

JAMES H-J YEH, MBA, PHD

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PROFESSOR / INTERNET-OF-THINGS EXPERT

Holder of 7 US Patents and numerous heavily-cited publications. Excellent teaching experience and evaluation at University level. Accomplished researcher with proven record of obtaining grants, publications and patents. More than 10 years research and industry experience with US Patents and peer-reviewed publications. Accomplished marketing and project management executive with proven experience developing technology and driving revenue within the wireless, biometrics and semiconductors sectors. Significant 12-year international background.

CORE COMPETENCIES

- Project & Program Management
- Research Management
- Patent writing and capitalization
- Wireless Networking
- Multi-Cultural Team Leadership
- Networking Research Expertise
- Internet-of-Things (IoT)
- Technical Marketing
- Biometric Security Development

EDUCATION & AFFILIATION

Ph.D., Electrical Engineering and Computer Science, University of California, Berkley

Dissertation: *Integration of Gallium Arsenide on Silicon by Fluidic Self-Assembly*

Master of Business Administration (MBA), Finance & Marketing, Columbia University

Master of Science (MS) in Electrical Engineering and Computer Science, University of California, Berkley

Thesis: *Miniature Gaseous Light Sources*

Bachelor of Science in Electrical Engineering (BSEE), California Institute of Technology

Member, Institute of Electrical and Electronics Engineers (IEEE)

PROFESSIONAL EXPERIENCE

AZUSA PACIFIC UNIVERSITY – Azusa, CA

2016 -

Assistant Professor, Engineering and Computer Science

- Environmentally embedded IoT sensors for gauging student Attention in education
- IoT enabled pico-hydroelectric power with satellite back haul for remote Himalayan villages
 - Developing IoT data aggregation for power monitoring and metering with satellite transmission
- Back-up power monitoring system and weather broadcast system for remote Indonesian airstrips
- Inertial measurement unit for drone mounted synthetic aperture radar
- Work with industrial partners on research and internship
- Won prestigious W.M. Keck grant for IoT and 5G Wireless Research
- Led undergraduate engineering, undergraduate computer science, and graduate biotech research teams

CALIFORNIA POLYTECHNIC UNIVERSITY, POMONA – Pomona, CA

2015 - 2016

Lecturer, Electrical and Computer Engineering, Mechanical Engineering, Engineering Technology

VALIDITY SENSORS, INC. (Acquired by Synaptics, Inc.) – Walnut, CA

2013 - 2014

Director of Business Development / Project Management

- Led engineering team in R&D of Validity's first fingerprint cybersecurity system for smart phones
- Managed engineering team in developing flexible biometric sensors
- Partnered and completed reference design with Intel and Qualcomm.
- Won numerous high-value contracts and relationships, including the HTC One Max fingerprint security system, taking the program successfully from design win to market launch.
- Successfully ran program management for numerous notebook and tablet projects, including Fujitsu and Toshiba, as well as software development for HTC, Lenovo and Fujitsu.
- Compiled and responded to major RFQ, including technical portion and pricing for Lenovo and Dell.

AUTHENTEC, INC. (Acquired by Apple, Inc.) – Walnut, CA

2005 - 2012

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**Sr. Director of Marketing
Country Manager, Taiwan**

- Developed and launched successful and high-margin business in Semiconductor Modules
- Led materials team in the research of Material Durability for the Coating of Exposed Semiconductor Devices
- Led the development and execution of product design and roadmap development for silicon, packaging, module, industrial design and software.
- Oversaw design-in and relationships with Western US, Japan, Korea, Taiwan and China mobile phone manufacturers for the high-growth semiconductor supplier of biometric fingerprint cybersecurity system, acquired by Apple in 2012.
- Won major designs with Samsung, Microsoft, LGE, Asus, Polycom, Sony-Ericsson, HTC, Toshiba, Fujitsu, Hitachi, and JRC
- Managed relationship with major mobile phone designs with AT&T, Sprint, Orange, NTT DoCoMo, KDDI Au, and Softbank

CHINA DEVELOPMENT INDUSTRIAL BANK – Taipei, Taiwan

2004

Venture Capital Investment Manager

- Evaluated investments in pre-IPO US-based networking companies, appraising technology, market and investment risks
- Generated complex financial simulations and models based upon technology and market evaluation, providing strategic recommendations to determine investment viability in new and existing portfolio companies

NOKIA – Taipei, Taiwan

2003

Senior Account Manager

- Won contract for Firewall Security Appliances for DSL network, and
- Won contract for High Performance Edge Routers as part of US\$120M 3G Wireless Network

WK CONSULTING, INC. – Taipei, Taiwan & Santa Clara, CA

2002 - 2003

Senior Investment Manager

- Evaluated investments and implemented exit strategies for investments in networking systems and Internet equipment

TECOM CO., LTD – Taipei, Taiwan

1998 - 2002

Director of Business Development

Assistant Marketing Director, Taipei Office

- Designed VoIP cordless telephone products, designed and sold ADSL modems to Taiwan, China and USA, and designed and ODM'd Bluetooth-based Wireless ISDN transceivers to Japan.
- Head of Networking Carrier Business Unit - led a 7-member integration team as direct reports and 30+ individuals as indirect reports for the Taiwan-based networking ODM.
- Successfully sold and deployed US\$33M DSL network.

