



Ada Poon

Associate Professor of Electrical Engineering

Bio

BIO

Ada received her Ph.D. degree from the EECS department at the University of California at Berkeley in 2004. Her dissertation attempted to connect information theory with electromagnetic theory so as to better understand the fundamental limit of wireless channels. Upon graduation, she spent one year at Intel as a senior research scientist building reconfigurable baseband processors for flexible radios. Afterwards, she joined her advisor's startup company, SiBeam Inc., architecting Gigabit wireless transceivers leveraging 60 GHz CMOS and MIMO antenna systems. After two years in industries, she returned to academic and joined the faculty of the ECE department at the University of Illinois, Urbana-Champaign. Since then, she has changed her research direction from wireless communications to integrated biomedical systems. In 2008, she moved back to California and joined the faculty of the Department of Electrical Engineering at Stanford University.

ACADEMIC APPOINTMENTS

- Associate Professor, Electrical Engineering
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Wu Tsai Human Performance Alliance
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Member, Stanford Diabetes Research Center, (2019- present)

HONORS AND AWARDS

- CZ Biohub Investigator, Chan Zuckerberg Biohub (2017)
- CAREER Award, NSF (2013)
- Research Grant recipient, Okawa Foundation (2010)
- Terman Fellow, Stanford (2008)

PROFESSIONAL EDUCATION

- PhD, UC Berkeley , Electrical Engineering (2004)
- MS, UC Berkeley , Electrical Engineering (1999)

LINKS

- My lab site: <http://web.stanford.edu/group/poongroup/cgi-bin/wordpress/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research focuses on providing theoretical foundations and engineering platforms for realizing electronics that seamlessly integrate with the body. Such systems will allow precise recording or modulation of physiological activity, for advancing basic scientific discovery and for restoring or augmenting biological functions for clinical applications. To build these integrated biomedical systems, our research program emphasizes a vertical integration of diverse fields ranging from physics, wireless technologies, and low-power integrated circuits. In close collaboration with biologists and clinical specialists, we validate our systems in animal models and prepare the testing of the systems in humans.

PROJECTS

- Memory recovery device for Alzheimer's disease and other dementias
- Wireless neuromodulation platforms - Stanford University
- Wireless power transfer to microimplants - Stanford University
- Low-power biomedical integrated circuits - Stanford University
- Metasurfaces - Stanford University

Teaching

COURSES

2025-26

- Autonomous Implantable Systems: EE 303 (Spr)
- Wireless Communications: EE 359 (Win)

2024-25

- Autonomous Implantable Systems: EE 303 (Spr)
- Wireless System Design: EE 358 (Win)

2023-24

- Autonomous Implantable Systems: EE 303 (Spr)
- Wireless Communications: EE 359 (Win)

2022-23

- Autonomous Implantable Systems: EE 303 (Spr)
- Wireless System Design: EE 358 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Linkai Li, Robert Lupoiu, Yujia Yuan

Postdoctoral Faculty Sponsor

Ziad Ali

Doctoral Dissertation Advisor (AC)

George Alexopoulos, Joanna Sands, Kamila Thompson

Master's Program Advisor

Belle Angkanipiwat, Zahir Chaudhry, Rachel Hollett, Joana Mizrahi, Aidan Sullivan, Andrew Yang

Doctoral (Program)

Muhammad Ahmed Mohsin, Linus Hein, Emma Kranich, Caoimhe Lyons, Grace Maddocks, Mira Partha, Joanna Sands, Tom Stone, Orr Zohar

