

JOHN S. HO

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POSITION	Assistant Professor Department of Electrical and Computer Engineering, Department of Biomedical Engineering (by courtesy), National University of Singapore, Singapore	2015–Present
EDUCATION	PhD, Electrical Engineering Stanford University, Stanford, California, USA PhD thesis title: “Wireless Powering for Bioelectronics” Advisor: Prof. Ada S. Y. Poon	2010–2015
	MS, Electrical Engineering Stanford University, Stanford, California, USA	2010–2012
	BEng, Electronic and Computer Engineering Hong Kong University of Science and Technology, Hong Kong	2007–2010
AWARDS	President’s Young Scientist Award	2020
	IES Prestigious Engineering Achievement Award (Team)	2020
	Forbes 30 Under 30 Asia: Healthcare & Science	2017
	MIT Technology Review: Innovator Under 35 Asia	2017
	National Research Foundation Fellow	2017
	NUS Young Investigator Award	2016
	National Defense Science and Engineering Graduate Fellow	2012–2015
	Academic Achievement Medal	2010
	The Joseph Lau Luen Hung Charitable Trust Scholarship	2007–2010
PROFESSIONAL SERVICE	<ul style="list-style-type: none">• FDA Network of Digital Health Experts (NoDEx)• Reviewer for <i>Nature</i> series journals, <i>Science</i> series journals, <i>Physical Review</i> series journals, <i>Advanced Materials</i> series journals, <i>PNAS</i>, <i>IEEE Transactions on Antennas and Propagation</i>, <i>IEEE Microwave Theory and Techniques</i>, <i>IEEE Transactions on Biomedical Circuits and Systems</i>, <i>The Lancet Digital Health</i>, <i>ACS Nano</i>, and others.	2020 – Present
JOURNAL ARTICLES	[review] Z. Xiong*, S. Achavananthadith*, S. Lian*, L. Madden, Z. X. Ong, W. Chua, V. Kalidasan, Z. Li, Z. Liu, P. Singh, H. Yang, S. Heussler, S. M. P. Kalaiselvi, M. Breese, H. Yao, Y. Gao, B. C. K. Tee, P.-Y. Chen, W. Loke, C. T. Lim, H. Li, D. L. Becker, J. S. Ho, “A wireless and battery-free wound infection sensor based on DNA hydrogel”, <i>Sci. Adv.</i> , in review. [revision] V. Kalidasan*, X. Yang*, Z. Xiong*, R. R. Li, H. Yao, H. Godaba, S. Obuobi, P. Singh, X. Guan, X. Tian, S. A. Kurt, Z. Li, D. Mukherjee, R. Rajarethinam, C. S. Chong, J.-W. Wang, P. L. R. Ee, W. Loke, B. C. K. Tee, J. Ouyang, C. J. Charles, J. S. Ho , “Wirelessly-responsive bioelectronic sutures for monitoring deep surgical wounds”, <i>Nat. Biomed. Eng.</i> , in revision. [42] Y. Gao, D. T. Nguyen, T. Yeo, S. B. Lim, W. X. Tan, L. E. Madden, L. Jin, J. Y. K. Long, F. A. B. Aloweni, Y. J. A. Liew, M. L. L. Tan, S. Y. Ang, S. D. Maniyya, I. Abdelwahab, K. P. Loh, C.-H. Chen, D. L. Becker, D. Leavesley, J. S. Ho , C. T. Lim, “A flexible multiplexed immunosensor for point-of-care in situ wound monitoring”, <i>Sci. Adv.</i> , accepted.	

