

Curriculum Vitae of Andrea J. Goldsmith

Contact Information:

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Leadership and Academic Highlights:

- As Princeton's Engineering Dean, leading the largest and fastest expansion of disciplinary and interdisciplinary faculty and graduate students in the school's history. Increased sponsored research by 20% and implemented best practices for faculty hiring which has netted 54% women and 23% URM faculty hires. Launched major interdisciplinary initiatives and forged new partnerships with industry and with government. Successful fundraising for endowed, term, and capital funds.
- Selected for President Biden's Committee of Advisers on Science and Technology ([PCAST](#)). Co-Chair of Working Groups on US Technology Competitiveness and on Revitalizing Basic Research. Member of the Semiconductor Working Group.
- As Founding Chair of the IEEE Board of Directors Committee on Diversity and Inclusion, drove institutional change around diversity, inclusion, equity, and professional ethics through policy changes, implementation of best practices, and cultural change.
- Board of Directors member for 3 public companies (Intel, Medtronic, and Crown Castle). Committee Chair of Strategy and of Technology; Member of Audit and of Governance.
- Founder of two successful wireless companies. Led company strategy, technology development, customer engagements, and fundraising.
- Chosen by Stanford Provost John Etchemendy to serve on the Stanford Budget Group. Longest serving member of this group (10 years under 2 Provosts), which provided recommendations on all budget matters under the authority of the Provost.
- Chosen by the Stanford Board of Trustees to serve on its Committee on Finance.
- Elected by the Stanford Faculty Senate to serve on the Advisory Committee for Faculty Appointments and Promotions. Reviewed and provided advice to the President and Provost on faculty appointments, promotions, and related policies across all 7 schools.
- Elected by the Stanford Faculty Senate to serve as Senate Chair in the immediate aftermath of the 2008 financial crisis. Senate topics covered that year included the fallout of the financial crisis, the interplay between interdisciplinary institutes and disciplinary schools and departments, as well as challenges in higher education.
- Served on Stanford-wide Commissions on undergraduate and on graduate education.
- Member of the National Academy of Engineering, the Royal Academy of Engineering, and the American Academy of Arts and Sciences.
- Winner of the Marconi Prize for contributions to the theory and practice of adaptive wireless communications, and for translating this research into widespread use.
- Advisor of 26 doctoral students and 23 postdoctoral scholars. Awarded the Stanford Postdoc Mentoring Award, the IEEE WICE Mentoring Award, and the IEEE Kirchmayer Graduate Teaching Award.
- Author of 210 journal papers, 385 conference papers, 4 books, 29 patents; [h-index: 101](#).

Education:

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| Ph.D. | Electrical Engineering, University of California at Berkeley | 1994 |
| M.S. | Electrical Engineering, University of California at Berkeley | 1991 |
| B.S. | Engineering Mathematics, University of California at Berkeley | 1986 |

Employment

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| Princeton University, Dean of Engineering and Applied Science and Arthur LeGrand Doty Professor of Electrical and Computer Engineering | 09/20-Present |
| Intel (INTC) Board of Directors: Architecture Technology Committee (Co-Chair); Audit Committee. | 09/21-Present |
| Medtronic (MDT) Board of Directors: Science and Technology Committee (Chair); Quality Committee. | 03/19-Present |
| Crown Castle Inc. (CCI) Board of Directors: Strategy Committee (Chair); Corporate Governance Committee. | 10/17-Present |
| Stanford University, Stephen Harris Professor of Engineering Emerita as of 09/20 | 10/12 – 08/20 |
| Plume Wi-Fi, Founder, CTO, Board of Directors | 08/10 – 08/14 |
| Stanford University, Professor of Electrical Engineering (EE) | 05/07 – 08/20 |
| Quantenna Communications (QTNA), Founder, CTO, Board of Directors | 09/05 – 07/09 |
| Stanford University, Associate Professor of Electrical Engineering | 09/02 – 04/07 |
| Stanford University, Assistant Professor of Electrical Engineering | 01/99 – 08/02 |
| Memorylink Corporation, Chief Scientist | 05/98 – 05/02 |
| Caltech, Assistant Professor of Electrical Engineering | 09/94 – 12/98 |
| University of California at Berkeley, Research Assistant | 08/89 – 08/94 |
| AT&T Bell Laboratories, Intern and Consultant | 06/91 – 08/92 |
| MAXIM Technologies, Systems Engineer | 06/86 – 09/90 |

Princeton Leadership Roles

- Dean of Engineering and Applied Science
- President's Cabinet
- Board of Trustees (Ex-Officio)
- Academic Planning Group
- Executive Committee: Princeton Institute for International and Regional Studies
- Co-Director: Center on Decentralization of Power through Blockchain Technology