Publications

PUBLICATIONS

- **Intermittent Low-Magnitude Pressure Applied Across Macroencapsulation Devices Enables Physiological Insulin Delivery Dynamics.** *Diabetes*
Thomson, E. A., Lee, S., Xu, H., Moeller, H., Sands, J., Lal, R. A., Annes, J. P., Poon, A. S.
2025
- **Ultimate performance of microwave tissue ablation** *PHYSICAL REVIEW APPLIED*
Lee, S., Lee, J., Poon, A. S. Y., Kim, S.
2024; 22 (1)
- **Enhancing Therapeutic Insulin Transport from Macroencapsulated Islets Using Sub-Minute Pressure at Physiological Levels.** *bioRxiv : the preprint server for biology*
Thomson, E. A., Lee, S., Xu, H., Moeller, H., Sands, J., Lal, R. A., Annes, J. P., Poon, A. S.
2024
- **Conductive gradient hydrogels allow spatial control of adult stem cell fate.** *Journal of materials chemistry. B*
Song, S., McConnell, K. W., Shan, D., Chen, C., Oh, B., Sun, J., Poon, A. S., George, P. M.
2024
- **A disposable reader-sensor solution for wireless temperature logging** *DEVICE*
Kananian, S., Rho, J., Chen, C., Mirjalili, S., Daus, A., Kim, M., Niu, S., Pop, E., Wong, H., Bao, Z., Mani, A., Poon, A. S. Y.
2023; 1 (6)
- **A systematic review on functional electrical stimulation based rehabilitation systems for upper limb post-stroke recovery.** *Frontiers in neurology*
Khan, M. A., Fares, H., Ghayvat, H., Brunner, I. C., Puthusserypady, S., Razavi, B., Lansberg, M., Poon, A., Meador, K. J.
2023; 14: 1272992
- **Wirelessly Powered-Electrically Conductive Polymer System for Stem Cell Enhanced Stroke Recovery.** *Advanced electronic materials*
Santhanam, S., Chen, C., Oh, B., McConnell, K. W., Azadian, M. M., Patel, J. J., Gardner, E. E., Tanabe, Y., Poon, A. S., George, P. M.
2023; 9 (10)
- **Wirelessly Powered-Electrically Conductive Polymer System for Stem Cell Enhanced Stroke Recovery** *ADVANCED ELECTRONIC MATERIALS*
Santhanam, S., Chen, C., Oh, B., McConnell, K. W., Azadian, M. M., Patel, J. J., Gardner, E. E., Tanabe, Y., Poon, A. S. Y., George, P. M.
2023
- **Remotely controlled near-infrared-triggered photothermal treatment of brain tumours in freely behaving mice using gold nanostars.** *Nature nanotechnology*
Arami, H., Kananian, S., Khalifehzadeh, L., Patel, C. B., Chang, E., Tanabe, Y., Zeng, Y., Madsen, S. J., Mandella, M. J., Natarajan, A., Peterson, E. E., Sinclair, R., Poon, et al
2022
- **Robust Wireless Interrogation of Fully-Passive RLC Sensors** *IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS*
Kananian, S., Alexopoulos, G., Poon, A. S. Y.
2022
- **Activation of UCP1-Independent Ca²⁺ Cycling Thermogenesis by Wireless Optogenetics.** *Methods in molecular biology (Clifton, N.J.)*
Ikeda, K., Tajima, K., Tanabe, Y., Poon, A. S., Kajimura, S.
2022; 2448: 131-139
- **High-specific-power flexible transition metal dichalcogenide solar cells.** *Nature communications*

Nassiri Nazif, K., Daus, A., Hong, J., Lee, N., Vaziri, S., Kumar, A., Nitta, F., Chen, M. E., Kananian, S., Islam, R., Kim, K., Park, J., Poon, et al
2021; 12 (1): 7034

