

Vincent W. Lee

CONTACT INFORMATION Department of Electrical Engineering
Columbia University
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EDUCATION **Columbia University**, New York, NY
Ph.D., Electrical Engineering May 2012
M.S., Electrical Engineering February 2009

Rutgers University, Piscataway, NJ
B.S., Electrical and Computer Engineering May 2007

RESEARCH EXPERIENCE **Columbia University**, New York, NY
Department of Electrical Engineering
Research Assistant **September 2007 to Present**
Columbia Laboratory for Unconventional Electronics, Advisor: Dr. Ioannis Kymissis

- Fabricate an inorganic light engine with commercial LED wafer base and recrystallized-Si TFT active matrix
- Develop laser recrystallized silicon TFTs for back-end-of-line CMOS logic and memory applications
- Integrate Organic LEDs with foundry CMOS technology to as a novel chip design debug tool
- Utilize synchrotron x-rays to investigate the energy states of pentacene before and after surface treatments
- Build and maintain laboratory high vacuum chambers for material depositions

Rutgers University, Piscataway, NJ
Department of Electrical and Computer Engineering
Research Assistant **September 2005 to February 2007**
Semiconductor Laboratory, Advisor: Dr. Kin Cheung

- Studied the reliability of high-k gate dielectrics under stress using the charge pumping method
- Used LabVIEW to program automation commands into a HP4144 semiconductor parameter analyzer

PUBLICATIONS **V.W. Lee**, I. Kymissis, "A Directly-Addressed Monolithic LED Array as a Projection Source," Journal of the Society for Information Display, Vol. 18, Issue 10, pp 208, 2010.

Z. Jia, **V.W. Lee**, L. Floreano, A. Verdini, A. Cossaro, A. Morgante, I. Kymissis. "In situ Study of Pentacene Interaction with Archetypal Hybrid Contacts: Fluorinated vs Alkane Thiols on Gold," Physical Review B, Vol. 82, 125427, 2010.

CONFERENCE PRESENTATIONS **V.W. Lee**, I. Kymissis, “Analysis of SLS Silicon Recrystallization on Low-K ILDs,” GRC Back End Processes and Packaging Review, October 2010.

V.W. Lee, I. Kymissis, “A Directly-Addressed Monolithic LED Array as a Projection Source,” SPIE Optics and Photonics, 7787-19, August 2010.

Z. Jia, **V.W. Lee**, L. Floreano, A. Verdini, A. Cossaro, A. Morgante, I. Kymissis. “Direct observation of pentacene-thiol interaction using x-ray spectroscopy,” II6.86, MRS Conference, Spring 2010.

“Direct observation of pentacene-thiol interaction using x-ray spectroscopy” Zhang Jia, **Vincent Lee**, Luca Floreano, Alberto Verdini, Albano Cossaro, Alberto Morgante, Ioannis Kymissis. APS March Meeting, 2010.

Y. Wang, **V.W. Lee**, K.P. Cheung, “Frequency Dependent Charge Pumping, How Deep Does it Probe,” International Electron Devices Meeting (IEDM) 2006.

TEACHING EXPERIENCE **Columbia University**, New York, NY
Department of Electrical Engineering

Teaching Assistant **Fall 2007, Fall 2008**
ELENE3601: Solid State Devices and Materials, Professor Ioannis Kymissis

- Undergraduate level electronic devices class
- Responsibilities included weekly recitation sessions, office hours, and grading of homework and exams

Teaching Assistant **Spring 2008, Spring 2009**
ELENE4301: Intro to Semiconductor Devices, Professor Robert Laibowitz

- First year graduate level electronic devices class
- Responsibilities included office hours and grading of homework and exams

Columbia University, New York, NY
NSEC: Science Honors Program

Lecturer **September 2008 to Present**
Nano: From Science to Technology

- Talented high school students from Tri-State area take science classes every Saturday for one semester
- Teach two three hour lectures per semester on Semiconductor Basics and Nanofabrication

Rutgers University, Piscataway, NY
Governor’s School of Engineering and Technology

Project Leader **Summer 2009**

- Lead a team of four high school students in an engineering oriented project (Engineering Smart Windows using Arduino)

Columbia University, New York, NY
MRSEC: High School Outreach Program

Instructor **November 2007 to June 2008**

- Group of three graduate students visits local high schools to teach an appreciation of science through interactive demonstrations

PROFESSIONAL EXPERIENCE **Columbia University**, New York, NY
Technology Ventures

Technology Ventures Fellow

January 2009 to Present

- Write reports assessing commercial viability of new inventions based on market data and understanding of proposed technologies
- Identify potential investors or licensees

Merrill Lynch, Hopewell, NJ
Global Private Client Technology

Summer Technology Analyst

Summer 2007

- Created infrastructure blueprint to support international branch deployments
- Produced a GPCT SharePoint template promoting efficient teamwork and management of projects
- Rewrote international workstation login script in VB Script and maintained international workstation PAC file (intra/internet proxy routing file)

Lockheed Martin Corporation, Moorestown, NJ
Maritime Systems and Sensors (MS2)

College Student Technical Specialist (**Secret Security Clearance**) **Summer 2006**

- Ran tests on CCID (composite combat identification) portion of AEGIS system
- Programmed in agent-based modeling software, NetLogo, for CCID integration modeling

MEMBERSHIPS IEEE Member
Society for Information Displays Member
Materials Research Society Member
Eta Kappa Nu, Electrical Engineering Honor Society, Member
Tau Beta Pi, Engineering Honor Society, Member