Stanford Leadership and Service Roles:

- University Budget Group (2010 – 2020)
- Advisory Committee on Faculty Promotions and Appointments (2017- 2019)
- Stanford Leadership Academy (2017-2018)
- Faculty Senate (2017-2020, 2011-2015, 2006-2010, 2001-2005), Chair (2009-2010)
- Planning and Policy Board: Member (2016-2017, 2009-2013), Chair (2009-2010)
- Committee on Research (2015-2017)
- Co-Chair: EE/CS Rising Stars Workshop for Aspiring Women Faculty (2016-2017)

- Provost Search Committee (2016)
- Provost Task Force on Women and Leadership (2014 – 2016)
- Neuroscience Faculty Search Committee (2014-2015)
- Ad Hoc Committee on Women and Leadership (2013-2014)
- Founding Chair: EE Committee on Student Life (2012-2017)
- University Cabinet (2009-2010)
- Senate Steering Committee (2004-2005, 2009-2010)
- EE Faculty Search Committee (2009-2010)
- Commission on Undergraduate Education (2011-2012)
- Commission on Graduate Education (2005-2006)
- EE/CS Faculty Search Committee (2003-2004)
- Vice Provost and Dean of Research Search Committee (2003)
- Pre-major Advisor (2001-2002, 2004-2005, 2010-2013, 2015-2016)
- EE Undergraduate Curriculum Committee (2000-2003), Chair (2003-2006)
- EE Academic Affairs Committee (1999-2004)

Professional Leadership and Service Roles:

- Member, President’s Council of Advisers on Science and Technology (PCAST), 2021-Present. Co-Chair: Exploratory Group on US Competitiveness in Technology and Innovation. Co-Chair: Working Group on Establishing Regional Innovation Hubs. Member: Working Group on Semiconductor Competitiveness.
- Founding Chair: IEEE Board of Directors Committee on Diversity and Inclusion, 2022-2023. Established the first new Board of Directors Committee in over a decade to transform all aspects of the society with respect to diversity, inclusion, and equity. Established and successfully endowed two new IEEE awards focused on women and young scholars.
- Member: Marconi Society Board of Directors (2015-present). In this role, co-led transformation of the society to focus on an updated mission around digital inclusion. Also responsible for fundraising that helped to significantly increase the organization’s endowment.
- Chair: Marconi Society Prize Committee: 2020-2023.
- Member: IEEE Dresselhaus Medal Committee, 2020-2022
- Chair: National Academy of Engineering Awards Committee, 2021. Member, 2019-2022
- Chair: National Academy of Engineering Peer Committee on Electronics, Communication, and Information Systems Engineering, 2020. Member, 2018-2020.
- Chair: IEEE Board of Directors Ad-Hoc Committee on Diversity, Inclusion, and Professional Ethics (2019-2020)
- Presidential Adviser: Arizona State University Institute of Technology Design (2018-2020)
- Chair: IEEE Technical Activities Committee on Diversity and Inclusion (2017-2020)
- Member: IEEE Strategic Planning Committee (2017-2019)
- Member: National Science Foundation Advisory Committee for the Directorate on Computer and Information Science and Engineering (2016-2020)
- Chair: IEEE Technical Activities Committee on Diversity and Inclusion (2017-2018)
- Member: IEEE Strategic Planning Committee (2017-2018)

- Member: National Science Foundation Advisory Committee for the Directorate on Computer and Information Science and Engineering (2016-2018)
- Chair: Women in Technology Leadership Roundtable Metrics Working Group (2016-Present), Roundtable Member (2015-present)
- Chair: IEEE Technical Activities Ad Hoc Committee on Women and URM (2015-2017)
- Chair: IEEE Bell Medal Committee (2014-2017), Member (2011-2013)
- Chair: IEEE Communications Society Emerging Technology Committee (2012-2014)
- Member: IEEE Communications Society Strategic Planning Committee (2012-2014)
- Member: Marconi Society Award Jury (2009-2011)
- President: IEEE Information Theory Society (2009), Officer (2007-2011)
- Jury Chair: BBVA Foundation Frontiers of Knowledge Award in Information and Communication Technology (2009-2012)
- Chair: IEEE Information Theory Society Claude E. Shannon Award Committee (2009)
- Chair: IEEE Information Theory Society Awards Committee (2008)
- Member: IEEE Technical Activities Board (2008-2009)
- Founder and Chair: IEEE Information Theory Society Student Committee (2005-2008)
- Board of Governors: IEEE Information Theory Society (2002-2007)
- Board of Governors: IEEE Communications Society (2005-2008)
- Committee Member: National Research Council Committee on Technology Investment for the Dept. of Homeland Security (2009-2012)
- Committee Member: National Research Council Committee on the Trends in Wireless Technology and Policy (2003-2006)
- Committee Member: National Research Council Committee on the Future of Untethered Communication (1996-1997)