- **Novel Pathogenic de novo INS p.T97P Variant Presenting with Severe Neonatal DKA.** *Endocrinology*
Lal, R. A., Moeller, H. P., Thomson, E. A., Horton, T. M., Lee, S., Freeman, R., Prahalad, P., Poon, A. S., Annes, J. P.
2021
- **Intracellular detection and communication of a wireless chip in cell.** *Scientific reports*
Yang, M. X., Hu, X., Akin, D., Poon, A., Wong, H. P.
2021; 11 (1): 5967
- **A microwave method to remotely assess the abdominal fat thickness** *AIP ADVANCES*
Lee, J., Park, A. J., Tanabe, Y., Poon, A. S. Y., Kim, S.
2021; 11 (3)
- **Coupling-Independent Real-Time Wireless Resistive Sensing Through Nonlinear PT Symmetry** *PHYSICAL REVIEW APPLIED*
Kananian, S., Alexopoulos, G., Poon, A. S. Y.
2020; 14 (6)
- **Wireless optogenetics protects against obesity via stimulation of non-canonical fat thermogenesis.** *Nature communications*
Tajima, K. n., Ikeda, K. n., Tanabe, Y. n., Thomson, E. A., Yoneshiro, T. n., Oguri, Y. n., Ferro, M. D., Poon, A. S., Kajimura, S. n.
2020; 11 (1): 1730
- **Controlling properties of human neural progenitor cells using 2D and 3D conductive polymer scaffolds.** *Scientific reports*
Song, S., Amores, D., Chen, C., McConnell, K., Oh, B., Poon, A., George, P. M.
2019; 9 (1): 19565
- **A wireless body area sensor network based on stretchable passive tags** *NATURE ELECTRONICS*
Niu, S., Matsuhisa, N., Beker, L., Li, J., Wang, S., Wang, J., Jiang, Y., Yan, X., Yuri, Y., Burnetts, W., Poon, A. S. Y., Tok, J., Chen, et al
2019; 2 (8): 361–68
- **Optimization of Sine-Wave Clocking for High-Frequency AC-DC Conversion** *IEEE TRANSACTIONS ON POWER ELECTRONICS*
Hsu, S., Poon, A. S. Y.
2019; 34 (1): 391–402
- **Optimization of Sine-Wave Clocking for High-Frequency AC-DC Conversion.** *IEEE transactions on power electronics*
Hsu, S., Poon, A. S.
2019; 34 (1): 391-402
- **Measuring abdominal fatness using principle of Salisbury screen** *ELECTRONICS LETTERS*
Park, J., Lee, J., Lee, B., Poon, A. Y., Lee, S., Kim, S.
2017; 53 (14): 908–9
- **An RF-Powered FDD Radio for Neural Microimplants** *IEEE JOURNAL OF SOLID-STATE CIRCUITS*
Rajavi, Y., Taghivand, M., Aggarwal, K., Ma, A., Poon, A. S.
2017; 52 (5): 1221-1229
- **A Millimeter-Wave Digital Link for Wireless MRI** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
Aggarwal, K., Joshi, K. R., Rajavi, Y., Taghivand, M., Pauly, J. M., Poon, A. S., Scott, G.
2017; 36 (2): 574-583
- **High-performance wireless powering for peripheral nerve neuromodulation systems.** *PloS one*
Tanabe, Y. n., Ho, J. S., Liu, J. n., Liao, S. Y., Zhen, Z. n., Hsu, S. n., Shuto, C. n., Zhu, Z. Y., Ma, A. n., Vassos, C. n., Chen, P. n., Tse, H. F., Poon, et al
2017; 12 (10): e0186698
- **Electromagnetic Modeling of Human Body Using High Performance Computing**
Ng, C., Beall, M., Ge, L., Kim, S., Klaas, O., Poon, A.
edited by Parriott, C.
ELSEVIER SCIENCE BV.2017: 107-114

