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## Curriculum Vitae

G.V.S. Raju

Peter T. Flawn Distinguished Professor

### I. GENERAL INFORMATION

#### A. Personal Data:

Department of Electrical and Computer Engineering  
The University of Texas at San Antonio  
San Antonio, Texas 78249-0669

Tel: 210-458-5599  
Fax: 210-458-5947  
email:gvs.raju@utsa.edu

#### B. Education

Ph.D.	Electrical Engr.	Polytechnic Inst. of Brooklyn, N.Y.	1966
M.Tech.	Communications Engr.	Indian Inst. of Technology	1959

#### C. Academic Appointments

2002-Present	Peter T. Flawn Distinguished Professor
1990-1997	Director, Division of Engineering, University of Texas at San Antonio
1990-2001	Professor, University of Texas at San Antonio
1985-1988	Visiting Professor, Artificial Intelligence/Robotics Laboratory, Computer Science Department, Stanford University,
1976-1984	Chairman, Department of Electrical and Computer Engineering, Ohio University,
1967-1990	Professor, Assoc. Prof., Asst. Prof., of Electrical and Computer Engineering, Ohio University.

#### D. Synergistic Activities

As an IEEE Life Fellow, IEEE –SMC president, and as ABET accrediting member, he was very much involved, at national level, in research and educational activities. As chairman of ECE department at Ohio University and Director of Division of Engineering at UTSA, he gained considerable administrative experience in the operation of academic programs and research grants. Over the years he was an investigator, co-PI and PI to multimillion- dollar grants from NASA, DoD, FAA, DoE, NSF and industry. Recently, he was co-PI to a DoD grant (telecommunication networks, 1996-2001), PI (subcontract) to DoD contract to a minority institution (telecommunications and software, 1999-2004), PI (subcontract) to AFOSR/CIAS grant (Mobile Ad-Hoc Networks security, 2002-06). He also (2004-2005) received a grant \$50,000 from NSF-CISE in computing fields. In 2006, he was PI (other faculty involved) to a NSF grant for \$ 500, 317 (2006-2009); 2008-2009 portion \$ 166,000. This grant is supporting five Ph.D. students. He supervised dissertation/thesis and directed research by several of these students. Currently he is advising/co-advising two Ph.D. students and three MS students. His current area of research is in the area of wireless communications, cognitive radios and networks security. He has been a panelist and reviewer for numerous proposals for the National Science Foundation, Washington, DC. He has also been a reviewer for several IEEE Transactions and conference proceedings. He is listed in American Men and Women in Science, Who's Who in America, the Dictionary of International Biography, and Outstanding Intellectuals of 21<sup>st</sup> century.

## **E. Honors and Awards:**

IEEE Life Fellow  
IEEE Millennium Medal Recipient  
IEEE -SMC Society President (1986,1987)  
Paul Harris Fellow, Rotary International  
IEEE -SMC award for "outstanding research contributions and exemplary leadership," 1995.  
TANA award for "excellence in engineering", July 1, 2005.  
Eta Kappa Nu Teaching Award (UTSA)

## **II. TEACHING**

### **A. Class areas, Research Supervision:**

Computer Networks and Security  
Wireless Communications and Networks  
MS thesis  
Doctoral Research  
Doctoral Dissertation  
Independent study

### **B. Instructional Development:**

Developed, updated and taught wireless communications and networks, communications networks and network security courses.

### **C. MS Thesis and Ph.D. Dissertation Directed 2007/2008:**

#### 1. Masters

Sudhira Vallepalli, EE MS student - advisor  
Ravivarma Jampana, EE MS student – advisor  
Arjun Mudunuri, EE MS student – advisor  
Rajiv Ravi Varma EE MS student - advisor

#### 2. Ph.D.

Rehan Akbani , CS Ph.D. student – co-advisor  
Andre Mayers , EE Ph.D. student - advisor