- [41] Z. Li, X. Tian, C.-W. Qiu, **J. S. Ho**, “Metasurfaces for bioelectronics and health-care”, *Nat. Electron.*, accepted.
- [40] Z. Dong, H.-J. Kim, H. Cui, C. Li, C.-W. Qiu*, **J. S. Ho***, “Wireless magnetic actuation with a bistable parity-time-symmetric circuit,” *Phys. Rev. Appl.*, 15, 024023 (2021).
- [39] F. Yang, B. O. Raeker, D. T. Nguyen, J. D. Miller, Z. Xiong, A. Grbic, **J. S. Ho**, “Antireflection and wavefront manipulation with cascaded metasurfaces,” *Phys. Rev. Appl.*, 14, 064044 (2020).
- [38] A. Li, J. Dong, J. Wang, Z. Cheng, **J. S. Ho**, D. Zhang, J. Wen, X.-L. Zhang, C. T. Chan, A. Alu, C.-W. Qiu, and L. Chen, “Hamiltonian hopping for efficient chiral mode switching in encircling exceptional points,” *Phys. Rev. Lett.*, 125(18), 187403 (2020). **Top Trending in PRL article.**
- [37] H. Yang, X. Xiao, Z. Li, K. Li; N. Cheng, S. Li, J. H. Low, L. Jing, X. Fu, S. Achavananthadith, F. Low, Q. Wang, P.-L. Yeh, H. Ren, **J. S. Ho**, C.-H. Yeow, P.-Y. Chen, “Wireless $\text{Ti}_3\text{C}_2\text{Tx}$ MXene Strain Sensor with Ultrahigh Sensitivity and Designated Working Windows for Soft Exoskeletons,” *ACS Nano*, 14(9), 1936-0851 (2020).
- [36] X. Tian, Q. Zheng, D. Nikolayev, **J. S. Ho**, “Conformal Propagation and Near-Omnidirectional Radiation with Surface Plasmonic Clothing,” *IEEE Trans. Antennas Propag.*, 68(11), 7309-7319 (2020).
- [35] K. A. Ng, A. Rusly, G. G. L. Gammad, N. Le , S.-C. Liu, K.-W. Leong, M. Zhang, **J. S. Ho**, J. Yoo, S.-C. Yen, “A 3-Mbps, 802.11g-Based EMG Recording System with Fully Implantable 5-Electrode EMG Acquisition Device,” *IEEE Trans. Biomed. Circuits Sys.*, 11(4), 889-902 (2020).
- [34] D. B. L. Teh, A. Bansal, C. Chai, T. B. Toh, R. A. J. Tucker, G. G. L. Gammad, Y. Yeo, Z. Lei, X. Zheng, F. Yang, **J. S. Ho**, N. Bolem, B. C. Wu, M. K. Gnanasammandhan, L. Hooi, G. Stewart, C. Libedinsky, W.-Y. Ong, B. Halliwell, E. K.-H. Chow, K.-L. Lim, Y. Zhang, B. K. Kennedy, “A Flexi-PEGDA Upconversion Implant for Wireless Brain Photodynamic Therapy,” *Adv. Mater.*, 2001459 (2020).
- [33] K. Li, M. Gao, Z. Li, H. Yang, L. Jing, X. Tian, Y. Li, S. Li, H. Li, Q. Wang, **J. S. Ho**, G. W. Ho, P.-Y. Chen, “Multi-interface engineering of solar evaporation devices via scalable, synchronous thermal shrinkage and foaming,” *Nano Energy*, 74, 104875 (2020).
- [32] X-Q. Wang, K. H. Chan, Y. Cheng, T. Ding , T. Li, S. Achavananthadith, S. A. Kurt, **J. S. Ho**, G. W. Ho, “Somatosensory, light-driven, thin-film robots capable of integrated perception and motility,” *Adv. Mater.*, 32, 2000351 (2020).
- [31] Y. Li, X. Tian, S.-P. Gao, L. Jing, K. Li, H. Yang, F. Fu, J. Y. Lee, Y.-X. Guo, **J. S. Ho**, P.-Y. Chen. “Reversible crumpling of 2D titanium carbide (MXene) nanocoatings for stretchable electromagnetic shielding and wearable wireless communication,” *Adv. Funct. Mater.*, 30, 1907451 (2020).
- [30] R. Lin*, H. Kim*, S. Achavananthadith, S. A. Kurt, S. C. C. Tan, H. Yao, B. C. K. Tee, J. L. W. Lee, **J. S. Ho**, “Wireless battery-free body sensor networks using near-field-enabled clothing,” *Nat. Commun.*, 11, 444 (2020). **Listed as a Top 50 Physics Article of 2020.**
- [29] Y. J. Tan, H. Godaba, G. Chen, S. T. M. Tan, G. Wan, G. Li, P. M. Lee, Y. Cai, S. Li, R. F. Shepherd, **J. S. Ho**, B. C. K. Tee, “A transparent, self-healing and high-k dielectric for low-field-emission stretchable optoelectronics,” *Nat. Mater.*, 19, 182–188 (2020).