- **Non-Coil, Optimal Sources for Wireless Powering of Sub-Millimeter Implantable Devices** *PROGRESS IN ELECTROMAGNETICS RESEARCH-PIER*
Kim, S., Ho, J. S., Poon, A. S. Y.
2017; 158: 99–108
- **Micrometer-scale magnetic-resonance-coupled radio-frequency identification and transceivers for wireless sensors in cells** *Physical Review Applied*
Hu, X., Aggarwal, K., Yang, M., Parizi, K., Xu, X., Akin, D., Poon, A., Wong, H.
2017
- **Conformal phased surfaces for wireless powering of bioelectronic microdevices.** *Nature biomedical engineering*
Agrawal, D. R., Tanabe, Y. n., Weng, D. n., Ma, A. n., Hsu, S. n., Liao, S. Y., Zhen, Z. n., Zhu, Z. Y., Sun, C. n., Dong, Z. n., Yang, F. n., Tse, H. F., Poon, et al
2017; 1
- **A NEW KIND OF WIRELESS MOUSE** *IEEE SPECTRUM*
Poon, A.
2016; 53 (12): 26-U37
- **Conformal Microwave Lens for Focusing Across Inhomogenous Tissue**
Ho, J. S., Poon, A. S. Y., IEEE
IEEE.2016: 881–82
- **An Energy Harvested Ultra-Low Power Transceiver for Internet of Medical Things**
Rajavi, Y., Taghivand, M., Aggarwal, K., Ma, A., Poon, A. S. Y., IEEE
IEEE.2016: 133–36
- **Wirelessly powered, fully internal optogenetics for brain, spinal and peripheral circuits in mice.** *Nature methods*
Montgomery, K. L., Yeh, A. J., Ho, J. S., Tsao, V., Mohan Iyer, S., Grosenick, L., Ferenczi, E. A., Tanabe, Y., Deisseroth, K., Delp, S. L., Poon, A. S.
2015; 12 (10): 969-974
- **Self-Tracking Energy Transfer for Neural Stimulation in Untethered Mice** *PHYSICAL REVIEW APPLIED*
Ho, J. S., Tanabe, Y., Iyer, S. M., Christensen, A. J., Grosenick, L., Deisseroth, K., Delp, S. L., Poon, A. S.
2015; 4 (2)
- **An Energy Harvesting 2 x 2 60 GHz Transceiver With Scalable Data Rate of 38-2450 Mb/s for Near-Range Communication** *IEEE JOURNAL OF SOLID-STATE CIRCUITS*
Taghivand, M., Aggarwal, K., Rajavi, Y., Poon, A. S.
2015; 50 (8): 1889-1902
- **INDUCTIVE POWER TRANSFER AND FAR-FIELD RADIATION WITH SMALL DUAL-BAND ANTENNAS** *MICROWAVE AND OPTICAL TECHNOLOGY LETTERS*
Chang, T., Tanabe, Y., Tan, B., Poon, A.
2015; 57 (5)
- **Planar immersion lens with metasurfaces** *PHYSICAL REVIEW B*
Ho, J. S., Qiu, B., Tanabe, Y., Yeh, A. J., Fan, S., Poon, A. S.
2015; 91 (12)
- **Midfield Wireless Power Transfer for Bioelectronics** *IEEE CIRCUITS AND SYSTEMS MAGAZINE*
Ma, A., Poon, A. S.
2015; 15 (2): 54-60
- **Does Superdirectivity Increase the Degrees of Freedom in Wireless Channels?**
Poon, A. S. Y., Tse, D. N. C., IEEE
IEEE.2015: 1232–36
- **Wireless power transfer to deep-tissue microimplants** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Ho, J. S., Yeh, A. J., Neofytou, E., Kim, S., Tanabe, Y., Patlolla, B., Beygui, R. E., Poon, A. S.

2014; 111 (22): 7974-7979

- **A Small Dual-Band Asymmetric Dipole Antenna for 13.56 MHz Power and 2.45 GHz Data Transmission** *IEEE ANTENNAS AND WIRELESS PROPAGATION LETTERS*
Tanabe, Y., Chang, T., Yeh, A. J., Poon, A. S.
2014; 13: 1120-1123
- **Miniaturized Biomedical Implantable Devices** *IMPLANTABLE BIOELECTRONICS*
Poon, A. S. Y.
edited by Katz, E.
2014: 45-64
- **Optical Probe for Input-Impedance Measurement of In Vivo Power-Receiving Microstructure**
Yeh, A. J., Ho, J. S., Poon, A. S. Y., IEEE
IEEE.2014: 1409-10
- **A 3.24-to-8.45GHz Low-Phase-Noise Mode-Switching Oscillator** *1st IEEE International Solid-State Circuits Conference (ISSCC)*
Taghivand, M., Aggarwal, K., Poon, A. S.
IEEE.2014: 368-?
- **Energy Transfer for Implantable Electronics in the Electromagnetic Midfield** *PROGRESS IN ELECTROMAGNETICS RESEARCH-PIER*
Ho, J. S., Poon, A. S.
2014; 148: 151-158
- **A General Solution to Wireless Power Transfer between Two Circular Loops** *PROGRESS IN ELECTROMAGNETICS RESEARCH-PIER*
Poon, A. S.
2014; 148: 171-182
- **An Energy Harvesting 2x2 60GHz Transceiver with Scalable Data Rate of 38-to-2450Mb/s for Near Range Communication** *36th Annual IEEE Custom Integrated Circuits Conference (CICC) - The Showcase for Integrated Circuit Design in the Heart of Silicon Valley*
Taghivand, M., Rajavi, Y., Aggarwal, K., Poon, A. S.
IEEE.2014
- **Wirelessly powering miniature implants for optogenetic stimulation** *APPLIED PHYSICS LETTERS*
Yeh, A. J., Ho, J. S., Tanabe, Y., Neofytou, E., Beygui, R. E., Poon, A. S.
2013; 103 (16)
- **Mass fabrication and delivery of 3D multilayer mu Tags into living cells** *SCIENTIFIC REPORTS*
Chen, L. Y., Parizi, K. B., Kosuge, H., Milaninia, K. M., McConnell, M. V., Wong, H. P., Poon, A. S.
2013; 3
- **Midfield Wireless Powering for Implantable Systems** *PROCEEDINGS OF THE IEEE*
Ho, J. S., Kim, S., Poon, A. S.
2013; 101 (6): 1369-1378
- **Midfield Wireless Powering of Subwavelength Autonomous Devices** *PHYSICAL REVIEW LETTERS*
Kim, S., Ho, J. S., Poon, A. S.
2013; 110 (20)
- **Midfield wireless powering of subwavelength autonomous devices.** *Physical review letters*
Kim, S., Ho, J. S., Poon, A. S.
2013; 110 (20): 203905
- **Emerging wireless applications in biomedicine** *5th IEEE International Workshop on Advances in Sensors and Interfaces (IWASI)*
Poon, A.
IEEE.2013: 35-35
- **A 11 mu W Sub-pJ/bit Reconfigurable Transceiver for mm-Sized Wireless Implants** *35th Annual IEEE Custom Integrated Circuits Conference (CICC) - The Showcase for Circuit Design in the Heart of Silicon Valley*
Yakovlev, A., Jang, J., Pivonka, D., Poon, A.
IEEE.2013