Multi-University Research Leadership Roles

- Lead Stanford Principle Investigator: NSF Center for Science of Information. \$50M program across 11 universities and 44 faculty (2008-2018)
- Lead Principle Investigator: Air Force Office of Sponsored Research, “Reduced Dimension Wireless Networks and Radio Design: Enabling new Radio Architecture and Network Controllers via Compressed Sensing.” \$2.25M program across 3 universities and 3 faculty (2012-2017)
- Lead Principle Investigator: NSF, “Information Acquisition, State Estimation, and Control in Cyber Physical Systems.” \$1M program across 3 universities and 3 PIs (2013-2016)
- Lead Principle Investigator: Defense Threat Reduction Agency, “Fundamental Performance Limits in Hybrid Networks under WMD Attack.” \$1.2M across 2 universities and 2 faculty (2008-2013)
- Lead Principle Investigator: DARPA, “Information Theory of Mobile Ad-Hoc Networks.” \$6M program across 4 universities and 12 faculty (2006-2011)
- Lead Stanford Principle Investigator: Army Research Office, “Dynamic Ad-Hoc Wireless Networks.” \$6M program across 7 universities and 12 faculty (2006-2010)

Technical Advisory Boards

- Cohere Technical Advisory Board Chair: 2016-2021
- Quantenna (QTNA) Technical Advisory Board Chair: 2016-2020
- Interdigital (IDCC) Technical Advisory Board Chair: 2015-2017 (Member 2010-2017)
- Sequans (SQNS) Technical Advisory Board Member: 2006-2020
- Accenture (ACN) Technical Advisory Board Member: 2014-2016
- Aviat Networks (AWN) Technical Advisory Board Member: 2010-2012

Awards and Honors:

- Royal Academy of Engineering – 2022
- ACM Sigmobility Outstanding Contribution Award – 2022
- Marconi Prize for advancing information and communication technologies – 2020
- IEEE Leon K. Kirchmayer Graduate Teaching Award – 2020
- Qualcomm Faculty Award – 2019
- IEEE Eric E. Sumner Technical Field Award in Communications Technology – 2018
- D.Sc. Honoris Causa, University of Edinburgh – 2018
- IEEE Communication Theory Technical Committee Distinguished Service Award – 2019
- IEEE Information Theory Society Aaron D. Wyner Distinguished Service Award – 2018
- ACM Athena Lecturer Award – 2018
- IEEE iCon Award for Conference Excellence – 2018
- American Academy of Arts and Sciences – 2017
- National Academy of Engineering – 2017
- IEEE Communications Society Women in Communications Engineering Mentoring Award – 2017
- Thomson-Reuters/Clarivate Highly Cited Researcher (top 1%) – 2014, 2015, 2016, 2017
- IEEE Communications Society Edwin H. Armstrong Achievement Award “For sustained and fundamental contributions to wireless communications.” – 2014
- IEEE Communications Society Women in Communications Engineering Achievement Award – 2014
- Technical Achievement Award in Communication Theory: IEEE Communications Society – 2013
- Stephen Harris Endowed Chair in Stanford’s School of Engineering – 2012
- Interdigital Innovation Award – 2012
- Silicon Valley Business Journal Women of Influence Award – 2010.
- IEEE Information Theory Society Distinguished Lecturer – 2010-2011
- Technical Achievement Award in Wireless Communications: IEEE Communications Society – 2009
- Tsinghua Distinguished Chair Professorship – 2009-2011
- IEEE Communications Society Distinguished Lecturer – 2007-2008
- Stanford Postdoc Mentoring Award – 2008
- UCSD Shannon Memorial Lecture – 2007
- Stanford Fellow – 2005

- IEEE Fellow – 2005
- Stanford School of Engineering Bredt Faculty Development Scholar – 2003
- National Academy of Engineering Gilbreth Lectureship – 2002
- Alfred P. Sloan Fellowship – 2001
- Stanford Terman Fellowship – 1999
- Okawa Foundation Award – 1999
- The Office of Naval Research Young Investigator Award 1999
- National Semiconductor Faculty Development Award – 1996, 1997
- The National Science Foundation CAREER Development Award – 1995
- IBM Fellow – 1992-93
- David Griep Memorial Prize for Excellence in Academic Achievement – 1991

Paper Awards:

