

## ARTIT WANGPERAWONG

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### INTERESTS

- Artificial intelligence, information technology, nanotechnology, semiconductors, solar energy

### EDUCATION

- Ph.D., Electrical Engineering, Stanford University (2014)
- M.S., Electrical Engineering, Stanford University (2011)
- B.S., Mechanical Engineering, Stanford University (2008)

### AWARDS & HONORS

- U.S. Department of Energy, Office of Science Graduate Fellowship recipient (2010)
- National Science Foundation Fellowship (offered, 2010)
- Tau Beta Pi National Engineering Honor Society, CA Gamma Chapter (2007)

### LANGUAGES

- Spoken: native English, basic Thai, some Mandarin Chinese, some Korean, a little Cantonese
- IT: UNIX, Docker, Python, TensorFlow, Spark, SQL, JavaScript, React, iOS, Android

### MENTORSHIP

- Advise and mentor talented individuals who go on to top science and engineering institutions, including Stanford, Harvard, MIT, Google, Microsoft, UC Berkeley, Carnegie Mellon, USC, UMass Amherst, and Yale.

### SERVICE ACTIVITIES

- Assisted in reviewing article submissions for publication in *Journal of Applied Physics*, *Journal of Vacuum Science and Technology*, *Nano Letters*, *Applied Physics Letters*, *Advanced Energy Materials*, *ACS Applied Materials & Interfaces*, and *Chemistry of Materials*.
- Staff for IEEE Photovoltaic Specialists Conference
- Member of SPIE and Materials Research Society

### INDUSTRY ACTIVITIES

- Implementing AI systems for large conglomerates, including telecom companies

- Organizing ARTIT Studio Workshops to provide curated training for individuals and businesses to understand and leverage the latest technological breakthroughs. Our center focuses on fundamental tools for AI, web and mobile development.

#### TEACHING AND COURSE DEVELOPMENT

**Electrical Circuits** 8/9/2015 — 12/15/2015

*Asia Institute of Technology*

- Lecturer, developed and taught introductory course on electrical circuit theory.

**Computer Programming for Electrical Engineers** 1/8/2015 — 6/15/2015

*KMUTT*

- Lecturer, developed and taught classes of 120 students on C programming.

**Introductory Physics for Diodes, LEDs and Solar Cells** 8/12/2014 — 12/15/2014

*KMUTT*

- Lecturer, developed and taught classes of 30 students on semiconductor physics.

**Stanford ESP Courses** 2008 — 2014

*Stanford University*

- Developed and taught classes of 200 students on topics including computer programming, solar cells, full-stack web application prototyping and startup business development.

**CS 223A - Introduction to Robotics** 1/7/2009 — 3/22/2009

*Stanford University*

- Course Assistant, gave lectures and office hours for graduate and undergraduate students.

**ME 113 - Mechanical Engineering Design** 4/1/2009 — 6/15/2009

*Stanford University*

- Course Assistant, gave lectures and office hours for graduate and undergraduate students.

**ENGR 14 - Intro to Solid Mechanics** 9/15/2008 — 12/22/2008

*Stanford University*

- Course Assistant, gave lectures and office hours for graduate and undergraduate students.

#### PUBLICATIONS

- **Artit Wangperawong**, Cyrille Brun, Olav Laudy, Rujikorn Pavasuthipaisit, *Churn analysis using deep convolutional neural networks and autoencoders*, *arXiv:1604.05377 (2016)*.
- **Artit Wangperawong**, Pralay K. Santra, Yesheng Yee, Bruce M. Clemens, Stacey F. Bent, *Generalized Impedance Spectra Analysis of Non-ideal Diodes with Application to Solar Cells, Photodetectors and LEDs*, (in preparation).

- **Artit Wangperawong**, Po-Chun Hsu, Yesheng Yee, Steven M. Herron, Bruce M. Clemens, Yi Cui, Stacey F. Bent, *Bifacial Solar Cell with SnS Absorber by Vapor Transport Deposition*, Appl. Phys. Lett. 103, 052105 (2014).
- **Artit Wangperawong**, Steven M. Herron, Rory R. Runser, Carl Hägglund, Jukka Tanskanen, Han-Bo-Ram Lee, Bruce M. Clemens, Stacey F. Bent, *Vapor Transport Deposition and Epitaxy of Orthorhombic SnS on glass and NaCl substrates*, Appl. Phys. Lett. 103, 052105 (2013).
- Shrestha Basu Mallick, Mukul Agrawal, **Artit Wangperawong**, Edward S. Barnard, Kaushal K. Singh, Robert J. Visser, Mark L. Brongersma, and Peter Peumans, *Ultrathin crystalline-silicon solar cells with embedded photonic crystals*, Appl. Phys. Lett. 100, 053113 (2012).
- **Artit Wangperawong**, Carl Hagglund and Stacey F. Bent, *Optical response of 3D nano-architecture solar cells and integration with 3D device physics*, Proc. SPIE 8111, 81110R (2011).
- **Artit Wangperawong** and Stacey F. Bent, *Three-dimensional nanojunction device models for photovoltaics*, Appl. Phys. Lett. 98, 233106 (2011).
- **Artit Wangperawong** and Stacey F. Bent, *Modeling Performance of Three-Dimensional Nanojunction Photovoltaic Devices*, 37th IEEE Photovoltaic Specialists Conference, (2011).
- Steven M. Herron, **Artit Wangperawong** and Stacey F. Bent, *Chemical Bath Deposition and Microstructuring of Tin (II) Sulfide Films for Photovoltaics*, 37th IEEE Photovoltaic Specialists Conference, (2011).
- **Artit Wangperawong**, Jeffrey S. King, Steven M. Herron, Benjamin P. Tran, Kristine Pangan-Okimoto and Stacey F. Bent, *Aqueous Bath Process for Deposition of Cu<sub>2</sub>ZnSnS<sub>4</sub> Photovoltaic Absorbers*, Thin Solid Films 519, 2488-2492 (2011).
- **Artit Wangperawong**, Jeffrey S. King, Steven M. Herron, Benjamin P. Tran, Kristine Pangan-Okimoto and Stacey F. Bent, *A Chemical Bath Process for Depositing Cu<sub>2</sub>ZnSnS<sub>4</sub> Photovoltaic Absorbers*, 35th IEEE Photovoltaic Specialists Conference, 001986-001989 (2010).