- **A mm-Sized Wirelessly Powered and Remotely Controlled Locomotive Implant** *IEEE TRANSACTIONS ON BIOMEDICAL CIRCUITS AND SYSTEMS*
Pivonka, D., Yakovlev, A., Poon, A. S., Meng, T.
2012; 6 (6): 523-532
- **A mm-sized wirelessly powered and remotely controlled locomotive implant.** *IEEE transactions on biomedical circuits and systems*
Pivonka, D., Yakovlev, A., Poon, A. S., Meng, T.
2012; 6 (6): 523-32
- **Wireless Power Transfer to Miniature Implants: Transmitter Optimization** *IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION*
Kim, S., Ho, J. S., Poon, A. S.
2012; 60 (10): 4838-4845
- **Wireless power transfer to a cardiac implant** *APPLIED PHYSICS LETTERS*
Kim, S., Ho, J. S., Chen, L. Y., Poon, A. S.
2012; 101 (7)
- **Supporting and Enabling Circuits for Antenna Arrays in Wireless Communications** *PROCEEDINGS OF THE IEEE*
Poon, A. S., Taghivand, M.
2012; 100 (7): 2207-2218
- **Implantable Biomedical Devices: Wireless Powering and Communication** *IEEE COMMUNICATIONS MAGAZINE*
Yakovlev, A., Kim, S., Poon, A.
2012; 50 (4): 152-159
- **Exceeding Nernst Limit (59mV/pH): CMOS-Based pH Sensor for Autonomous Applications** *IEEE International Electron Devices Meeting (IEDM)*
Parizi, K. B., Yeh, A. J., Poon, A. S., Wong, H. S.
IEEE.2012
- **Electromagnetic field focusing for short-range wireless power transmission** *IEEE Radio and Wireless Symposium (RWS)*
Poon, A.
2012
- **A mm-sized wireless powered and remotely controlled locomotive implant** *IEEE Trans. Biomedical Circuits and Systems*
Pivonka, D., Yakovlev, A., Poon, A., Meng, T.
2012; 6 (6): 523-532
- **Wireless Powering of Microchip Implants by a Cross-Slot Antenna** *Asia-Pacific Microwave Conference (APMC)*
Tanabe, Y., Ho, J. S., Wong, H., Poon, A. S.
IEEE.2012: 418-420
- **Degree-of-Freedom Gain From Using Polarimetric Antenna Elements** *IEEE TRANSACTIONS ON INFORMATION THEORY*
Poon, A. S., Tse, D. N.
2011; 57 (9): 5695-5709
- **Detecting Human Blockage and Device Movement in mmWave Communication System** *54th Annual IEEE Global Telecommunications Conference (GLOBECOM)*
Tsang, Y. M., Poon, A. S.
IEEE.2011
- **Wireless communication device using adaptive beamforming**
Poon, A., S. Y.
2011
- **Coding the Beams: Improving Beamforming Training in mmWave Communication System** *54th Annual IEEE Global Telecommunications Conference (GLOBECOM)*
Tsang, Y. M., Poon, A. S., Addepalli, S.
IEEE.2011