AT&T BELL LABORATORIES – Murray Hills, NJ

1994 - 1998

Principal Investigator - Member of Technical Staff

- Developed MAC protocol with dynamic bandwidth allocation with price-on-demand [Patent]
- Designed dual-band high-frequency RF low-noise amplifier [Patent]
- Developed plan for WLAN hotspots with billing, access control and security
- Developed patch antennas
- Led R&D team to develop near field aperture laser for advanced optical disk drives [Patent]

ELECTRONICS RESEARCH LABORATORIES – Berkeley, CA

1989-1994

Research Assistant

- Built semiconductor laser on the InAlGaAs quantum well system, including surface and edge emitting lasers
- Built quantum devices with MBE including resonant-tunneling diodes
- Integrated GaAs devices on Silicon circuits using fluidic self-assembly and substrate removal
- Invented fluidic self-assembly for the integration of material systems

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- Worked in semiconductor fabrication facilities and operated semiconductor processing equipment
- Created sealed microcavities for gaseous microlamps on Silicon
- Created optical waveguides and microchannels directly on Silicon with only photolithography using UV-curing epoxy

LANGUAGES

Fluent in English, Mandarin Chinese, and Taiwanese
Conversational Spanish and Japanese

AWARDS AND HONORS

- FLoW Promising Idea Award 2012
- Eta Kappa Nu Honor Society in Engineering
- Beta Gamma Sigma Honor Society in Management
- IBM Fellowship
- Philips Scholarship

PATENTS & PUBLICATIONS

5,545,291	Method for Fabricating Self-Assembling Microstructures
5,625,617	Near-Field Optical Apparatus with a Laser Having Non-Uniform Emission Face
5,783,856	Method for Fabricating Self-Assembling Microstructures
5,824,186	Method and Apparatus for Fabricating Self-Assembling Microstructures
5,904,545	Apparatus for Fabricating Self-Assembling Microstructures
5,955,814	Single-Stage Dual-Band Low-Noise Amplifier for use in a Wireless Communication System Receiver
6,690,929	Dynamic quality-of-service and pricing in communication system

Hsi-Jen James Yeh, Rick Sturdivant, Mark Stambaugh and Alex Zahnd, "Prioritized Load Control System for Pico-Hydroelectric Power in the Nepal Himalayas", 2020 IEEE Green Technologies Conference (GreenTech 2020), Apr 1-3, 2020, Oklahoma City, OK.

[SESSION CHAIR] Hsi-Jen James Yeh, Craig Bartholio, Elyse Shackleton, Levi Costello, Matthew Perera, Kyle Yeh, and Chelsea Yeh, "Environmentally Embedded Internet-of-Things for Secondary and Higher Education", The 3rd International Conference on Information and Computer Technologies (ICICT 2020), Mar 9-12, 2020, San Jose, USA

Hsi-Jen James Yeh, Mark Stambaugh, Alex Zahnd, and Kyle Yeh, "IoT Sensing and Control Network for Pico-Hydroelectric in the Nepal Himalayas," Proceedings of the 6th Annual Conf. on Computational Science & Computational Intelligence (CSCI'19), Symposium on Internet of Things & Internet of Everything (CSCI-ISOT), Dec 05-07, 2019, Las Vegas, Nevada

Alex Zahnd, Mark Stambaugh, Derek Jackson, Michael Lawley, James Yeh, and Micah Moyer, "Modular Pico-Hydro Power System for Remote Himalayan Villages", Proceedings of the Solar World Congress, Nov 4-7, 2019, Santiago, Chile

[BEST PAPER] Hsi-Jen James Yeh, Rick Sturdivant, Mark Stambaugh and Alex Zahnd, "Programmable Turbine Failsafe System for Pico-Hydroelectric Power in the Nepal Himalayas," Proceedings of the IEEE Green Energy and Smart Systems Conference (IGESSC 2019), Nov 4-5, 2019, Long Beach, CA

Rick L. Sturdivant, James Yeh, Mark Stambaugh, Alex Zahnd, Nicholas Villareal, Charles K. Vetter, Justin D. Rohweller, Jacob F. Martinez, Jordan M. Ishii, Ryan A. Brown, Aaron M. Arkie, "IoT enabled pico-hydro electric power with satellite back haul for remote Himalayan villages," Proceedings of the IEEE Radio and Wireless Conference, Topical Workshop On The Internet of Space, Jan 14-17, 2018, Anaheim, CA.

