Gabe A. Cohn, Ph.D.

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Microsoft Research
One Microsoft Way
Redmond, WA 98052

RESEARCH STATEMENT

My research focuses on (1) designing and implementing **ultra-low-power embedded sensing systems**, (2) leveraging physical phenomena to enable **new sensing modalities for human-computer interaction**, and (3) developing sensor systems targeted at **realizing immediate change in high-impact application domains**. My work focuses on building highly integrated hardware/software sensing systems using my expertise in embedded systems, low-energy hardware design, sensing, communications, signal processing, and machine learning. This broad, application-driven research agenda is intrinsically interdisciplinary, and I collaborate not only with experts in electrical engineering and computer science, but also broadly across mechanical and biomedical engineering, medicine, and industry. Through these close collaborations, I am able to build novel hardware/software systems that incorporate cutting edge research across electrical engineering and computer science.

EDUCATION

2014 *Doctor of Philosophy, Electrical Engineering*
University of Washington, Seattle, WA
Area: Ubiquitous Computing, Sensing, Embedded Systems, Circuits, Human-Computer Interaction, VLSI
Advisor: Shwetak N. Patel
Thesis Title: *SNUPI: Sensor Network Utilizing Powerline Infrastructure*
September 2009 – June 2014

2009 *Bachelor of Science Electrical Engineering with Honor*
California Institute of Technology, Pasadena, CA
Area: Embedded Systems, Digital Circuits, VLSI
GPA: 3.8/4.0
September 2005 – June 2009

2005 *High School Diploma*
Skyline High School, Sammamish, WA
GPA: 4.0/4.0 (Valedictorian)
September 2001 – June 2005

HONORS AND AWARDS

2013 UW EE Yang Award for Outstanding Graduate Student
2012 Best Paper Award at UbiComp 2012 for Static Electric Field Sensing Paper [C.8]
Invited to 2012 Microsoft Research Faculty Summit (as a student)
UW EE Yang Award Nomination for Outstanding Graduate Student
Honorable Mention Award at CHI 2012 for Humantenna [C.7]
Microsoft Research PhD Fellowship
2011 Top Research Prize from Madrona Venture Group
UW EE Yang Award Nomination for Outstanding Graduate Student
Best Paper Award at CHI 2011 for Your Noise is My Command [C.6]
Best Note Award at CHI 2011 for InGen [C.5]
Honorable Mention Award at CHI 2011 for HeatWave [C.4]
2010 Runner-Up for the Top Research Prize from Madrona Venture Group
Best Paper Nomination at UbiComp 2010 for SNUPI [C.2]
National Science Foundation Graduate Research Fellowship
2009 Top Research Prize from Madrona Venture Group

IEEE Charles LeGeyt Fortescue Graduate Scholarship
University of Washington College of Engineering Gray Fellowship
University of Washington Computer Science & Engineering Research Assistantship

2008 Caltech Upper Class Merit Award

2005 Skyline High School Valedictorian

PROFESSIONAL EXPERIENCE

July 2014–Present **Microsoft Research**, *Medical Devices Group*, Redmond, WA
Researcher

2012–2014 **SNUPI Technologies**, Seattle, WA
Founder and Research & Development Consultant

Summer 2013 **Microsoft Research**, *Computational User Experiences Group*, Redmond, WA
Research Intern (Supervisor: Dr. Desney S. Tan)
Conducting research on continuous, non-invasive health sensing

2011 **Microsoft Research**, *Computational User Experiences Group*, Redmond, WA
Research Consultant (Supervisor: Dr. Desney S. Tan)
Conducting research using the human body as an antenna for gesture sensing [C.7]

Summer 2010 **Microsoft Research**, *Computational User Experiences Group*, Redmond, WA
Research Intern (Supervisor: Dr. Desney S. Tan)
Conducting research using the human body as an antenna for gesture sensing [C.6]

Summer 2008 **Fulcrum Microsystems**, *ASIC Verification Group*, Calabasas, CA
ASIC Verification Engineering Intern (Supervisor: Tom Geiger)
Writing a Java software model for a high-speed network router/switch for the purpose of hardware design verification.