- IEEE Communications Society Best Tutorial Paper Award (Five-Year Window) – 2013
- IEEE Joint Information Theory Society and Communications Society Best Paper Award (Three-Year Window) – 2004
- IEEE Global Communications Conference, Communication Theory Symposium Best Paper Award – 2013
- Power and Energy Society General Meeting Best Paper Award – 2013
- Asia-Pacific Conference on Signal and Information Processing Best Paper Award – 2012
- IEEE Global Communications Conference Best Paper Award – 2009
- IEEE International Communications Conference, Wireless Communications Symposium Best Paper Award – 2008
- IEEE International Symposium on Information Theory Best Student Paper Award – 2007

Plenary, Keynote, and Distinguished Lectures:

- Keynote Speaker, IEEE Conference on Acoustics, Speech, and Signal Processing, June 2023
- Keynote Speaker, ACM Mobisys Conference, June 2022
- Keynote Speaker, IEEE Global Telecommunications Conference, December 2021
- Keynote Speaker, Marconi Society Symposium on the Decade of Digital Inclusion, October 2021
- Lilian Gilbreth Lecture – Purdue University, September 2019
- Distinguished Medical and Electrical Engineering Seminar – Caltech, May 2019
- Gene Brice Colloquium, Department of Electrical and Computer Engineering, Rice University, April 2019
- Distinguished Lecture Series in Information Engineering, Cambridge University, Cambridge, UK, January 2019.
- Mercer Distinguished Lecture Series, Department of Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic, December 2018
- Athena Lecturer, Mobicom 2018, Delhi, India, October 2018
- IEEE 5G World Forum, Santa Clara, CA, September 2018
- Keynote Speaker, National Academies of Science, Engineering and Medicine Colloquium on Fifth Generation Wireless Communications, Washington DC, August

2018

- Distinguished Speaker Series, Department of Electrical Engineering and Computer Science, Northwestern University, January 2018
- Visions for Future Communications Summit, Lisbon, Portugal, Oct. 2017
- Iran Workshop on Communications and Information Theory, Tehran, Iran, May 2017
- IEEE International Workshop on Emerging Technologies for 5G Wireless Cellular Networks, Washington DC, Dec. 2016
- IEEE International Symposium on Wireless Communication Systems, Poznan, Poland, Sep. 2016
- Chinese University of Hong Kong, Shenzhen, China, Aug. 2016
- Technion University Vincent Meyer Colloquium, Haifa, Israel, Jun. 2016
- University of Maryland Advanced Networks Colloquium, College Park, MD, Mar. 2016
- MIT Shannon-Boole Lecture, Cambridge, MA, Feb. 2016
- ACM Symposium on Mobile Ad Hoc Networking, Hangzhou, China, Jun. 2015
- IEEE Personal and Indoor Mobile Radio Conference, Washington DC, Sep. 2014
- IEEE International Symposium on Information Theory, Waikiki, HI, Jul. 2014.
- Qualcomm Technology Forum, San Diego, CA Jun. 2014
- European Wireless Conference, Barcelona, Spain, May 2014
- International Zurich Seminar on Communications, Zurich, Switzerland, Feb. 2014
- IEEE International Conference on Communications in China, Xi'an, China, Aug. 2013
- International Conference on Signal Processing and Communications, Kunming, China, Aug. 2013
- IEEE Vehicular Technology Conference, Dresden, Germany, Jun. 2013
- IEEE International Workshop on Heterogeneous and Small Cell Networks, Anaheim, CA, Dec. 2012
- Electrical Engineering Distinguished Lecture Series, University of California at Berkeley, Berkeley, CA, Nov. 2012
- IEEE Workshop on Convergence among Heterogeneous Wireless Systems in Future Internet, Ottawa, Canada, Jun. 2012
- IEEE Wireless Communications and Networking Conference, Paris, France, Mar. 2012
- IEEE Global Communications Conference, Miami, FL, Dec. 2010
- IEEE Communications Society Distinguished Lecture Tour in Latin America, Sweden, and Canada, 2009
- IEEE Wireless Communications and Networking Conference, Budapest, Hungary, Apr. 2009
- IEEE International Conference on Computers, Communications, and Networks, San Francisco, CA, Aug. 2009
- IEEE International Symposium on Wireless Pervasive Computing, Santorini, Greece, May 2008
- Conference on Government Microcircuit Applications and Critical Technology, Las Vegas, NV, Mar. 2008
- American Control Conference, Manhattan, NY, Jul. 2007
- IEEE Conference on Information Sciences and Systems, Princeton, NJ, Mar. 2006.
- Workshop on Signal Processing for Wireless Communications, King's College, London, May 2006
- International Workshop on Wireless and Ad Hoc Networks, New York, NY, Jun. 2006.

