

## Wayne A. Shiroma

### Education

Ph.D. Electrical Engineering, Univ. of Colorado at Boulder (1996); M.Eng. Electrical Engineering, Cornell Univ. (1987); B.S. Electrical Engineering, Univ. of Hawaii at Manoa (1986)

### Academic Experience

University of Hawaii at Manoa, Dept. of Electrical Engineering (full time): Chair (2013-present), Professor (2008-present), Associate Professor (2001-2008), Assistant Professor (1996-2001); Hawaii Space Flight Laboratory: Co-Director (2007-2012)

### Industrial Experience

Pipeline Communications and Technology, Inc., Honolulu, HI: Co-founder and Member of the Board of Directors (2004-2005)

Hughes Space and Communications, El Segundo, CA (full time): Member of the Technical Staff (1987-1989, 1991-1992)

### Professional Organization Membership

ASEE, IEEE (Senior Member), ECEDHA, UHPA, URSI

### Honors and Awards:

University of Hawaii *Regents Medal for Excellence in Teaching* (2003), College of Engineering *Hi Chang Chai Excellence in Teaching Award* (2002, 2006), *Outstanding Faculty Member in Electrical Engineering Award* (1998), *Faculty Service Award* (2013)

IEEE Microwave Theory and Techniques Society *N. Walter Cox Award* (2009)

*First Place, UH Business Plan Competition* (2004)

Hawaii Convention Center *Business Ambassador Award* (2008), Hawaii Visitors and Convention Bureau *Kuhina Award* (1999)

### Service Activities (last five years):

*University of Hawaii at Manoa: Dept. of Electrical Engineering:* Dept. Chair (2013-present), Undergraduate Curriculum Committee Chair (2010-12), ABET Committee (2010-present), Departmental Personnel Committee (2010-12), Teaching Load Committee (2010-11), Student Advisory Board Advisor (2012-present), HKN Faculty Advisor (1999-present); *Hawaii Center for Advanced Communications:* Departmental Personnel Committee (2010); *College of Engineering:* Dean's Administrative Council (2010-present), Safety Committee (2011-12), Curriculum Committee (2011), Strategic Planning Alumni Liaison (2010-11), Entrepreneurship Recruiting Committee (2011), Summer Internship Mentor (2001-present); *Univ. of Hawaii at Manoa:* New Student Orientation Presenter (2010), Tenure and Promotion Review Committee (2012, 2015); *Engineering Alumni Association of Univ. of Hawaii:* Board Member (2012-present), Holmescoming Committee (2012-present)

*IEEE Microwave Theory and Techniques Society (MTT-S):* General Chair, 2017 International Microwave Symposium (IMS), Honolulu, HI; Elected Administrative Committee (AdCom) Member (2002-2010); Budget Committee (2002-2013, Asst. Treasurer 2002-11), IMS Executive Committee (2003-present, Chair 2009), IMS Site Inspection and Negotiation Committee (2012-present), Operations Committee Chair (2010), Strategic Planning Committee (2010), IMS Technical Program Committee (1999-present); Student Paper Competition Judge (2011, 2014); 2013 International Wireless Symposium Finance Chair (2012-13); IEEE International Conference on Wireless Information Technology and Systems Tech-

nical Program Committee Co-Chair (2010, 2012); MTT-S Hawaii Chapter, Treasurer (2012-present); MTT-S Univ. of Hawaii Student Branch Chapter, Faculty Advisor (2012-present); Reviewer for *IEEE Trans. on Microwave Theory and Techniques* (2010-11)

### **Selected Publications Over Past Five Years**

(2010-14 total: 1 co-edited book, 3 book chapters, 9 journal papers, 24 conference papers)

(<sup>1</sup> undergraduate and <sup>2</sup> graduate students under my supervision)