-
- **Optimal Transmit Dimension for Wireless Powering of Miniature Implants** *IEEE International Symposium on Antennas and Propagation (APSURSI)/USNC/URSI National Radio Science Meeting*
Kim, S., Poon, A. S.
IEEE.2011: 408–411
 - **A Four-Channel Beamforming Down-Converter in 90-nm CMOS Utilizing Phase-Oversampling** *IEEE Asian Solid-State Circuits Conference (A-SSCC)*
Tseng, R., Li, H., Kwon, D. H., Chiu, Y., Poon, A. S.
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2010: 2262–72
 - **Optimal Frequency for Wireless Power Transmission Into Dispersive Tissue** *IEEE TRANSACTIONS ON ANTENNAS AND PROPAGATION*
Poon, A. S., O'Driscoll, S., Meng, T. H.
2010; 58 (5): 1739-1750
 - **Degree-of-Freedom Gain from Polarimetric Antenna Elements** *2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting*
Poon, A. S.
IEEE.2010
 - **Optimizations of Source Distribution in Wireless Power Transmission for Implantable Devices** *2010 IEEE International Symposium Antennas and Propagation/CNC-USNC/URSI Radio Science Meeting*
Kim, S., Poon, A. S.
IEEE.2010
 - **Translating Electromagnetic Torque into Controlled Motion for use in Medical Implants** *32nd Annual International Conference of the IEEE Engineering-in-Medicine-and-Biology-Society (EMBC 10)*
Pivonka, D., Meng, T., Poon, A.
IEEE.2010: 6433–6436
 - **Miniaturization of Implantable Wireless Power Receiver** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*
Poon, A. S.
IEEE.2009: 3217–3220
 - **An Inherently Linear Phase-Oversampling Vector Modulator in 90-nm CMOS**
Tseng, R., Li, H., Kwon, D., Poon, A. S. Y., Chiu, Y., IEEE
IEEE.2009: 257–60
 - **Locomotive Micro-Implant with Active Electromagnetic Propulsion** *Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*
Pivonka, D., Poon, A. S., Meng, T. H.
IEEE.2009: 6404–6407
 - **A mixed-signal vector modulator for eigen-beamforming receivers** *IEEE Trans. Circuits and Systems II*
Tseng, R., Poon, A., Chiu, Y.
2008; 55 (5): 479–483
 - **Polarization degrees of freedom**
Poon, A., S. Y., Tse, D., N. C.
2008
 - **Non-robustness of statistics-based beamformer design in correlated design in correlated MIMO channels**
Raghavan, V., Poon, A., Veeravalli, V.
2008
 - **Angular domain processing for MIMO wireless systems with non-uniform antenna arrays**
Huang, D., Raghavan, V., Poon, A., Veeravalli, V.
2008
 - **A mixed-signal MIMO beamforming receiver**
Tseng, R., Poon, A., S. Y., Chiu, Y.

2008

- **Optimal operating frequency in wireless power transmission for implantable devices** *29th Annual International Conference of the IEEE-Engineering-in-Medicine-and-Biology-Society*
Poon, A. S., O'Driscoll, S., Meng, T. H.
IEEE.2007: 5674–5679
- **Angular domain signal processing techniques**
Poon, A., S. Y.
2007
- **An energy-efficient reconfigurable baseband processor for wireless communications** *IEEE Trans. VLSI Systems*
Poon, A., S. Y.
2007; 15 (3): 319–327
- **MIMO systems with arbitrary antenna array architectures: channel modeling, capacity, and low-complexity signaling**
Raghavan, V., Poon, A., Veeravalli, V.
2007
- **Deterministic spatial power allocation and bit loading for closed loop MIMO**
Poon, A., S. Y.
2006
- **An energy-efficient reconfigurable baseband processor for flexible radios**
Poon, A., S. Y.
2006
- **Technique to increase a code rate in a MIMO system using virtual channels**
Poon, A., S. Y.
2006
- **Method and system for closed loop transmit beamforming in MIMO systems with limited feedback**
Poon, A., S. Y.
2006
- **Link adaptation for MIMO transmission schemes**
Poon, A., S. Y.
2006
- **Impact of scattering on the capacity, diversity, and propagation range of multiple-antenna channels** *IEEE Trans. Information Theory*
Poon, A., Tse, D., Brodersen, R. W.
2006; 52 (3): 1087–1100
- **Determining spatial power allocation and bit loading for a MIMO OFDM system without feedback information about the channel**
Poon, A., S. Y.
2006
- **Code rate adaptation in a MIMO system using virtual channels**
Poon, A., S. Y.
2006
- **Closed loop MIMO systems using codebooks for feedback**
Poon, A., S. Y.
2006
- **Closed loop feedback in MIMO systems**
Poon, A., S. Y.
2006
- **Bit distributor for multicarrier communication systems employing adaptive bit loading for multiple spatial streams and methods**
Poon, A., S. Y.