- [28] F. Yang, P. M. Lee, Z. Dong, X. Tian, **J. S. Ho**, “Enhancing wireless transmission from the body with wearable diffractive patterns,” *Phys. Rev. Applied*, 12, 054020 (2019).
- [27] T. He, H. Wang, J. Wang, X. Tian, F. Wen, Q. Shi, **J. S. Ho**, C. Lee, “Self-Sustainable Wearable Textile Nano-Energy Nano-System (NENS) for Next-Generation Healthcare Applications,” *Adv. Science*, 1901437 (2019).
- [26] H. Yang*, B. S. Yeow*, Z. Li*, K. Li, T.-H. Chang, L. Jing, Y. Li, **J. S. Ho**, H. Ren, P.-Y. Chen, “Multifunctional metallic backbones for origami robotics with strain sensing and wireless communication capabilities,” *Sci. Robotics*, 4, eaax7020 (2019).
- [25] Z. Dong, Z. Li, F. Yang, C. W. Qiu, **J. S. Ho**, “Sensitive readout of implantable microsensors using a wireless system locked to an exceptional point,” *Nat. Electron.*, 2, 335-342 (2019). **Featured in News & Views.**
- [24] K. Li, T.-H. Chang, Z. Li, H. Yang, F. Fu, T. Li, **J. S. Ho**, P.-Y. Chen, “Biomimetic MXene Textures with Enhanced Light-to-Heat Conversion for Solar Steam Generation and Wearable Thermal Management,” *Adv. Energy Mat.*, 1901687 (2019).
- [23] W. W. Lee, Y. J. Tan, H. Yao, S. Li, H. H. See, M. Hon, K. A. Ng, B. Xiong, **J. S. Ho**, B. C. K. Tee, “A neuro-inspired artificial peripheral nervous system for scalable electronic skins,” *Sci. Robotics*, 4, eaax2198 (2019). **Featured on the cover.**
- [22] X. Tian*, P. M. Lee*, Y. J. Tan, T. L. Y. Wu, H. Yao, M. Zhang, Z. Li, K. A. Ng, B. C. K. Tee, **J. S. Ho**, “Wireless body sensor networks based on metamaterial textiles,” *Nat. Electron.*, 2, 242-251 (2019). **Featured on the cover and in News & Views.**
- [21] K. A. Ng, Y. Chao, A. Rusly, A. Do, B. Zhao, S. Liu, W. Y. X. Peh, X. Y. Thow, K. Voges, S. Lee, G. G. L. Gammad, K. Leong, **J. S. Ho**, S. Bossi, G. Taverni, A. Cutrone, S. C. Yen*, Y. P. Xu*, “A wireless multi-channel peripheral nerve signal acquisition system-on-chip,” *IEEE J. Solid State Circuits*, 54 (8), 2266-2280 (2019).
- [20] P. M. Lee*, Z. Xiong*, **J. S. Ho**, “Methods for powering bioelectronic microdevices,” *Bioelectron. Med.*, 1(3), 201-217 (2018).
- [19] X. Tian, P. M. Lee, **J. S. Ho**, “Control of wireless power transfer to a bioelectronic device by harmonic feedback,” *AIP Adv.*, 8, 095308 (2018). **Featured on the front page and in Scilight.**
- [18] A. Bansal, F. Yang, T. Xi, Z. Yong, **J. S. Ho**, “In vivo wireless photonic photodynamic therapy,” *Proc. Natl. Acad. Sci., USA*, 115 (7), 1469-1474 (2018).
- [17] Z. Dong, F. Yang, **J. S. Ho**, “Enhanced electromagnetic energy harvesting with subwavelength chiral structures,” *Phys. Rev. Applied*, 1703059 (2017).
- [16] Y. Tanabe*, **J. S. Ho***, J. Liu, S. Liao, Z. Zhen, S. Hsu, C. Shuto, Z. Zhu, A. Ma, C. Vassos, P. Chen, H. F. Tse, A. S. Y. Poon, “High-performance wireless powering for peripheral nerve neuromodulation systems,” *PLoS One*, 12(10), e0186698 (2017).
- [15] T. Chang, Y. Tanabe, C. C. Wojcik, A. C. Barksdale, S. Doshay, Z. Dong, H. Liu, M. Zhang, Y. Chen, Y. Su, T. H. Lee, **J. S. Ho**, and J. A. Fan, “A general strategy for stretchable microwave antenna systems using serpentine mesh layouts,” *Adv. Funct. Mater.*, 1703059 (2017).
- [14] S. Lee, W. Y. X. Peh, J. Wang, F. Yang, **J. S. Ho**, N. V. Thakor, S. C. Yen, C. Lee, “Toward bioelectronic medicine - neuromodulation of small peripheral nerves using flexible neural clip (FNC),” *Adv. Science*, 1700149 (2017).
- [13] H. U. Lee, A. Blasiak, D. R. Agrawal, D. T. B. Loong, N. V. Thakor, A. H. All, **J. S. Ho**, I. H. Yang, “Subcellular electrical stimulation of neurons enhances the myelination of axons by oligodendrocytes,” *PLoS One*, 12 (7), e0179642 (2017).

