PO-NAN LI

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EDUCATION

Stanford University *Sep. 2015 - Sep. 2020*
PhD Candidate in Electrical Engineering
Dissertation: *Computational approaches for multi-scale biological imaging and modeling*
Advisors: Soichi Wakatsuki and Piero Pianetta

National Tsing Hua Univeristy *2012*
Master of Science in Photonics
Thesis: *Selective excitations of localized surface plasmons in designed nanostructures*
Advisor: Chen-Bin Huang

National Tsing Hua Univeristy *2010*
Bachelor of Science in Electrical Engineering

EXPERIENCE

Hardware Engineering Intern, Google, Mountain View, CA, USA *Jun. 2019 - Sep. 2019*
Built a camera calibration apparatus and developed an image transformation algorithm for Daydream, Google's VR team.

Research Assistant, Academia Sinica, Taipei, Taiwan *Sep. 2012 - Aug. 2015*
Developed novel computational approaches for biological imaging.
Advised by Dr. Ting-Kuo Lee.

LEADERSHIP

Regional Director, North America Taiwan Study Association *May 2017*
Vice President, Stanford Taiwanese Student Association *Mar. 2016 - Feb. 2017*

AWARDS AND SCHOLARSHIPS

Best Poster Award, The 6th International Workshop on FEL Science *Dec. 2013*
Student Travel Grant, National Tsing Hua University *Oct. 2011*
Distinguished Graduate Fellowship, National Tsing Hua University *Sep. 2010*

JOURNAL PUBLICATION

- Jonathan Herrmann, **Po-Nan Li**, Fatemeh Jabbarpour, Anson C. K. Chan, Ivan Rajkovic, Tsutomu Matsui, Lucy Shapiro, John Smit, Thomas M. Weiss, Michael E. P. Murphy, and Soichi Wakatsuki, "A bacterial surface layer protein exploits multi-step crystallization for rapid self-assembly," *PNAS*, 201909798 (2019).
- **Po-Nan Li**, Jonathan Herrmann, Soichi Wakatsuki, and Henry van den Bedem, "Transport Properties of Nanoporous, Chemically Forced Biological Lattices," *J. Phys. Chem. B* **123**, 10331 (2019).
- D.A. Barmherzig, J. Sun, **P.-N. Li**, and E.J. Candès, "Holographic Phase Retrieval and Reference Design," *Inverse Problems* **35**, 094001 (2019).

- **Po-Nan Li**, Jonathan Herrmann, Bradley B. Tolar, Frédéric Poitevin, Rasika Ramdasi, John R. Bargar, David A. Stahl, Grant J. Jensen, Christopher A. Francis, Soichi Wakatsuki, and Henry van den Bedem, "Nutrient transport suggests an evolutionary basis for charged archaeal surface layer proteins," *ISME J.* **12**, 2389 (2018).
- J. Herrmann, F. Jabbarpour, P.G. Bargar, J.F. Nomellini, **P.-N. Li**, T.J. Lane, T.M. Weiss, J. Smit, L. Shapiro, and S. Wakatsuki, "Environmental Calcium Controls Alternate Physical States of the Caulobacter Surface Layer," *Biophys. J.* **112**, 1 (2017).
- **Po-Nan Li**, Zong-Han Wu, Chien-Nan Hsiao, Ting-Kuo Lee, and Chien-Chun Chen, "Determination of three-dimensional atomic positions from tomographic reconstruction using ensemble empirical mode decomposition," *New J. Phys.* **18**, 083025 (2016).
- Ti-Yen Lan, **Po-Nan Li**, and Ting-Kuo Lee, "Method to enhance the resolution of x-ray coherent diffraction imaging for non-crystalline bio-samples," *New J. Phys.* **16**, 033016 (2014).
- **Po-Nan Li**, Hsiu-Hao Tsao, Jer-Sing Huang, and Chen-Bin Huang, "Subwavelength localization of near fields in coupled metallic spheres for single-emitter polarization analysis," *Opt. Lett.* **36**, 2339 (2011).