- Electrical Engineering Distinguished Lecture Series, University of California at Berkeley, Berkeley, CA, Feb. 2005
- Lillian Gilbreth Lecture, Annual National Academy of Engineering Meeting, Washington. DC, Oct. 2002
- National Academy of Engineering Symposium on Frontiers of Engineering, Irvine, CA, Mar. 2002
- Caltech Ernest J. Watson Lecture Series, Pasadena, CA Oct. 1996

Editorial Activities

- Founding Editor-in-Chief, *IEEE Journal on Selected Areas in Information Theory*, 2018-2021
- Steering Committee: *IEEE Transactions on Wireless Communications*, 2010 – 2013
- Associate Editor: *IEEE Transactions on Information Theory*, 2007 – 2009
- Editorial Board: *NoW Journal on Foundations and Trends in Communications and Information Theory*, 2006 – Present
- Editorial Board: *NoW Journal on Foundations and Trends in Networks*, 2006 – Present
- Guest Editor: Special issue of *IEEE Journal on Selected Areas in Communications*, 2007
- Guest Editor-in-Chief: Special issue of *IEEE Wireless Communications Magazine*, 2006
- Guest Editor-in-Chief: Special issue of *IEEE Wireless Communications Magazine*, 2002
- Guest Editor-in-Chief: Special issue of *IEEE Wireless Communications Magazine*, 1998
- Editor: *IEEE Transactions on Communications*, 1995 – 2001
- Editor: *IEEE Wireless Communications Magazine*, 1995 – 2002

Technical Meetings - Leadership Roles

- General Chair, IEEE Communication Theory Workshop, 2022.
- General Chair: IEEE Wireless Communications and Networking Conference, 2017. (*recipient: 2018 IEEE Award for Excellence selected from 1600 IEEE Conferences*)
- General Chair: IEEE Information Theory Workshop, 2010.
- General Chair: Joint Workshop on Coding and Communications, 2008.
- General Chair: IEEE Communication Theory Symposium, 2000.
- Technical Program Committee Chair: IEEE Information Theory Symposium 2007.
- Technical Program Committee Chair: IEEE Communication Theory Workshop 1999.

Technical Meetings – Program Committee Member

- IEEE Information Theory Workshop, 2015.
- IEEE International Symposium on Information Theory, 2015.
- IEEE International Symposium on Information Theory, 2013.
- IEEE Communications Theory Workshop, 2012.
- IEEE International Symposium on Information Theory, 2012.
- IEEE International Symposium on Information Theory, 2010.
- IEEE Global Communications Conference, 2004.
- IEEE International Conference on Communications, 2002.

- IEEE Wireless Personal and Mobile Communications Conference, 2002.
- IEEE International Symposium on Signals and Systems, 2000.
- IEEE Global Communications Conference, 1999.
- IEEE International Communications Conference, 1999.
- IEEE Wireless Communications and Networking Conference, 1999.
- IEEE Global Communications Conference, 1996.
- IEEE Global Communications Conference, 1994.

Doctoral Student and Postdoc Summary:

Dr. Goldsmith has supervised the Ph.D. theses of 25 doctoral students with 1 under her current supervision. She has supervised 20 postdoctoral scholars with 3 under her current supervision.

Research Funding Summary:

Dr. Goldsmith has served as PI or co-PI on government research grants totaling more than seventy million dollars. Her research has been funded by the National Science Foundation (NSF), Defense Advanced Research Projects Agency (DARPA), the Office of Naval Research (ONR), the Air Force Office of Sponsored Research (AFOSR), the Army Research Labs (ARL), and the Defense Threat Reduction Agency (DTRA). She served as the lead Stanford PI on a fifty million dollar NSF Center that spanned 11 universities (44 faculty) and she has served as lead PI on five other multi-university research programs. She has also obtained more than two million dollars of research support from industry, including funding from Agilent, Bosch, Cable Labs, Hitachi, Huawei, Intel, LG Electronics, National Semiconductor, NTT, Samsung, and Toyota.

Publication and Patent Summary:

Dr. Goldsmith has authored 210 journal papers published, two of which have won best paper awards. She has published 385 peer-reviewed conference papers, six of which have won best paper awards. She is the author of four textbooks, one of which has been translated into Chinese, Japanese, and Russian. She has twenty-nine issued patents. Her publications have been cited over 78,000 times in Google Scholar with an h-index of 101. Links to her publications and patents can be found at URL: <http://scholar.google.com/citations?user=cPmMoXoAAAAJ&hl=en&oi=ao>