- [12] S. Kim, **J. S. Ho**, A. S. Y. Poon, “Non-coil, optimal sources for wireless powering of sub-millimeter implantable devices,” *PIER*, 158, 99-108 (2017).
- [11] D. R. Agrawal, Y. Tanabe, D. Weng, S. Liao, Z. Zhen, Z. Zhu, C. Sun, Z. Dong, F. Yang, H. F. Tse, A. S. Y. Poon, and **J. S. Ho**, “Conformal phased surfaces for wireless powering of bioelectronic microdevices,” *Nat. Biomed. Eng.*, 1, 0043 (2017). **Featured in News & Views and Editorial.**
- [10] K. Montgomery*, A. J. Yeh*, **J. S. Ho**, V. Tsao, S. M. Iyer, L. Grosenick, E. A. Ferenczi, Y. Tanabe, K. Deisseroth, S. L. Delp, and A. S. Y. Poon, “Wirelessly powered, fully internal optogenetics for brain, spinal, and peripheral circuits in mice,” *Nat. Methods*, 12, 969-974 (2015). **Featured on the cover.**
- [9] **J. S. Ho**, Y. Tanabe, S. M. Iyer, A. J. Christensen, L. Grosenick, K. Deisseroth, S. L. Delp, and A. S. Y. Poon, “Self-tracking energy transfer for neural stimulation in untethered mice,” *Phys. Rev. Applied*, 4, 024001 (2015). **Editor’s Suggestion and featured on *Physics*.**
- [8] **J. S. Ho**, B. Qiu, A. J. Yeh, Y. Yanabe, S. Fan, and A. S. Y. Poon, “Planar immersion lens with metasurface,” *Phys. Rev. B*, 91, 125145 (2015).
- [7] **J. S. Ho** and A. S. Y. Poon, “Energy transfer for implantable electronics in the electromagnetic midfield,” *PIER*, 148, 151–158 (2014)
- [6] **J. S. Ho***, A. J. Yeh*, E. Neofytou, S. Kim, Y. Tanabe, B. Patlolla, R. E. Beygui, and A. S. Y. Poon, “Wireless power transfer to deep-tissue microimplants,” *Proc. Natl. Acad. Sci., USA*, 111, 7974-7979 (2014). **Featured on the cover and in *Nature Biotechnology* commentary.**
- [5] A. J. Yeh, **J. S. Ho**, Y. Tanabe, E. Neofytou, R. E. Beygui, and A. S. Y. Poon, “Wirelessly powering miniature implants for optogenetic stimulation,” *Appl. Phys. Lett.*, 103, 163701 (2013).
- [4] **J. S. Ho**, S. Kim, and A. S. Y. Poon, “Wireless powering for implantable systems,” *Proc. IEEE*, 101, 1369 (2013).
- [3] S. Kim, **J. S. Ho**, and A. S. Y. Poon, “Midfield wireless powering of subwavelength autonomous devices,” *Phys. Rev. Lett.*, 110, 203905 (2013). **Editor’s Suggestion and featured on *Physics*.**
- [2] S. Kim, **J. S. Ho**, and A. S. Y. Poon, “Wireless power transfer to a cardiac implant,” *Appl. Phys. Lett.*, 101, 073701 (2012). **Editor’s Pick in Biophysics.**
- [1] S. Kim, **J. S. Ho**, and A. S. Y. Poon, “Wireless power transfer to miniature Implants: transmitter optimization,” *IEEE Trans. Antennas and Propag.*, vol. 60, no. 10, 4838, Oct. 2012.