CONFERENCE PAPERS

- **Po-Nan Li**, Jonathan R Herrmann, Frederic PB Poitevin, Rasika Ramdasi, Bradley B Tolar, John Barger, David Stahl, Grant Jensen, Soichi Wakatsuki, Henry van den Bedem, "Cryo Electron Tomography and Reaction-Diffusion Simulations Reveal a Molecular and Evolutionary Basis for Charged Archaeal Surface Layer Proteins," Bioyphysical Society 62nd Annual Meeting, 2443-Pos, San Francisco, CA, USA, 2018.
- C.-F. Huang, **P.-N. Li**, T.-T. Lee, Y. Bessho, Y. Hwu, T.-K. Lee, K. S. Liang, W.-H. Chang, P. Chen, T.-L. Hsu, C. Ma, Y. Joti, T. Kimura, Y. Nishino, "Measurement and simulation of interference enhancement in coherent X-ray diffraction imaging of gold nano-particles and influenza virus in water at SACLA," 12th International Conference on Biology and Synchrotron Radiation, W08, Menlo Park, CA, USA, 2016.
- **P.-N. Li**, P. Pianetta, S. Wakatsuki, and Y. Liu, "Resolution enhancement of transmission x-ray microscopy using coherent diffraction," 12th International Conference on Biology and Synchrotron Radiation, W07, Menlo Park, CA, USA, 2016.
- **P.-N. Li**, and T.-K. Lee, "Effects of missing diffraction intensities in CDI image reconstruction with template method," 12th International Conference on Biology and Synchrotron Radiation, W06, Menlo Park, CA, USA, 2016.
- C.-F. Huang, **P.-N. Li**, T.-T. Lee, T.-L. Hsu, Y.-Y. Chen, S.-M. Yang, Y. Bessho, S.-H. Huang, W.-H. Chang, Y. Joti, T. Kimura, Y. Nishino, T.-K. Lee, P. Chen, C.-Z. Shi, W.-H. Wang, Y.-F. Hu, C.-H. Wong, K. S. Liang, and Y. Hwu, "Imaging individual drug-carrying liposomeparticles by free-election-laser coherent diffraction," 12th International Conference on Biology and Synchrotron Radiation, W04, Menlo Park, CA, USA, 2016.
- *J. Herrmann et al.*, "Calcium Mediates Structural Dynamics of RsaA, the S- Layer Protein from Caulobacter Crescentus," 12th International Conference on Biology and Synchrotron Radiation, M16, Menlo Park, CA, USA, 2016.
- **P.-N. Li**, T.-Y. Lan, and T.-K. Lee, "Method to enhance resolution of x-ray coherent diffraction imaging for non-crystalline bio-samples", International Workshop on Phase Retrieval and Coherent Scattering, Evanston, IL, USA, 2014.
- **P.-N. Li**, C.-F. Huang, S-J. Tseng, C. Kim, Y. Kim, C.-H. Lin, T.-Y. Lan, D. Y. Noh, Y. Hwu, K. S. Liang, and T.-K. Lee, "Coherent diffraction imaging with assistance of the metallic template", The 6th International Workshop on FEL Science, Tainan, Taiwan, 2013. **Best Poster Award winner**
- T.-Y. Lan, **P.-N. Li**, and *T.-K. Lee*, "Method to enhance resolution of x-ray coherent diffraction imaging for non-crystalline bio-samples", The 6th International Workshop on FEL Science, Tainan, Taiwan, 2013.
- T.-Y. Lan, **P.-N. Li**, and *T.K. Lee*, "Resolution enhancement for coherent diffraction imaging

of non-crystalline samples," The 5th International Workshopn on FEL Science, Gyeongju, Korea, 2012.

- **P.-N. Li**, Y.-T. Hung, J.-S. Huang, and C.-B. Huang, "A plasmonic nanocluster designed for near-field polarization analysis," Ann. Meet. Phys. Soc. of R.O.C., Chiayi, Taiwan, 2012.
- **P.-N. Li**, W.-L. Huang, H.-H. Tsao, and C.-B. Huang, "Plasmonic structures for implementing nanoscopic polarization sensitive devices," The 4th Cross-Strait Workshop on Optical Microstructure and Laser Technologies, Yanzhou, China, 2011.
- **P.-N. Li**, Y.-T. Hung, H.-H. Tsao, J.-S. Huang, and C.-B. Huang, "Plasmonic nanodiscs designed for near-field polarization analysis," International Photonics Conference Taiwan, CTh-III-4, Tainan, Taiwan, 2011.
- **P.-N. Li**, H.-H. Tsao, and C-.B. Huang, "A plasmonic nanocluster designed for near-field polarization analysis," IEEE Photonics Conference, MX 4, Arlington, VA, 2011.
- **P.-N. Li**, H.-H. Tsao, and C.-B. Huang, "Multiple selective excitations of localized surface plasmons in coupled gold nano-spheres," Conference on Lasers and Electro-Optics, JTuI57, Baltimore, MD, 2011.
- **P.-N. Li**, H.-H. Tsao, and C.-B. Huang, "Multiple selective excitations of localized surface plasmons in coupled gold nano-spheres," Ann. Meet. Phys. Soc. of R.O.C., Taipei, Taiwan, 2011.
- **P.-N. Li**, H.-H. Tsao, and C.-B. Huang, "Multiple selective excitations of localized surface plasmons in coupled gold nano-spheres," International Conference on Optics and Photonics in Taiwan, OPT1-O-010, Tainan, Taiwan, 2010.