### III. Research

#### A. Bibliography: Some Recent/Selected Publications

- 1) Rehan Akbani, Turgay Korkmaz, G.V.S. Raju, "A Machine Learning Based Reputation System for Defending Against Malicious Node Behavior," IEEE GLOBECOM, 2008
- 2) Rehan Akbani, Turgay Korkmaz, G.V.S. Raju, "Defending Against Malicious Nodes Using an SVM Based Reputation System," MILCOM, 2008.
- 3) P. Sagiraju, G.V.S. Raju, D. Akopian, "Fast acquisition implementation for high sensitivity global positioning system receivers based on joint and reduced space search," IEE Proceedings on Radar, Sonar, and Navigation, Vol. 2, No.5, pp. 376-386, 2008.
- 4) G.V.S. Raju, Pravin Gali, "Techniques for Location Estimation in WLAN Environments", IEC, vol. 61, December 2008.
- 5) Rehan Akbani, Turgay Korkmaz and G.V.S. Raju, "HEAP: A Packet Authentication Scheme for Mobile Ad-hoc Networks," Elsevier, Ad-hoc Networks Journal, 2008
- 6) Rehan Akbani, Turgay Korkmaz and G.V.S. Raju, "HEAP: Hop-by-hop Efficient Authentication Protocol For Mobile Ad-hoc Networks," Proceedings of the 10th Communications and Networking Simulation Symposium, Sponsored by SCS and ACM, pp 157-165, 2007
- 7) Rehan Akbani, Turgay Korkmaz and G.V.S. Raju, "A Packet Authentication Scheme for Wireless Sensor Networks," Proceedings of the 22nd International Conference on Computers and Their Applications, pp 401-407, 2007
- 8) Prasad Yaddanapudi, G. V. S. Raju, and D. C. Popescu. "Multiuser diversity and adaptive bit loading for OFDM based Spectrum Agile Radios (SAR)", 2008 IEEE Radio and Wireless Symposium, IEEE RWS January 2008, Orlando, FL, USA.
- 9) D. C. Popescu, Prasad Yaddanapudi, and G. V.S. Raju. "A Simulation Comparison of Time-Hopping PAM and Interference Suppressing OFDM in Multiuser Ultra Wideband Communications Systems", 2008 IEEE Radio and Wireless Symposium, IEEE RWS January 2008, Orlando, FL, USA.
- 10) Phani K. Sagiraju, Praveen Gali, David Akopian, G.V.S. Raju, Enhancing Security in Wireless Networks Using Positioning Techniques" proceedings at IEEE SOSE, San Antonio, Texas, April 16th -18th, 2007.
- 11) Phani K. Sagiraju, Aleksandr Panchul, G.V.S. Raju, David Akopian, "A Software GPS+ Receiver Toolkit " proceedings at IEEE SOSE, San Antonio, Texas, April 16th -18th, 2007.
- 12) Phani K. Sagiraju, David Akopian, G.V.S. Raju, "Performance Study of Reduced Search FFT-Based Acquisition" proceeding at ION National Technical Meeting, San Diego, California, January 22-24, 2007.

- 13) Raju, G.V.S., and Rehan Akbani, "Mobile Ad-hoc Networks: Authentication Issues," IEC , vol.59, December 2006
- 14) P.K. Sagiraju, A. Panchul, D. Akopian, GVS Raju, "Reconfigurable PC Based Software GPS + Receiver:" US Institute of Navigation, NTM' 2007, January 22-24, San Diego, CA, 2007.
- 15) Raju, G.V.S., "Ad-Hoc Networks Security" CCCT05, Austin, Texas, July 2005.
- 16). Raju, G.V.S., and Rehan Akbani. "Securing Wireless Mobile Ad hoc Networks", Review of Communications, Vol.58, IEC, October, 2005
- 17) Raju, G.V.S., and Rehan Akbani, "Security Issues in Mobile Ad Hoc Networks", International Conference on Wireless and IT Technologies", November, 2004.
- 18) Raju, G.V.S., "Intelligent Distributed Routing Under Constraints and Imprecise State Information" IEEE-SMC International Conference Proceedings, October, 2004.
- 19) Raju, G.V.S., and Charoensakwiroj, J. "Wireless Communications", IEC, vol.57, October 2004.
- 20) G.V.S. Raju and Rehan Akbani, "Cryptosystem and its Applications," Proceedings of IEEE-SMC, 2003.
- 21) Raju, G.V.S., Q.Zou , " Self-Tuning Transmission Rate Manager for Fuzzy Traffic Control of ATM networks" Proc. of IEEE-SMC , October 2001
- 22) G.V.S.Raju, Z.Qiu and X.Wang, "Transmission Rate Manager for Fuzzy Traffic Control of ATM networks" Proceedings of IEEE-SMC, October 2000.
- 23)G.V.S.Raju, G.Hernandez and Q.Zou, " Quality of service Routing for Ad-Hoc Networks", IEEE- Wireless Communications and Networks, September 2000
- 24) G.V.S.Raju, "Control Techniques for Congestion Control in ATM Networks", Proceedings of IEEE International Conference on Systems, Man, and Cybernetics, October 1998
- 25) Raju, G.V.S.Raju , " Intelligent Control of Communications Networks" IEEE International Conference on Systems, Man, and Cybernetics, October, 1997.
- 26) Raju, G.V.S. and H. Wang , " Sensor Data Fusion using Pitman's Closeness Technique and Complete Linkage Algorithm " , Proceedings of IEEE International Conference on Multisensor Fusion and Integration for Intelligent Systems, October 1994.
- 27) Raju, G.V.S. and Zhou, J. " Adaptive Hierarchical Fuzzy Control", IEEE Transactions on Systems, Man, and Cybernetics, Vol. 23,no.4, July/August, 1993.
- 28) Raju, G.V.S. , Zhou, J., and Kisner, R. , " Hierarchical Fuzzy control", International Journal on Control", Vol. 54, 1991.