**CONFERENCE
ARTICLES**

- [16] X. Tian, Q. Zheng, and **J. S. Ho**, “Energy-Efficient and Secure Wireless Body Sensor Networks with Metamaterial Textiles,” *IEEE MTT-S International Microwave Biomedical Conference (IMBioC)*, Toulouse, France (online), Dec 2020.
- [15] H.-J. Kim, R. Lin, S. Achavananthadith, **J. S Ho**, “Near-field-enabled Clothing for Wearable Wireless Power Transfer,” *IEEE Wireless Power Transfer Conference (WPTC) 2020*, South Korea (online), Nov 2020. **Best Paper Award.**
- [14] V. Kalidasan, X. Yang, **J. S Ho**, “Surgical suture as dipole antenna for wireless monitoring of post-surgical complications,” *IEEE Asia-Pacific Microwave Conference (APMC) 2019*, Singapore, Dec 2019.
- [13] X. Tian, X. Yang, and **J. S. Ho**, “Energy-Efficient and Secure Wireless Body Sensor Networks with Metamaterial Textiles,” *IEEE Biomedical Circuits and Systems Conference (BioCAS) 2019*, Nara, Japan, Oct 2019.

- [12] P. M. Lee, X. Tian, and **J. S. Ho**, “Wireless Power Transfer for Glioblastoma Photodynamic Therapy,” *IEEE Biomedical Circuits and Systems Conference (BioCAS) 2019*, Nara, Japan, Oct 2019.
- [11] Z. Dong and **J. S. Ho**, “Ultrasensitive Exceptional Point Circuit for Enhanced Physiological Sensing,” *Thirteenth International Congress on Artificial Materials for Novel Wave Phenomena (Metamaterials)*, Rome, Italy, Oct 2019.
- [10] X. Tian, M. Zhang, and **J. S. Ho**, “Robust and High-Efficiency Wireless Body Area Networks with Spoof Surface Plasmons on Clothing,” *IEEE International Microwave Symposium (IMS) 2019*, Boston, MA, USA, Jun 2019.
- [9] F. Yang and **J. S. Ho**, “Enhancing Wireless Transmission from Implanted Devices with an Electromagnetic Grating,” *IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP) 2018*, Auckland, New Zealand, Aug 2018.
- [8] **J. S. Ho**, “Fully Internal, Wirelessly Powered Systems for Optogenetics,” *IEEE International Conference on Optical MEMS and Nanophotonics (OMN) 2016*, Singapore, Sep 2016.
- [7] A. Romano and **J. S. Ho**, “Microwave to near-infrared conversion with a millimeter-scale wireless laser for activating molecular transducers,” *IEEE Engineering in Medicine and Biology Conference (EMBC) 2016*, Orlando, FL, Aug 2016.
- [6] **J. S. Ho** and A. S. Y. Poon, “Conformal Microwave Lens for Focusing Across Inhomogeneous Tissue,” *IEEE International Symposium on Antennas and Propagation (APS) 2016*, Puerto Rico, USA, Jul 2016.
- [5] **J. S. Ho** and A. S. Y. Poon, “Refraction and optimal focusing at a planar interface,” *Proc. Allerton Conference (Allerton)*, Champaign, IL, Oct 2014.