2006

- **Apparatus and method to form a transform**

Poon, A., S. Y.

2006

- **Adaptive bit loading for multicarrier communication system**

Poon, A., S. Y.

2006

- **Spatial puncturing apparatus, method, and system**

Poon, A., S. Y.

2005

- **Degrees of freedom in multiple-antenna channels: a signal space approach** *IEEE Trans. Information Theory*

Poon, A., S. Y., Brodersen, R., W., Tse, D., N. C.

2005; 51 (2): 523–536

- **Compact feedback for closed loop MIMO systems**

Poon, A., S. Y.

2005

- **Spatial channel models for multiple-antenna systems**

Poon, A., S. Y., Tse, D., N. C., Brodersen, R., W.

2004

- **An adaptive multi-antenna transceiver for slowly flat-fading channels** *IEEE Trans. Communications*

Poon, A., S. Y., Tse, D., N. C., Brodersen, R., W.

2003; 51 (11): 1820–1827

- **Indoor multiple-antenna channel characterization from 2 to 8 GHz**

Poon, A. S., Ho, M., IEEE, IEEE, IEEE

IEEE.2003: 3519–23

- **Game theoretical multi-agent modelling of coalition formation for multilateral trades** *IEEE TRANSACTIONS ON POWER SYSTEMS*

Yeung, C. S., Poon, A. S., Wu, F. F.

1999; 14 (3): 929-934

- **A 60GHz digitally controlled RF beamforming array in 65nm CMOS with off-chip antennas** *IEEE RFIC Symposium*

Lin, S., Ng, K., Wong, H., Luk, L., Wong, S. S., Poon, A.

2011

- **A mm-sized implantable power receiver with adaptive link compensation** *IEEE International Solid-State Circuits Conference (ISSCC)*

O'Driscoll, S., Poon, A., Meng, T. H.

2009

- **A mm-sized implantable wireless power receiver** *IEEE Engineering in Medicine and Biology Society Annual International Conference (EMBC)*

Poon, A.

2009

- **A multi-agent approach to the deregulation and restructuring of power industry** *Hawaii International Conference on System Sciences*

Poon, A., Wu, F. F., Yeung, C., Yen, J.

1998

- **An inherently linear phase-oversampling vector modulator in 90-nm CMOS** *IEEE Asian Solid-State Circuits Conference (ASSCC)*

Tseng, R., Li, H., Kwon, D., Poon, A., Chun, Y.

2009

- **Beam focused slot antenna for microstrip implants** *International Symposium on Antennas and Propagation (ISAP)*

Tanabe, Y., Wong, H., Kim, S., Ho, J., Poon, A.

2012

- **Multiple-antenna channels from a combined physical and networking perspective** *Asilomar Conference on Signals, Systems, and Computers*
Poon, A., Tse, D., Brodersen, R. W.

2002

- **The signal dimensions in multiple-antenna channels** *IEEE Global Telecommunications Conference (GLOBECOM)*

Poon, A., Tse, D., Brodersen, R. W.

2002

- **Trade-offs of performance and single chip implementation of indoor wireless multi-access receivers** *IEEE Wireless Communications and Networking Conference*

Zhang, N., Poon, A., Tse, D., Brodersen, R. W., Verdu, S.

1999

- **Fast beam training for mmWave communication system: from algorithm to circuits** *ACM international workshop on mmWave communications: from circuits to networks*

Tsang, Y. M., Lin, S., Poon, A.

2010

- **Future implantable systems** *IEEE Technology Time Machine Symposium (TTM)*

Poon, A.

2011

- **Successive AoA estimation: revealing the second path for 60 GHz communication system** *49th Annual Allerton Conference on Communication, Control, and Computing*

Tsang, Y. M., Poon, A.

2011