R. Sturdivant, J. Yeh, M. Stambaugh, A. Zahnd, "Improving the utilization factor for islanded renewable energy systems," in Proceedings of the Solar World Congress, Abu Dhabi, UAE, Oct 29-Nov 2, 2017.

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R. Sturdivant, J. Yeh, M. Stambaugh, A. Zahnd, "Sustainability as a characteristic of renewable energy systems in remote Himalayan villages," in Proceedings of the Solar World Congress, Abu Dhabi, UAE, Oct 29-Nov 2, 2017.

R. Sturdivant, J. Yeh, M. Stambaugh, A. Zahnd, E. K. P. Chong, "Pico-hydro electric power in the Nepal Himalayas," in Proceedings of the 9th IEEE Annual Green Technologies Conference (IEEE GreenTech 2017), Denver, Colorado, March 29–31, 2017

Zahnd, A., Stambaugh, M., Jackson, D., Gross, T., Hugi, C., Sturdivant, R., Yeh, J., & Sharma, S. (2017, February). Modular pico-hydro power system for remote Himalayan villages. Presentation at the 16th World Renewable Energy Congress XVI, Western Australia, AU

Afshin Partovi, David Peale, Matthias Wuttig, Cherry A. Murray, George Zydzik, Leslie Hopkins, Kirk Baldwin, William S. Hobson, James Wynn, John Lopata, Lisa Dhar, Rob Chichester, and James H-J Yeh, "High-power laser light source for near-field optics and its application to high-density optical data storage," Applied Physics Lett., Vol. 75 , p. 1515 (1999)

L. Stacey, S. Sivagnansundaram, P. Brown, I. Kriaras, H.-J. Yeh, T. Aytur, "Always in Touch – GSM-WAVE," GSM World Congress Demonstration, February 1998.

A. Partovi, D. Peale, C.A. Murray, G. Zydzik, L. Hopkins, J. Yeh, M. Wuttig, R. Chichester, L. Dhar, D. Vakshoori, W.S. Hobson, J. Wynn, J. Lopata, "Ultra High Density Near-Field Optical Storage," CLEO, OSA Technical Digest Series, Vol. 9 , p. 195 (1996)

Ashish K. Verma, Mark A. Hadley, Hsi-Jen J. Yeh, and J. S. Smith, "Fluidic Self-Assembly of Silicon Microstructures," Proceedings of the 45th Electronic Components and Technology Conference (IEEE Press, New York, NY, 1995) pp. 1263-1268.

Hsi-Jen J. Yeh and John S. Smith, "Fluidic Self-Assembly for the Integration of GaAs Light-Emitting Diodes on Si Substrates," IEEE Photonics Technology Letters 6(1994) 706-708.

Hsi-Jen J. Yeh and John S. Smith, "New fabrication technique for the integration of large area optoelectronic display panels," Conference on Lasers and Electro-Optics Technical Digest 8(1994) CWC2 191-192.

J. K. Tu, H. J. Yeh, and J. S. Smith, "InGaAs and GaAs p-i-n photodetectors integrated onto a Si substrate by fluidic self-assembly," Conference on Lasers and Electro-Optics Technical Digest 8(1994) CTh139 342-343.

Hsi-Jen J. Yeh and John S. Smith, "Gallium arsenide on silicon integration by fluidic self-assembly," Conference on Lasers and Electro-Optics Technical Digest 8(1994) CFB2 391-392.

Hsi-Jen J. Yeh and John S. Smith, "Integration of GaAs vertical-cavity surface emitting laser on Si by substrate removal," Appl. Phys. Lett. 64(12) 1466 (21 Mar 1994)

H.-J. Yeh and J.S. Smith, "Fluidic self-assembly of microstructures and its application to the integration of GaAs on Si," Proc. IEEE Workshop on Micro Electro Mechanical Systems, Oiso, Japan, Jan. 25-28 (1994) Pp 279-284

C. H. Mastrangelo, J. H.-J. Yeh, and R. S. Muller, "Electrical and Optical Characteristics of Vacuum-Sealed Polysilicon Microlamps," IEEE Transactions on Electron Devices, Vol. 39, No. 6, pp. 1363-1375, June 1992.

Hsi-Jen Yeh, "Applying Volume Holography to Artificial Neural Networks," California Institute of Technology Summer Undergraduate Research Fellowship (SURF) Report, 1987.