- [4] A. J. Yeh, **J. S. Ho**, and A. S. Y. Poon, “Optical probe for input-impedance measurement of in vivo power-receiving microstructure,” *Proc. IEEE International Symposium on Antennas and Propagation (APS)*, Memphis, TN, Jul 2014.
- [3] Y. Tanabe, H. Wong, S. Kim, **J. S. Ho** and A. S. Y. Poon, “Beam focused slot antenna for microchip implants,” *IEEE International Symposium on Antennas and Propagation (APS) 2012*, Nagoya, Japan, Oct 2012.
- [2] Y. Tanabe, **J. S. Ho**, H. Wong, and A. S. Y. Poon, “Wireless powering for microchip implants by cross-slot antenna,” *IEEE Asia-Pacific Microwave Conference (APMC) 2012*, Kaohsiung, Taiwan, Aug 2012
- [1] **J. S. Ho**, O. C. Au, J. Zhou, and Y. Guo, “Demosaicking interchannel traces for digital image forensics,” in *ICME Content Protection & Forensics (CPAF)*, Singapore, Jul 2010.

PATENTS

- [8] **Application 10202005000P**. C. T. Lim, J. S. Ho, Y. Gao, T. D. Nguyen, J. Y. K. Long, “Thin, flexible wearable immunosensor for detection of multiple biomarkers/targets in bodily fluids”. Filed March 5, 2021.
- [7] **Application 10201911213R**. J. S. Ho, R. Lin, H. Kim, S. Achavananthadith, S. A. Kurt, “Near-field-enabled clothing for battery-free body sensor networks”. Filed Nov 27, 2019.
- [6] **International Patent Pending PCT/SG2020/050643**. J. S. Ho, V. Kalidasan, X. Yang, Z. Xiong, “Transmission Devices, Transmission Assemblies and Related Devices”, Filed Nov 11, 2019.
- [5] **International Patent Pending PCT/SG2019/050515**. J. S. Ho, B. C. K. Tee, X. Tian, P. Lee, “Radio-Wave Confinement On Metamaterial Textiles For Wireless Sensor Networking”. Filed Nov 21, 2018. [*Pending license to Twin Jewels Holdings*]

- [4] **International Patent Pending PCT/SG2019/050037**. J. S. Ho, Y. Zhang, A. Bansal, F. Yang, “Photodynamic Therapy Devices, Systems and Methods”. Filed Feb 2, 2018. [*Licensed to Incando Therapeutics*]
- [3] **US Patent No. 10,594,166**. J. S. Ho and A. S. Y. Poon, “Efficient wireless power transfer with flat, flexible lens”. Filed Sep 28, 2015; issued Mar 17, 2020. [*Licensed to Boston Scientific (2016–2017) and Neuspera Medical (2017–Present), >\$35k licensing revenue*]
- [2] **US Patent No. 10,434,329**. A. S. Y. Poon, J. S. Ho, Y. Tanabe, A. J. Yeh, K. L. Montgomery, L. Grosenick, E. A. Ferenczi, V. Tsao, S. M. Iyer, S. L. Delp, K. Deisseroth, “Autofocus wireless power transfer to implantable devices in freely moving animals”. Filed Mar 25, 2015; issued Oct 8, 2019. [*Licensed to MapLight Therapeutics (2019–Present)*]
- [1] **US Patent No. 9,687,664**. A. S. Y. Poon, A. J. Yeh, Y. Tanabe, J. S. Ho, and S. Kim, “Wireless midfield systems and methods”. Filed Sep 16, 2014; issued Jun 27, 2017. [*Licensed to Neuspera Medical (2014–Present), 6 continuations granted and 5 pending, >\$130k licensing revenue*]