Summer 2007 **California Institute of Technology**, *RF and Microwave Group*, Pasadena, CA
Research Assistant (Supervisors: Dr. Sander Weinreb and Dr. David Rutledge)
Creating CAD models of wideband dual-polarized quad-ridge horn antennas for wideband radio telescopes operating between 0.3 and 18 GHz. These feeds are used on the Goldstone Apple Valley Radio Telescope (GAVRT) and are candidates for the Square Kilometer Array (SKA).

2007 **California Institute of Technology**, *Caltech Networking Lab*, Pasadena, CA
Research Assistant (Supervisors: Dr. Lachlan Andrew and Dr. Steven Low)
Writing Python scripts to control the configurations of the network hardware used in WAN-in-Lab (WiL).

Summer 2006 **University of Washington**, *Radar Remote Sensing Lab*, Seattle, WA
Research Assistant (Supervisor: Dr. John D. Sahr)
Creating CAD models of discone and LPDA antenna arrays using NEC modeling software. Then I setup new hardware systems including the modeled arrays at two locations for a passive radar interferometer.

Summer 2005 **University of Washington**, *Radar Remote Sensing Lab*, Seattle, WA
Research Assistant (Supervisor: Dr. John D. Sahr)
Writing software for noise and signal splitting and a nonlinear least squares fitting (based on the Levenberg-Marquardt Algorithm. The software is used to process cross-correlation data from a passive radar interferometer.

TEACHING

Instructor **Advanced Digital Logic Design**, *UW CSE 467*
Fall 2013 (IAS Scores (out of 5.0): Overall: 4.9, Combined: 4.9, Instructor's Contribution: 5.0, Teaching Effectiveness: 4.9)

Guest Lectures **Microcontroller Basics, Phidgets, Arduino, and MSP430**
Advanced Topics in Ubiquitous Computing, *UW CSE 599U* (Instructor: Shwetak Patel)
Winter 2012, Winter 2010, Fall 2010
Digital System Design (Hardware Capstone), *UW CSE 477* (Instructor: Shwetak Patel)
Spring 2013

Printed Circuit Board Design
Digital System Design (Hardware Capstone), *UW CSE 477* (Instructor: Shwetak Patel)
Spring 2013, Spring 2012, Spring 2011, Spring 2010
Advanced Topics in Ubiquitous Computing, *UW CSE 599U* (Instructor: Shwetak Patel)
Spring 2013, Fall 2010

Teaching Assistant

Embedded Systems Hardware Design Laboratory, *Caltech EE/CS 52* (Instructor: Glen George)
Spring 2009, Spring 2008

Embedded Systems Software Design Laboratory, *Caltech EE/CS 51* (Instructor: Glen George)
Winter 2009, Winter 2008

Introduction to Embedded Systems, *Caltech EE 5* (Instructor: Glen George)
Fall 2008, Fall 2007

Grader

Advanced Digital Systems Design, *Caltech EE 119a* (Instructor: Glen George)
Fall 2007

REFEREED CONFERENCE PUBLICATIONS[1]

2017 [C.10] Grosse-Puppendahl, T., Holz, C., **Cohn, G.**, Wimmer, R., Bechtold, O., Hodges, S., Reynolds, M.S., Smith, J.R. Finding Common Ground: A Survey of Capacitive Sensing in Human-Computer Interaction. In the *Proceedings of CHI 2017* (May 6 – 11, Denver, CO), ACM, New York, 2017.

2013 [C.9] Chen, K., **Cohn, G.**, Gupta, S., Patel, S.N. uTouch: Sensing Touch Gestures on Unmodified LCDs. In the *Proceedings of CHI 2013* (April 27 – May 2, Paris, France), ACM, New York, 2013, pp. 2051–2054.
[Acceptance Rate: 20% (392/1963)]

2012 [C.8] **Cohn, G.**, Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. In the *Proceedings of Ubicomp 2012* (Sept. 5-8, Pittsburgh, PA), ACM, New York, 2012, pp. 99–102.
Best Paper Award [Acceptance Rate: 19% (58/301)]

[C.7] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Humantenna: Using the Body as an Antenna for Real-Time Whole-Body Interaction. In the *Proceedings of CHI 2012* (May 5-10, Austin, TX), ACM, New York, 2012, pp. 1901–1910.
Honorable Mention Award [Acceptance Rate: 23% (370/1577)]