#### PATENTS

- D. Dimov, J. Sweet, M. Goldman, T. Mann, J. H. Lefors, T. J. Prachar, D. Coale, **A. Wangperawong**, *Solar Panel Arrangement*, Patent No. US D600,200 S (2009).

#### INVITED TALKS

- NYCCEO, Lair East, Manhattan, New York City, NY, USA, May 2016.
- Bay Area Photovoltaics Consortium, University of California, Berkeley, CA, USA, November 2013.
- Sogang University, Mapo-gu, Seoul, South Korea, June 2013.
- Incheon National University, Yeonsu-gu, Incheon, South Korea, June 2013.
- Chulalongkorn University, Pathum Wan, Bangkok, Thailand, June 2013.
- Thammasat University, Rangsit, Pathum Thani, Thailand, June 2013.
- Mahidol University, Ratchathewi, Bangkok, Thailand, June 2013.

- Kasetsart University, Bang Khen, Bangkok, Thailand, June 2013.
- Suranaree University of Technology, Nakhon Ratchasima, Thailand, June 2013.
- Center on Nanostructuring for Efficient Energy Conversion, U.S. Department of Energy, Denver, CO, USA, January 2012.

#### CONFERENCE PRESENTATIONS

- **Artit Wangperawong**, Po-Chun Hsu, Steve M. Herron, Rory Runser, Bruce M. Clemens, Yi Cui, Stacey F. Bent, *SnS Vapor Transport Deposition, Epitaxy and Solar Cell Devices*, Bay Area Photovoltaic Consortium, University of California, Berkeley, CA, November 2013.
- **Artit Wangperawong**, Steve M. Herron, Rory Runser, Jukka T. Tanskanen, Carl Hägglund, Han-Bo-Ram Lee, Bruce M. Clemens, Stacey F. Bent, *Epitaxial SnS Solar Cell Absorber by Vapor Transport Deposition*, Photovoltaic Materials and Manufacturing Issues III Workshop, Golden, CO, September 2013.
- **Artit Wangperawong**, Steve M. Herron, Rory Runser, Jukka T. Tanskanen, Carl Hägglund, Han-Bo-Ram Lee, Bruce M. Clemens, Stacey F. Bent, *Vapor Transport Deposition and Epitaxy of Orthorhombic SnS on glass and NaCl substrates*, Materials Research Society Spring Meeting, San Francisco, CA, April 2013.
- **Artit Wangperawong**, Steve M. Herron, Carl Hagglund, Stacey Bent, *Cheap and Thin: Two Processing Approaches to Manufacturable Solar Cells*, Materials Research Society Spring Meeting, San Francisco, CA, April 2012.
- **Artit Wangperawong**, Carl Hagglund and Stacey F. Bent, *Comparison of Novel 3D Nanoarchitectures for Solar Cells*, SPIE Optics + Photonics, Solar Energy + Technology, San Diego, CA, August 2011.
- **Artit Wangperawong**, Carl Hagglund and Stacey F. Bent, *Analytical Approach to 3D Device Modeling of Nanoarchitectures for Solar Energy Conversion*, SPIE Optics + Photonics, NanoScience + Engineering, San Diego, CA, August 2011.
- **Artit Wangperawong** and Stacey F. Bent, *Diffusion and Carrier Collection Enhancement in Three-dimensional Nanojunctions*, Materials Research Society Spring Meeting, San Francisco, CA, April 2011.
- **Artit Wangperawong**, Jeffrey S. King, Steve M. Herron, Benjamin Tran, Kristine Pangan-Okimoto, Stacey F. Bent, *Earth Abundant Chalcogenide Materials for Thin Film PV*, The Electrochemical Society Meeting, Las Vegas, NV, Oct 2010.
- Daejoong Kim, **Artit Wangperawong**, Eric Darve, *Atomistic Simulations on Transport of Water inside Nanotubes of Varying Hydrophobicity and Size*, Materials Research Society Spring Meeting, San Francisco, CA, April 2006.