

Sudharman K. Jayaweera, PhD

I. Education

PhD Electrical Engineering (2003) Princeton University

MA Electrical Engineering (2001) Princeton University

BE (1st Class Hon.) Electrical and Electronic Engineering (1997) Univ. of Melbourne, Australia.

II. Appointments

Associate Professor, Electrical Engineering, University of New Mexico, 2012-current

Assistant Professor, Electrical Engineering, University of New Mexico, 2006-2012

Assistant Professor, Electrical Engineering, Wichita State University, 2002-2006

Graduate Research/Teaching Assistant, Dept. of Electrical Eng., Princeton University, 1999-2002

Systems Analyst, US Wireless Corporation, San Ramon, CA, 1998-1999

Research Assistant, Australian Telecommunication Research Institute, Perth, Australia, 1996.

Research Assistant, Department of Mathematics, University of Melbourne, Australia, 1995-1996.

III. Publications

A List of up to 5 Publications Most Closely Related to the Proposed Project:

1. **S. K. Jayaweera** and C. G. Christodoulou, "Radiobots: Architecture, Algorithms and Realtime Reconfigurable Antenna Designs for Autonomous, Self-learning Future Cognitive Radios", *University of New Mexico Technical Report*, EECE-TR-11-0001, Mar. 2011.
2. M. Bkassiny, **S. K. Jayaweera**, Y. Li, and K. A. Avery, "Wideband spectrum sensing and non-parametric signal classification for autonomous self-learning cognitive radios", *IEEE Trans Wireless Commun.*, vol. 11, no. 7, pp. 2596-2606, July 2012.
3. **S. K. Jayaweera**, Y. Li, M. Bkassiny, C. G. Christodoulou and K. A. Avery, "Radiobots: The autonomous, self-learning future cognitive radios", *IEEE Intelligent Signal Processing and Communication systems (ISPACS'2011)*, Chiangmai, Thailand, Dec. 2011.
4. Y. Li, **S. K. Jayaweera**, M. Bkassiny, and K. A. Avery, "Optimal myopic sensing and dynamic spectrum access in cognitive radio networks with low-complexity implementations", *IEEE Trans Wireless Commun.*, vol. 11, no. 7, pp. 2412-2423, July 2012.
5. Y. Li and **S. K. Jayaweera**, "Dynamic Spectrum Tracking using Energy and Cyclostationarity-based Multi-variate Non-parametric Quickest Detection For Cognitive Radios", *IEEE Trans Wireless Commun.*, May, 2013, Accepted for Publication.

A List of up to 5 Other Publications Whether or Not Related to the Proposed Project:

1. **S. K. Jayaweera**, G. Vazquez-Vilar, C. Mosquera "Dynamic Spectrum Leasing (DSL): A new paradigm for spectrum sharing in cognitive radio networks", *IEEE Trans. Vehicular Technology*, Vol. 59, No. 5, pp. 2328-2339, May 2010.
2. **S. K. Jayaweera**, M. Bkassiny, and K. A. Avery, "Asymmetric cooperative communications based spectrum leasing via auctions in cognitive radio networks", *IEEE Trans Wireless Commun.*, Vol. 10, no. 8, pp. 2716-2724, Aug. 2011.
3. **S. K. Jayaweera** and T. Li, "Dynamic spectrum leasing in cognitive radio networks via primary-secondary user power control games", *IEEE Trans. Wireless Communications*, Vol. 8, no. 6, pp. 3300-3310, June 2009.
4. M. Bkassiny, Y. Li, and **S. K. Jayaweera**, "A survey on machine-learning techniques in cognitive radios", *IEEE Communications Surveys and Tutorials*, Sep. 2012, Accepted for Publication.
5. G. El-howayek and **S. K. Jayaweera**, "Distributed dynamic spectrum leasing (D-DSL) for spectrum sharing over multiple primary channels", *IEEE Trans Wireless Commun.*, Vol. 10, no. 1, pp. 55-60, Jan. 2011.

IV. Synergistic Activities

- Senior Member of IEEE.
- NRC Senior Fellow – Naval Postgraduate School, Monterey, CA, 2013.
- Air Force Summer Faculty Fellow – Air Force Research Lab, Kirtland AFB, 2009-2011.