2011 [C.6] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Your Noise is My Command: Sensing Gestures Using the Body as an Antenna. In the *Proceedings of CHI 2011* (May 7-12, Vancouver, Canada), ACM, New York, 2011, pp. 791–800.
Best Paper Award [Acceptance Rate: 26% (400/1540)]

[C.5] Badshah, A., Gupta, S., **Cohn, G.**, Villar, N., Hodges, S., Patel, S.N. Interactive Generator: A Self-Powered Haptic Feedback Device. In the *Proceedings of CHI 2011* (May 7-12, Vancouver, Canada), ACM, New York, 2011, pp. 2051–2054.
Best Note Award [Acceptance Rate: 26% (400/1540)]

[C.4] Larson, E., **Cohn, G.**, Gupta, S., Ren, X., Harrison, B., Fox, D., Patel, S.N. HeatWave: Thermal Imaging for Surface User Interaction. In the *Proceedings of CHI 2011* (May 7-12, Vancouver, Canada), ACM, New York, 2011, pp. 2565–2574.
Honorable Mention Award [Acceptance Rate: 26% (400/1540)]

2010 [C.3] Campbell, T., Larson, E., **Cohn, G.**, Froehlich, J., Alcaide, R., Patel, S.N. WATTR: A Method for Self-Powered Wireless Sensing for Water Activity in the Home. In the *Proceedings of UbiComp 2010* (Sept. 26-29, Copenhagen, Denmark), ACM, New York, 2010, pp. 169–172.
[Acceptance Rate: 19% (39/202)]

[C.2] **Cohn, G.**, Stuntebeck, E., Pandey, J., Otis, B., Abowd, G.D., Patel, S.N. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure. In the *Proceedings of UbiComp 2010* (Sept. 26-29, Copenhagen, Denmark), ACM, New York, 2010, pp. 159–168.
Best Paper Nominee [Acceptance Rate: 19% (39/202)]

[C.1] **Cohn, G.**, Gupta, S., Froehlich, J., Larson, E., and Patel, S.N. GasSense: Appliance-Level, Single-Point Sensing of Gas Activity in the Home. In the *Proceedings of Pervasive 2010* (May 17-20, Helsinki, Finland), Springer-

[1] My research is very interdisciplinary, and as a result attracts readers with various backgrounds. It is worth noting that unlike in many academic fields, premiere conferences (e.g., Ubicomp, CHI, and UIST) are highly selective venues intended for archival papers only. These conferences exceed many IEEE journals in their selectivity, visibility, and impact. For a study of the impact of ACM conference proceedings, see *Conference Paper Selectivity and Impact* by Jilin Chen and Joseph Konstan.

Verlag, Heidelberg, 2010, pp. 265–282.
[Acceptance Rate: 16% (26/161)]

REFEREED JOURNAL AND MAGAZINE PUBLICATIONS

2011 [J.1] Froehlich, J., Larson, E., Gupta, S., **Cohn, G.**, Reynolds, M.S., Patel, S.N. Disaggregated End-Use Energy for the Smart Grid. *IEEE Pervasive Computing, Special Issue on Smart Energy Systems*, 10(1), Jan-Mar 2011, pp. 28–39.

WORKSHOP PUBLICATIONS

2009 [W.1] Levin, I., **Cohn, G.A.**, Ordeshook, P.C., Alvarez, R.M. Detecting Voter Fraud in an Electronic Voting Context: An Analysis of the Unlimited Reelection Vote in Venezuela. In the *Proceedings of 2009 Electronic Voting Technology Workshop/Workshop on Trustworthy Elections (EVT/WOTE '09)* (Aug. 10–11, Montreal, Canada), USENIX, 2009.

THESIS

2014 [D.1] **Cohn, G.A.** SNUPI: Sensor Network Utilizing Powerline Infrastructure. *University of Washington Doctoral Dissertation*, 2014.

OTHER ARTICLES

2012 [O.1] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Humantenna: Using the Body as an Antenna for Real-Time Whole-Body Interaction. University of Washington *Electrical Engineering Kaleidoscope (EEK)* Magazine, 2012, p. 7.