**MAJOR
AWARDED
GRANTS**

National Research Foundation Fellowship Mar 2017–Feb 2022
 “Small-scale Wireless Devices for Bioelectronic Therapies”
 Principal Investigator, Amount: S\$2.4M

Ministry of Education, Tier 3 Grant May 2017–May 2022
 “Remote-controlled Photo-Therapy with Small-scale Wireless Bioelectronics”
 Co-Principal Investigator, Amount: S\$1.2M (Total: S\$8.6M)

NUS Young Investigator Award Jan 2017–Jan 2020
 “Wireless Technologies for Bioelectronic Therapies”
 Principal Investigator, Amount: S\$500K.

**INVITED
TALKS**

- [24] “Wireless Technologies for Bioelectronic Therapies and Diagnostics” (online), Convergence Future Communication Colloquium Series, Kyung Hee University, South Korea, May 2021.
- [23] “Networked Battery-free Sensors with Wirelessly-enabled Clothing” (online), SPIE Defense + Commercial Sensing (DCS), Apr. 2021.
- [22] “Metamaterial Textiles: Convergence of Wireless Technology with Clothing” (online), Convergence Engineering Institute for Emerging Communication Technology, Kyung Hee University, South Korea, Feb. 2021.
- [21] “Metamaterials for Bioelectronic Therapies and Diagnostics” (online), International Conference on Metamaterials and Nanophotonics (METANANO), Oct. 2020.
- [20] “Wireless Technologies for Bioelectronic Therapies and Diagnostics” (online), IEEE Engineering & Medicine and Biology Society (EMBS) Kharagpur Section, Indian Institute of Technology Kharagpur (IIT KGP), Aug. 2020.
- [19] “Wireless Bioelectronic Technologies, Therapies, and Diagnostics” (online), Brain Engineering Convergence Research Center, Daegu Gyeongbuk Institute of Science & Technology (DGIST), Jun. 2020.
- [18] “Smart Clothing and Wireless Technology” (online), Innovate Textiles & Apparel 2020, Singapore, May 2020.
- [17] “Bioelectronics for Precision Photomedicine”, International Workshop on Photomedicine for e-Healthcare, Korea Advanced Institute for Science and Technology (KAIST), Nov. 2019.

