph.D. Dissertation Committee, Spring 2004)
Roopa Viswanathan (graduated Fall 2006)
Sachin Joglekar (MS Thesis Committee, 2006)
Kaizar Amin (MS Thesis, 2005)
Roopa Viswanathan (PhD, expected graduation, 2011)
Ping Ye (PhD, Dissertation Committee, graduated Fall 2008)

Area I G. *Teaching Lab*

One area in which there is a real shortage of computer professionals is network and security engineering. There are thousands of open positions posted on hotjobs.com and other job-search sites for network and security engineers. Major requirements for these jobs are hands-on experience with real network elements like routers, switches, firewalls, intrusion detection

systems, and network management stations. We needed a lab where students can go and do experiments with network topologies, routing tables, switch configurations and network management. Industry requires students with a knowledge of popular firewalls like Checkpoint and Cisco and the ability to create and be responsible for the maintenance of signature logs on these intrusion detection systems. To accomplish this, we have created a *Systems & Security Lab* for teaching students the vital aspects of being a network or security engineer. This lab is supported by a grant from the NSF. Our experiments will cater to CSCE 3580, CSCE 4570, CSCE 5520, CSCE 5580, CSCE 6581, and CSC E 6590.

Area I H. *Teaching Grant Activity*

1. TI DSP University Program, December 2003
   Co-PI: Equipment Donation Program
   Title: Kits for DSP Lab (TMS 3200-6411hardware + software)
   Amount: ~$60,000 (**funded**)

2. NSF Educational Grant, September 2006-2009
   Principal Investigator:
   Title: Collaborative Project: A Regional Partnership to Build and Strengthen IA in North Texas
   Amount: $247,183 (PI: Ram Dantu, Co-PIs: Steve Tate, Matt Wright)

Area II. *Other Instructional Activities*

- Responsible for creating the MS computer engineering program (part of a special task force)
- Responsible for creating the tracks/courses for the MS computer engineering program
- Coordinated invited talks in graph theory

Area III. Administration and Service

A. University Level

- Member of ETEC Chair evaluation committee 2015-2016
- Member of College Strategic Committee, 2014
- Member of College PAC Committee for promotion to Professor, 2014
- Member of College Strategic Committee, 2014
- Member of College PAC Committee for promotion to Professor, 2013
- Member of Executive Council for Reviewing Centers and Institutes, 2013
- Judging University-level Innovation Competition, 2012, 2013, 2014
- Member of SFS Scholarship Selection Committee, 2012, 20113, 20114
- Member of College of Information PhD admission committee, 2012, 2013, 20114
- Member of Patent Committee, 2012
- Member of University Patent Committee, September 2010 – present.
- Member of UNT delegation to India for research collaboration, January 4-8, 2010.
- Member of Federation of North Texas Universities, 2009-2010

- Member of CAS Math Focus Group, 2009-20010
- Member of PhD Selection Committee, SLIS, 2009-2010
- Member of Search Committee for Associate Dean of Research, College of Engineering (2008-2009)
- Member of Federation of North Texas Universities, 2008
- Member of CAS Math Focus Group, 2008-2009
- Member of University Patent evaluation committee, 2008-2009
- Member of Promotions and Tenure Committee, Department of Computer Science and Engineering, 2008-2009
- Member of Federation of North Texas Universities, 2007
- Member of Federation of North Texas Universities, 2006
- Member of Provost Task Force on Increasing Research, University of North Texas, Denton, Texas, 2005
- Member of University Search Committee for Chairman of Department of Electrical and Computer Engineering, Concordia University, Canada, 1989
- Member of Engineering Faculty Council, Concordia University, Canada, 1987
- Member of University Graduate Studies Committee, Concordia University, Canada, 1987
- Member of University Senate, Concordia University, Canada, 1988

B. Departmental Level

- Member of Scholarship Committee 2015-current
- Curriculum development for UNT Frisco Cyber Security Course
- Administration of CICS center; responses to all the queries (from the public, dean, provost and president) about the center and the cyber security program. Response to all the queries from the students about the certificates.
- Member of IT undergraduate committee
- Organization of HoNeST (Hot Topics in Networks and Security) workshop, Department of Computer Science and Engineering, 2015
- Member of Promotions and Tenure Committee, Department of Computer Science and Engineering, 2014
- Chair, Promotions to Professor, Department of Computer Science and Engineering, 2012-2013
- Member of Executive Committee, Department of Computer Science and Engineering, 2011-2014.
- Member of Strategic Planning Committee, Department of Computer Science and Engineering, 2014
- Member IT Committee 2013-current: Significant contribution for development of revised program and introduction of new course
- Initiated and coordinated the IT System Administration Course, 2013-2014.
- Organization of SOMIC (Security On the Move and In the Clouds) workshop, Department of Computer Science and Engineering, 2013
- Member of Promotions and Tenure Committee, Department of Computer Science and Engineering, 2013
- Chair, Promotions to Professor, Department of Computer Science and Engineering, 2012-2013.