TECHNICAL REPORTS

2007 [R.3] **Cohn G.A.** Computer Modeling of Wideband Tapered-Slot Microwave Antenna Feeds. *Caltech RF and Microwave Group*, 2007.

2006 [R.2] **Cohn, G.A.**, Sahr, J.D. Meteor radar interferometry using NEC antenna array simulations. *University of Washington Radar Remote Sensing Laboratory*, 2006.

[R.1] Lind F., Berkowitz, Z., Morabito, A., Vertatschitsch, L., **Cohn, G.**, Nguyen, K., Sahr, J. RRSL Milestone: First E Region Irregularities on ISIS. *University of Washington Radar Remote Sensing Laboratory*, 2006.

INVITED TALKS

2015 [T.16] **Cohn, G.A.** Ubicomp in the Home. *University of Washington EE 590P: Advanced Topics of Digital Computers: Ubiquitous Computing*, Guest Lecture, Seattle, WA, Nov. 17, 2015.

[T.15] **Cohn, G.A.** Redefining Noise: Finding Unintended Signals Everywhere. *MobiSys 2015 Workshop on Physical Analytics*, Florence, Italy, May 22, 2015.

2014 [T.14] **Cohn, G.** SNUPI: Sensor Network Utilizing Powerline Infrastructure. *University of Washington Doctoral Defense*, Seattle, WA, June 9, 2014.

[T.13] **Cohn, G.A.** Building Embedded Sensor Systems to Bring Ubicomp to Life. *Cornell University* (Feb. 13), *Stanford University* (Feb. 18), *University of California Berkeley* (Feb. 20), *University of Wisconsin Madison* (Mar. 3), *University of Illinois Urbana-Champaign* (Mar. 5), *Microsoft Research* (Mar. 12), *University of Wisconsin Madison* (Mar. 17), *Princeton University* (Mar. 25), *Harvard University* (Mar. 27), *Massachusetts Institute of Technology* (Mar. 31), *University of California Los Angeles* (April 3), *Columbia University* (April 7), 2014.

2013 [T.12] **Cohn, G.** SNUPI: Sensor Network Utilizing Powerline Infrastructure. *2013 ACEEE Hot Water Forum*, Atlanta, GA, Nov. 5, 2013.

[T.11] **Cohn, G.** The University of Washington Ubicomp Lab: A Research Overview. *Georgia Tech Invited Talk*, Atlanta, GA, Nov. 5, 2013.

[T.10] **Cohn, G.** and Gupta, S. Hacks for Innovation: Our Approach to Technology Innovations by Hacking Our Surroundings. *Hack Things Meetup*, Seattle, WA, Aug. 2, 2013.

[T.9] **Cohn, G.** and Gupta, S. Ubiquitous Computing: Sensing Systems for Human Activity, Context, and Everywhere Interactions. *University of Washington Arch 498D: Creating Responsive Environments*, Guest Lecture, Seattle, WA, Jan. 22, 2013.

2012 [T.8] **Cohn, G.**, Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. *University of Washington Computer Science & Engineering Affiliates 2012*, Seattle, WA, Oct. 24, 2012.

[T.7] **Cohn, G.**, Gupta, S., Goel, M. An Overview of the Research in UW Ubicomp Lab. *Disney Research Pittsburgh*, Pittsburgh, PA, Sept. 7, 2012.

[T.6] **Cohn, G.**, Morris, D., Patel, S.N., Tan, D.S. Humantenna: Using the Body as an Antenna for Real-Time Whole-Body Interaction. *2012 Microsoft Research Faculty Summit*, Redmond, WA, July 16, 2012.

[T.5] **Cohn, G.** and Gupta, S. Sensor Based Interactions. *University of Washington INFO 463: Input and Interaction*, Guest Lecture, Seattle, WA, May 23, 2012.

[T.4] **Cohn, G.**, Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. *Microsoft Research Recently Written Series*, Redmond, WA, May 17, 2012.

2011 [T.3] **Cohn, G.** Repurposing the Home Powerlines. *University of Washington EE 592 Seminar*, Seattle, WA, Feb. 18, 2011.