- [16] “Wireless Body Sensor Networks with Metamaterial Textiles”, Asia-Pacific Conference on Antennas and Propagation (APCAP), Incheon, South Korea, Oct. 2019.
- [15] “Wireless Photonic Photodynamic Therapy”, Symposium on Drug Delivery, International Conference on Materials for Advanced Technologies (ICMAT), Singapore, Jun. 2019.
- [14] “Wireless Bioelectronic Technologies, Therapies, and Diagnostics”, Radiation Lab Seminar, University of Michigan, Ann Arbor, USA, Feb. 2019.
- [13] “Wireless Bioelectronic Technologies, Therapies, and Diagnostics”, Micro/Nano Technology Lab Seminar, University of Illinois, Urbana-Champaign, USA, Jan. 2019.
- [12] “Enhancing Wireless Transmission from the Body”, Asia-Pacific Conference on Antennas and Propagation (APCAP), Auckland, Aug. 2018.
- [11] “Wireless Photonic Photodynamic Therapy”, IEEE Wireless Power Transfer Conference (WPTC), Montreal, Jun. 2018
- [10] “Wireless Light Delivery for Photodynamic Therapy”, IEEE International Conference on Nano/Micro Engineered and Molecular Systems (NEMS), Singapore, Apr. 2018.
- [9] “Fully Internal, Wirelessly Powered Systems for Optogenetics”, Neurophotonics Workshop, Singapore, Mar. 2017.
- [8] “Conformal Phased Surfaces in Theranostic Systems”, International Microwave Symposium (IMS), Honolulu, Hawaii, Jun. 2017.
- [7] “Conformal Phased Surfaces for Wireless Powering of Bioelectronic Devices”, Applied Computational Electromagnetics Society (ACES), Suzhou, Aug. 2017.
- [6] “Physiological Modulation with Small-scale Wireless Bioelectronics”, International Conference on Biomedical Engineering (ICBME), Singapore, Dec. 2016.
- [5] “Microwave to Near-infrared Conversion with a Millimeter-scale Wireless Laser for Activating Molecular Transducers”, IEEE Engineering in Biology and Medicine Conference (EMBC), Orlando, Aug. 2016.
- [4] “Conformal Microwave Lens for Wireless Powering across Heterogenous Tissue”, IEEE Antennas and Propagation Conference, Puerto Rico, Jun. 2016.
- [3] “Wireless Powering for Bioelectronics”, Korea Institute of Electromagnetics Symposium, Seoul, South Korea Oct. 2015.
- [2] “Wireless Powering for Implanted Electronics”, Department of Electronic and Computer Engineering Seminar, Hong Kong University of Science and Technology, Dec. 2013.
- [1] “Wireless Powering for Implanted Electronics”, Networking, Communication, and DSP Seminar, University of California, Berkeley, USA, Oct. 2013.

MENTORSHIP

- Fengyuan Yang, PhD (2020)
Thesis title: “Metasurfaces for Wireless Interfacing with Bioelectronics”
- Zhenya Dong, PhD (2020)
Thesis title: “Non-Hermitian Electronics for Wireless Biomedical Sensing”

**CONFERENCE
ORGANIZATION**

- Co-chair, Technical Program Committee, IEEE Wireless Power Week (WPW), Bordeaux, France, 2022
- Special Session Co-Organizer, IEEE-EMBS International Conference on Wearable and Implantable Body Sensor Networks (BSN), Virtual Conference, 2021
- Super Reviewer, IEEE AP-S International Symposium on Antennas and Propagation (APS), Singapore, 2021
- Session Chair, IEEE Wireless Power Transfer Conference (WPTC), Seoul, South Korea, 2020
- Technical Program Committee, IEEE Asia-Pacific Microwave Conference (APMC), Singapore, 2019
- Local Organizing Committee, International Conference of Biomedical Engineering (ICBME), Singapore, 2019
- Special Session Organizer/Chair, IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP), Auckland, New Zealand, 2018
- Technical Program Committee Chair, Asia Wireless Power Transfer Conference (AW-PTC), Singapore, 2017
- Special Session Organizer/Chair, International Conference of Biomedical Engineering (ICBME), Singapore, 2015

**BOOK
CHAPTERS**

- [4] H. J. Kim, Z. Dong, and **J. S. Ho**, “Wireless interfaces for bioelectronics,” *Handbook of Neuroengineering*, Ed. Nitish Thakor, Springer New York, in press.
- [3] Z. Li and **J. S. Ho**, “Microwave metamaterials for biomedical sensing,” *Encyclopedia of Sensors and Biosensors*, Ed. Roger Narayan, Elsevier, November 2020.
- [2] **J. S. Ho**, A. J. Yeh, S. Kim, and A. S. Y. Poon, “Wireless powering for miniature implantable systems,” *Neural Computation, Neural Devices, and Neural Prosthesis*, Ed. Yang Zhi, Springer New York, 2014.
- [1] O. C. Au, Y. Guo, and **J. S. Ho**, “Steganography in Halftone Images,” *Visual Cryptography and Secret Image Sharing*, Eds. Stelvio Cimato and Ching-Nung Yang, CRC Press, August 2011.

PRESS

Includes coverage by Reuters, SF Chronicle, ACB, NBC, BBC, MIT Technology Review, Business Insider, South China Morning Post, and The Telegraph. More details may be found on my website.