BRIAN F. AULL

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PROFILE

MIT scientist in advanced imaging technology. Passionate educator.

EDUCATION

MIT	Ph.D. in Electrical Engineering, June, 1985
MIT	Master of Science and Electrical Engineer degrees, June, 1979
Purdue University	Bachelor of Science in Electrical Engineering, May, 1977

PROFESSIONAL CAREER SUMMARY

MIT Lincoln Laboratory	Technical Staff since 1985 Led pioneering work in photonic image sensors
Tufts University	Instructor in Electrical Engineering since 2010 Taught courses in multiple subject areas
National Cheng-Kung University, Tainan, Taiwan	Visiting Professor in Electrical Engineering, 1990-91 Taught quantum physics, lecturing in Mandarin Chinese
Hewlett-Packard Laboratories Palo Alto CA	Technical Staff in the Electronics Research Center, 1979-80 Designed high-speed digital-to-analog converters
Naval Avionics Center Indianapolis IN	Co-op student and summer staff, 1975-79 Multiple projects in the Research and Metrology Departments

TEACHING EXPERIENCE

Courses taught in the Tufts Electrical and Computer Engineering Department:

ES3 Introduction to Electrical Engineering Systems, Fall 2010-2016
EE113 Semiconductor Devices, Spring 2012-2015, 2018, 2019
EE18 Electromagnetic Fields and Wave, Spring 2016
EE24 Probabilistic Systems Analysis, Spring and Fall 2017
EE105 Feedback Control Systems, Fall 2018
EE107 Communication Systems, Fall 2019
ES4 Digital logic and microprocessors, Spring 2020

Research. Primary research interests in solid state devices for photonics and imaging. Developed quantum-well devices for optoelectronics. Most recent work is on the development of Geiger-mode avalanche photodiode arrays integrated to digital CMOS circuits for lidar, wavefront sensing, and passive imaging. Review articles on this work:
http://www.mdpi.com/1424-8220/16/4/495

Lincoln Laboratory Technology Office 2017 Best Paper Award
Brian F. Aull et al., "Large-Format Geiger-Mode Avalanche Photodiode Arrays and Readout Circuits," IEEE Journal of Selected Topics in Quantum Electronics 24, 3800510 (2018).
https://ieeexplore.ieee.org/document/8007179