2010 [T.2] **Cohn, G.**, Patel, S. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure, Ultra-Low-Power, General-Purpose Wireless Sensing Platform. *University of Washington Computer Science & Engineering Affiliates 2010*, Seattle, WA, Oct. 27, 2010.

2007 [T.1] **Cohn, G.A.** Computer Modeling of Wideband Tapered-Slot Microwave Antenna Feeds. *Caltech Internal Microwave Seminar*, Pasadena, CA, Sept. 19, 2007.

POSTERS

2012 [P.5] **Cohn, G.**, Gupta, S., Lee, T., Morris, D., Smith, J.R., Reynolds, M.S., Tan, D.S., Patel, S.N. An Ultra-Low-Power Human Body Motion Sensor Using Static Electric Field Sensing. *University of Washington Computer Science & Engineering Affiliates 2012*, Seattle, WA, Oct. 24, 2012.

2011 [P.4] **Cohn G.**, Morris, D., Patel, S., Tan, D. Humantenna: Sensing Whole-Body Gestures using the Human Body as an Antenna. *University of Washington Computer Science & Engineering Affiliates 2011*, Seattle, WA, Oct. 19, 2011.

2010 [P.3] **Cohn, G.**, Patel, S. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure. *University of Washington Computer Science & Engineering Affiliates 2010*, Seattle, WA, Oct. 27, 2010.

[P.2] **Cohn, G.**, Stuntebeck, E., Pandey, J., Otis, B., Abowd, G.D., Patel, S.N. SNUPI: Sensor Nodes Utilizing Powerline Infrastructure. *12th ACM International Conference on Ubiquitous Computing (UbiComp 2010)*, Copenhagen, Denmark, Sept. 27, 2010.

2009 [P.1] **Cohn, G.**, Gupta, S., Froehlich, J., Larson, E., and Patel, S. GasSense: Infrastructure Mediated Gas Monitoring via Single Point Sensing. *University of Washington Computer Science & Engineering Affiliates 2009*, Seattle, WA, Oct. 29, 2009.

PATENTS

[PA.8] US Patent 9,240,823: Receiver, Apparatus, and Methods for Wirelessly Receiving Data from a Power Infrastructure. Issued Jan. 19, 2016. Filed June 23, 2015.

[PA.7] US2014/696,236: Systems and Methods for Sensing Environmental Changes Using EMI Signal Sources as Sensors. Patent Pending.

[PA.6] US Patent 9,064,396: Receiver, Apparatus, and Methods for Wirelessly Receiving Data from a Power Infrastructure. Issued June 23, 2015. Filed Sept. 11, 2013.

[PA.5] US Patent 9,218,736: Sensor Nodes, Apparatuses, and Methods for Wirelessly Transmitting Data to a Power Infrastructure. Issued Dec. 22, 2015. Filed Sept. 11, 2013.

[PA.4] US Patent 9,151,022: Automatic Valve Shutoff Device and Methods. Issued Oct. 6, 2015. Filed Jan. 11, 2013.

[PA.3] US Patent 8,665,210: Sensing User Input Using the Body as an Antenna. Issued Mar. 4, 2014. Filed Dec. 22, 2010.

[PA.2] US2011/047,138: Systems and Methods for Energy Harvesting in a Contained Fluid Circuit. Patent Pending.

[PA.1] US2011/047,133: Sensor Systems Wirelessly Utilizing Power Infrastructure and Associated Systems and Methods. Patent Pending.

ADVISING

2017 Frankie Liu
2016 Roman Kusche
2015 Edward Wang
2013 Frederick Lee, Ruth Vinisha, Mort Guo
2012 Sergey Alekhnovich
2011 Thomas Sommerville, Akash Badshah, Tim Campbell

PROFESSIONAL ACTIVITIES / SERVICE

Organizing Committee
Student Volunteer Chair for ACM UbiComp 2014 and IEEE ISWC 2014

Associate Editor
Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), *2016–2017*

Program Committee
ACM Ubiquitous Computing (UbiComp), *2013, 2015*
ACM User Interface Software and Technology (UIST), *2013*
ACM SIGCHI Human Factors in Computing (CHI), *2016*