- Member of Faculty Search Committee, Department of Computer Science and Engineering, 2011-2013.
- Member of Executive Committee, Department of Computer Science and Engineering, 2011-2013.
- Member of Strategic Planning Committee, Department of Computer Science and Engineering, 2013.
- Member of Information Technology Curriculum Review Committee, 2013.
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- Member of Promotions and Tenure Committee, Department of Computer Science and Engineering, 2009-2012
- Member of Faculty Search Committee, Department of Computer Science and Engineering, 2011-2012.
- Member of Executive Committee, Department of Computer Science and Engineering, 2011-2012.
- Member of Search Committee for Chair, Computer Science and Engineering (2009-2011)
- Chair, Faculty Search Committee, 2008-2009.
- Member of Computer Science and Engineering Grad Committee (2008-2009)
- Member of Research Enhancement Committee 2008-2009
- Member of departmental PAC 2008-2009
- Member of Computer Engg. ABET task force 2007-2008
- Member of Computer Science Graduate Committee (Fall 2007-2008)
- Member of Faculty Search Committee (Fall 2007-2008)
- Member of Computer Science Graduate Committee (Fall 2007-2008)
- Member of Computer Science Graduate Committee (2003-2006)
- Member of Research Enhancement Committee (Fall 2005-2006)
- Member of CSCE committee on Research Colloquium (Fall 2004-2005)
- Member of Computer Science Undergraduate Committee (Spring 2003)
- Member of Computer Engineering Committee (Spring 2003)
- Member of Ad Hoc Computer Engineering Committee (Fall 2003): Prepared several new communication network courses and prepared new course forms and received approval.
- Member of Ph.D. Comprehensive Exam Committee, 2003-2004 (setting up and grading for Networks area)
- Advising Computer Engineering Undergraduate Students during Summer 2003
- Advising Computer Science Graduate Students (Fall 2003 to date)
- Principal coordinator for preparing Computer Engineering Graduate Curriculum (Fall 2003): Created several new graduate-level Computer Engineering courses and presented to the faculty. After the feedback, I completed the new course forms and prepared the complete package for the Associate Dean of Engineering.

C. Community Service and Outreach

- NSF Press Release, Comments by NSF Director, **Dr. France A. Córdova, November 2015** http://www.nsf.gov/news/speeches/cordova/15/fc151113_TAMEST.jsp

- Workshop on Hot Topics in Network Security, March 2015, Frisco Texas (around 250 people from the industry attended this workshop)

- Presented CSE slides for recruiting high quality grad students in KL University, 2015
- Presented CSE slides for recruiting high quality grad students in Sidhardha Engineering College, 2015
- Presented CSE slides for recruiting high quality grad students in Vignan University, 2015
- Presented CSE slides for recruiting high quality grad students in Nagarjuna University, 2014
- Presented CSE slides for recruiting high quality grad students in JNTU University, 2014
- Presented CSE slides for recruiting high quality grad students in PES University, 2014
- Presented CSE slides for recruiting high quality grad students in Vignan University, 2014
- Presented CSE slides for recruiting high quality grad students in KL University, 2014
- Presented CSE slides for recruiting high quality grad students in NTR University, 2014
- Presented CSE slides for recruiting high quality grad students in Anna University, 2013
- Presented CSE slides for recruiting high quality grad students in Anna University, 2013
- Presented CSE slides for recruiting grad students in UT Houston Clear-Lake, 2013
- NSA Press Relase
  http://www.nsf.gov/news/speeches/cordova/15/fc151113_TAMEST.jsp
- NSF Press Release (13-104)
  http://www.nsf.gov/news/news_summ.jsp?cntn_id=128252

- Medical Device and Diagnostic University, 11th June 2013
  http://www.mddionline.com/article/911-app-uses-smartphones-virtually-place-dispatchers-scene-emergencies
- Medical Gadget, 12th June 2013 (medical gadget news releases)
  http://www.medgadget.com/2013/06/emergency-response-app-helps-911-operators-better-assist-in-finding-and-helping-desperate-callers.html
- North Texas Magazine: Leaders in High Technology
  http://issuu.com/universityofnorthtexas/docs/northtexanwinter2013
  https://northtexan.unt.edu/content/leaders-high-technology
- NSF Press Release (6th June 2013)
  https://www.nsf.gov/news/news_summ.jsp?cntn_id=128192
- Healthcare IT News
  http://www.healthcareitnews.com/news/nsf-unveils-next-generation-911-app
- Star Telegram, Fort worth, 10th June 2013
  http://www.star-telegram.com/2013/06/10/4926341/unt-develops-smart-phone-app-to.html
- Denton Chroncle, 16th June, 2013
  http://www.dentonrc.com/local-news/local-news-headlines/20130616-new-app-to-aid-911-operators.ece
- Public Sector Media Group, 12th June 2013
  http://gcn.com/articles/2013/06/12/911-operators-control-smart-phones.aspx
- Mobile Health News, 18th June 2013
  http://www.dentonrc.com/local-news/local-news-headlines/20130616-new-app-to-aid-911-operators.ece

- Program Chair for Business Innovation Challenge for GDIACC (Greater Dallas Indo-American Chamber of Commerce), 2012-2013.
- UT Dallas Cyber Security Conference (October 29, 2013) http://csi.utdallas.edu/events_chronology/event1_2013_speakers.html
- NSF Panel on Security, June 2013
- Member of NSF-sponsored US-Indo workshop, January 9-13, 2010.
- Vice President, HTNT, 2009-todate
- Active participation in IETF meetings and mailing list discussions, 1990-present
- Member of Key Contributors Committee, Plano Independent School District (Fall 2007-2008)
- Member of DFW Homeland Security Alliance (2003-present)
- Member of PISD (Plano ISD) School Improvement Committee (Fall 2003-2004)
- Reviewer of technical documents for VoIP Security Industry Alliance (2003-present)
- Member of PACS Administrators in Radiology Certification Association (PARCA), December (2004-present)
- Helped in setting up SIPTrain for training and certification in VoIP, December 2004 to date
- Chair of Education Committee, Telecom Technology Club, Dallas, 2002
- Board Member, Telecom Technology Corridor Club, Dallas, 2002
- Supervised three undergraduate and two graduate students at Concordia University, Canada, 1989
- Vice-President, Graduate Student Associations, Concordia University, 1987