- Associate Editor of IEEE Transactions on Vehicular Technology.
- Associate Editor: EUEASIP Journal on Advances in Signal Processing (2006-2013).
- Member of the Editorial Advisory Board: The Open Signal Processing Journal, Bentham Science Publishers.
- 10 invited talks, 2 invited plenary talks at IEEE conferences and 3 best paper awards.
- Over 40 refereed journal plus over 70 refereed conference publications, and 3 book chapters.
- NSF proposal review panelist (CPS Program)
- Co-chair: First International Workshop on Wideband Mobile Cognitive Radios (at IEEE VTC Fall Conference), Las Vegas, NV, Sep. 2013.
- Panelist: First International Workshop on Cognitive radio and Cooperative strategies for POWER saving, Co-located with Mobimedia conference, 6-8 Sep. 2010. Lisbon, Portugal.
- TPC track-chair: International Conference on Information and Automation for sustainability (ICIAfS), Colombo, Sri Lanka, 12/17/2010-12/19/2010. <http://www.iciafs.org/>
- Co-chair: Software Defined and Cognitive Radios subcommittee, IEEE Radio and Wireless Symposium (RWC 08), Orlando, FL, Jan. 2008.
- Technical program committee (TPC) member: many conferences including GLOBECOM (2006, 2008, 2009), ICC 2010, ISSSTA 2006, IEEE RWC (2006-2008), VTC 2005 (Fall), and IWASN (Advances in Sensor Networks) Workshop at MOBIQUITOUS (2006, 2007).
- Organizer and Invited Session Chair: CCCT'04, Austin, TX, Aug, 14th – 17th, 2004.
- Reviewer for IEEE Trans. Inform. Theory, IEEE Tran. Sig. Proc., IEEE Trans. Commun., IEEE Trans. Wireless Commun., and other major journals and conferences.
- Director : Summer Internship Program for International Students at the ECE Department at UNM, titled Expand Your Engineering Skills (EYES) from 2006 - current.
- Chair of Signal Processing and Communications Group at the ECE department, 2007-2008.

VI. Honors and Awards:

- IEEE PACRIM 2011 **Gold Award for Best Communications Paper**: S. Chen, C. Ghosh, A. M. Alexander and S. K. Jayaweera, "The Impact of Group Cooperation over Competitive Secondary Subnetworks", IEEE Pacific Rim Conference on Communications, Computers and Signal Processing, Victoria, Canada, Aug. 2011.
- **Best Paper Award** at the IEEE International Conference on Advanced Video and Signal based Surveillance (AVSS'06), Sydney, Australia, Nov. 2006. (Authors: S. K. Jayaweera and K. Altarazi)
- **Best Technical Paper Award** at the Sixth International Symposium on Wireless Personal Multimedia Communications (WPMC'03), Yokosuka, Kanagawa, Japan, October 2003. (Authors: S. K. Jayaweera, and H. V. Poor).
- John Crawford Scholarship for Higher Education in Australia (1993-1997).
- Plenary speaker at 2011 IEEE Radio Wireless Week (RWW), Phoenix, AZ, January 2011. Title: "Cognitive Radios: What are they Really?"
- Plenary speaker at the 6th International Conference in Industrial and Information Systems (ICIIS'2011), Kandy, Sri Lanka, Aug 16-19, 2011. Title: "Radiobots: Towards Self-learning Autonomous Cognitive Radios".
- Nominated for UNM Regents' Lectureship by the ECE Department, 2011 and 2012.
- Nominated for School of Engineering Faculty Research Excellence Award, 2010.
- Air Force Summer Faculty Fellow, AFRL Space Vehicles Directorate (2009-2011).

V. Collaborators and Other Affiliations:

- PhD Dissertation Advisor: Dr. H. Vincent Poor (Princeton University)
- Co-authors: A. Flaig (Texas Instruments), S. J. MacMullan (Texas Instruments), H. V. Poor (Princeton), K. R. Namuduri (WSU), B. Natarajan (KSU), J. Dyer (Stanford), C. Mosquera (Univ. of Vigo, Spain), R. Viswanathan (SIUC), C. T. Abdallah (UNM), C. Christodoulou (UNM), R. S. Erwin (AFRL), S. Kandeepan (RMIT, Australia), A. M. Wyglinski (WPI), C. Ghosh (Nokia Research).
- Graduate Students: PhD dissertations (3 completed, 5 in progress), MS Thesis (12 completed; 1 in progress).