Reviewer
ACM Ubiquitous Computing (UbiComp), *2011, 2013, 2014, 2015, 2016*
ACM SIGCHI Human Factors in Computing (CHI), *2012, 2013, 2014, 2015, 2016, 2017*
ACM User Interface Software and Technology (UIST), *2011, 2012, 2013, 2014, 2015, 2016*
IEEE Wearable Computing (ISWC), *2016*
ACM Sensor Systems (SenSys), *2013*
IEEE Pervasive Computing Magazine, *2013*
Pervasive Computing, *2012*

Student Volunteer
ACM Ubiquitous Computing (UbiComp), *2011, 2014 (chair)*
ACM User Interface Software and Technology (UIST), *2012*
IEEE Wearable Computing (ISWC), *2014 (chair)*

Professional
ACM Member, *2010 – present*
IEEE Student Member, *2007 – 2014*

Service
Organized MSR/UWEE Networking Lunches, *2014, 2015*
UW EE400 Distinguished Alumni Panel, *2015*
UW Math Academy Ubicomp Lesson, *2012, 2013*
UW Math Academy Reunion CSE/EE Visit, *2012*
UW Computer Science & Engineering Open House, *2012*
UW College of Engineering Discovery Days, *2011*
UW Computer Science & Engineering Affiliates Day, *2009 – 2013*
Caltech Chair of Student-Faculty Conference Committee for Elect. Eng., *2009*
Caltech IEEE Student Branch President, *2008 – 2009*
Caltech IEEE Student Branch Outreach Chair, *2007 – 2008*
Caltech Big-T (Yearbook) Business Manager, *2006 – 2007*

SELECTED PRESS COVERAGE

A complete list of press coverage can be found on my website at www.gabeacohn.com/press.html

Oct. 2015	**SNUPI Technologies** in *GeekWire, The Seattle Times, Puget Sound Business Journal*
Mar. 2014	**SNUPI Technologies** in *Seattle Business Magazine*
Feb. 2014	**SNUPI Technologies** in *GeekWire*
Jan. 2014	**SNUPI Technologies** in *MIT Technology Review, Xconomy, GeekWire, Puget Sound Business Journal*
Jan. 2014	**UW Ubicomp Lab** in *CCC Blog Video*
Dec. 2013	**SNUPI Technologies** in *GeekWire*
Nov. 2013	**SNUPI Technologies** in *Xconomy, GeekWire*
Sept. 2013	**SNUPI Technologies** in *GeekWire, Puget Sound Business Journal*
April 2013	**uTouch** in *MIT Technology Review*
Dec. 2012	**SNUPI Technologies** in *Xconomy, GeekWire, Seattle Bus. Mag., Puget Sound Bus. Journal, The Seattle Times*
Sept. 2012	**WatchFrog** in *GeekWire*
May 2012	**Humantenna** in *New Scientist, PC Magazine, PCWorld, IDG News Service*
Oct. 2011	**Humantenna** in *GeekWire*
Sept. 2011	"**Your Noise is My Command"** in *The New York Times*
May 2011	"**Your Noise is My Command"** in *MIT Technology Review, Discovery News, TIME, The Wall Street Journal, New Scientist, Engadget, Gizmodo*
Dec. 2010	**SNUPI** in *Popular Mechanics*.
Sept. 2010	**SNUPI** in *MIT Technology Review, TechFlash, Popular Science, Slashdot, Communications of the ACM*

REFERENCES

Shwetak N. Patel, Ph.D.
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Computer Science & Engineering
Electrical Engineering
University of Washington
shwetak@cs.washington.edu

Desney S. Tan, Ph.D.
Principal Researcher
Microsoft Research
Medical Devices Group
desney@microsoft.com

Matt Reynolds, Ph.D.
Associate Professor
Electrical Engineering
Computer Science & Engineering
University of Washington
matt.reynolds@ee.washington.edu

Ed Lazowska, Ph.D.
Professor, Bill and Melina Gates Chair
Computer Science & Engineering
University of Washington
lazowska@cs.washington.edu

John D. Sahr, Ph.D.
Professor, Associate Dean of
Undergraduate Academic Affairs
Electrical Engineering
University of Washington
jdsahr@ee.washington.edu

Additional references can be provided upon request.