- 29) Raju, G.V.S. and Y. Xu, "Parallel Thinning Algorithms and Their Implementation on Hypercube Machine," Advances in Intelligent Robotic Systems, November 1992.
- 30). Raju, G.V.S. and J. Zhou, "Fuzzy Logic Adaptive Algorithm for a Power Plant, Control Theory and Advanced Technology Journal, MITA Press, Japan, April 1992.
- 31) Raju , G.V.S. and Husheng Wang , “ Sensor Data Fusion using Mahalanobis Distance and Single Linkage Algorithm “, Proceedings of IEEE Systems, Man, and Cybernetics conference, October 1994.
- 32) Raju, G.V.S.Raju and J.Zhou , “ Fuzzy Rule Based Approach for Robot Motion Control in the Presence of Obstacles, “1993 IEEE-SMC International Conference, Le Touquet , France , October 1993.

#### **A. Bibliography continued: Submitted/ Under Review**

1. Sudheera Vallepalli and G.V.S.Raju, “ Comparative Study of Spectrum Load Smoothing and Spectrum Load Balancing as a Medium Access Control in OFDM Based Cognitive Radio Systems”, IEEE CogWinets 2009 , Cognitive Wireless Networks and Systems ,[IEEE ICC 2009 ] submitted.
2. Sudheera Vallepalli and G.V.S.Raju, “ Spectrum Load Balancing as a Medium Access Control in a Multiuser OFDM Based Cognitive Radio Systems” , 2009 IEEE SECON, [Conference on Sensor, Mesh and Ad Hoc Communications and Networks](#), submitted.

#### **B. Wrote technical reports to sponsoring agencies.**

Building a lab for Ad-hoc Networks security research

#### **C. Areas of Research Interest.**

Wireless Communications, Ultra-wideband Communications, Communication Networks and Network Security.

#### **D. Recent/Relevant Grant support:**

1. Co-PI, AFOSR/DOD grant, “Telecommunications Networks for Mobile and Distributed communications/Computing,”\$2 million (1995-2001).
2. Principal Investigator, Elliptic Curve Cryptographic technique for wireless communications, \$487,000, U.S. Air Force (CIAS), 2002-06.
3. Principal Investigator, NSF-CISE/CNS Grant in computing fields, \$ 50,000, 2004-2005.
4. Principal Investigator, NSF-CISE/CNS Grant with other faculty,” High Performance Computing and Networking”, \$500,317, 2006-2009; 2008-09 portion-\$ 166,000.

## **IV. SERVICE**

### **A. Professional Activities**

#### 1. Professional /Scientific Societies/ Organizations

Years (1970- ) IEEE Member, IEEE Fellow, and IEEE Life Fellow.  
ASEE Member for some years  
Sigma Xi  
Eta Kappa Nu

#### 2. Positions

President IEEE- SMC Society 1985-87.

#### 3. Other Professional Activities

- \* ON NSF Review Panels (several years)
- \* Reviewer for several IEEE journals (several years)
- \* On program committees (also chair) to Technical conferences (several years).

#### 4. Community Service

Rotary International (1978- )

### **B. Committees:**

DFRAC

### **C. Administrative Responsibilities**

Director, Division (now college) of Engineering (1990-97).