1. P. Thakker and W. A. Shiroma, editors, *The Emergence of Pico/Nano Satellites for Atmospheric Research and Technology Testing*, *AIAA Progress Series in Astronautics and Aeronautics*, Reston, VA: AIAA, 2010.
2. L. K. Martin<sup>1</sup>, N. G. Fisher<sup>1</sup>, W. H. Jones<sup>2</sup>, J. G. Furumo<sup>1</sup>, J. R. Ah Heong Jr.<sup>1</sup>, M. M. L. Umeda<sup>1</sup>, and W. A. Shiroma, "Ho'oponopono: A Radar Calibration CubeSat," in *Proceedings of the 25th Annual AIAA/Utah State University Conference on Small Satellites*, Logan, UT, paper SSC11-VI-7, Aug. 2011.
3. B. J. Lei<sup>2</sup>, A. Zamora<sup>2</sup>, T. F. Chun<sup>2</sup>, A. T. Ohta, and W. A. Shiroma, "A Wideband, Pressure-Driven, Liquid-Tunable Frequency Selective Surface," *IEEE Microwave and Wireless Components Letters*, vol. 21, no. 9, pp. 465-467, Sep. 2011.
4. T. F. Chun<sup>2</sup>, A. Zamora<sup>2</sup>, B. J. Lei<sup>2</sup>, R. T. Iwami<sup>2</sup>, and W. A. Shiroma, "An Interleaved, Inter-element Phase-Detecting/Phase-Shifting Retrodirective Antenna Array for Interference Reduction," *IEEE Antennas and Wireless Propagation Letters*, vol. 10, pp. 919-922, Sep. 2011.
5. P. G. Flikkema, J. Frolik, R. Franklin, C. Haden, W. Shiroma, and T. Weller, "Leveraging Multi-University Collaboration to Develop Portable and Adaptable Online Course Content," *ASEE Advances in Engineering Education*, vol. 3, no. 3, Winter 2013.
6. M. Morishita<sup>2</sup>, C. K. Y. Kitamura<sup>1</sup>, A. T. Ohta, and W. A. Shiroma, "A Liquid-Metal Monopole Array With Tunable Frequency, Gain, and Beam Steering," *IEEE Antennas and Wireless Propagation Letters*, vol. 12, pp. 1388-1391, Oct. 2013.
7. M. Morishita<sup>2</sup>, C. K. Y. Kitamura<sup>1</sup>, A. T. Ohta, and W. A. Shiroma, "Two-Octave Tunable Liquid-Metal Monopole Antenna," *Electronic Letters*, vol. 50, issue 1, pp. 19-20, 02 Jan. 2014.
8. R. C. Gough<sup>2</sup>, J. H. Dang<sup>2</sup>, A. M. Morishita<sup>2</sup>, A. T. Ohta, and W. A. Shiroma, "Frequency-Tunable Slot Antenna Using Continuous Electrowetting of Liquid Metal," in *2014 IEEE MTT-S International Microwave Symposium Digest*, Tampa, FL, Jun. 2014.
9. L. K. Martin<sup>2</sup>, W. H. Jones<sup>2</sup>, and W. A. Shiroma, "Small-Satellite Projects Offer Big Rewards," *IEEE Potentials*, pp. 24-30, Jul./Aug. 2014.
10. R. C. Gough<sup>2</sup>, A. M. Morishita<sup>2</sup>, J. H. Dang<sup>2</sup>, W. Hu, W. A. Shiroma, and A. T. Ohta, "Continuous Electrowetting of Non-toxic Liquid Metal for RF Applications," *IEEE Access*, vol. 2, pp. 874-882, 2014.

### **Professional Development Activities (last 5 years)**

*ECE Dept. Heads Association Meeting* (2013-14), *Vertically Integrated Program Workshop*, Georgia Tech (2013), *Teaching Revolution Workshop*, Univ. of Hawaii (2013), Co-organized "Mini Workshop – MUSE – Multi-University Systems Education," *40th ASEE/IEEE Frontiers in Education Conference*, Washington, DC, (2010); *IEEE MTT-S International Microwave Symposium* (2010-14), *IEEE MTT-S International Wireless Symposium* (2013-14), *AIAA/Utah State University Conference on Small Satellites* (2010-12)