

Travis J. Kleeburg

CONTACT INFORMATION

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RESEARCH INTERESTS

Energy harvesting system design, mixed signal circuit and system design, ultra-low power systems, response surface methodology, free space optical communication, medical implantable devices and radios, integrated solar photodiodes, design in emerging technologies and technology trends.

EDUCATION

University of California, Davis, Davis, California USA

Ph.D. Candidate, Electrical Engineering, 2006-Present

- Advisor: Rajeevan Amirtharajah

University of California, Davis, Davis, California USA

M.S., Electrical Engineering, December, 2009

University of California, Davis, Davis, California USA

B.S., Electrical Engineering, June, 2006

Ventura College, Ventura, California USA

A.A., Liberal Arts, June, 2003

HONORS AND AWARDS

UC Davis Block Grant Fellowship, 2009

U.S. Department of Education GAANN Fellowship, 2006

Graduated Magna Cum Laude, 2006

Robert Murdoch Memorial Scholarship, 2004

ACADEMIC EXPERIENCE

University of California, Davis, Davis, California USA

Graduate Student Researcher

September, 2006 - Present

Includes current Ph.D. research, Ph.D. and Masters level coursework, research/consulting projects and mentoring of several undergraduate students.

Teaching Assistant

September, 2007 - Present

Assisted professors, instructed computer and physical hardware lab sections, graded homework and exams, and held office hours for students. Past courses include Engineering Problem Solving, Communication Electronics, Digital IC's, NATCAR, and Electronic Circuits I.

Undergraduate Student Researcher

June, 2005 - September 2005

Worked in the microwave microsystems laboratory for Prof. A. Pham. Work includes load pull power measurements, high speed PCB design in Cadence tools and RF power amplifier design.

Undergraduate Student Researcher

January, 2005 - September 2005

Worked on editing and evaluating experiments for the textbook "Analog Electronic Circuits and Systems Laboratory Manual" by Gary Ford and Carl Arft.

PUBLICATIONS

Travis Kleeburg, Jeffrey Loo, Nathaniel J. Guilar, Erin G. Fong, Rajeevan Amirtharajah: "Ultra-Low-Voltage Circuits for Sensor Applications Powered by Free-Space Optics," ISSCC 2010: 502-503.

Nathaniel J. Guilar, **Travis Kleeburg**, Albert Chen, Diego R. Yankelevich, Rajeevan Amirtharajah: "Integrated Solar Energy Harvesting and Storage," Very Large Scale Integration (VLSI) Systems, IEEE Transactions on , vol.17, no.5, pp.627-637, May 2009

Nathaniel J. Guilar, Erin G. Fong, **Travis Kleeburg**, Diego R. Yankelevich, Rajeevan Amirtharajah: Energy harvesting photodiodes with integrated 2D diffractive storage capacitance. ISLPED 2008: 63-68

Nathaniel J. Guilar, Albert Chen, **Travis Kleeburg**, Rajeevan Amirtharajah: Integrated solar energy harvesting and storage. ISLPED 2006: 20-24

PROFESSIONAL
EXPERIENCE

TSMC University Program, UC Davis, Davis, California USA

Student Liason

June, 2007 - June, 2009

Coordinated access to a state of the art CMOS process shared among several other research universities. Responsibilities included final generation of layouts used in IC fabrication, metal fill and pad layouts. Responsibilities also include technology file security, UNIX usergroup management, and process technology integration into Cadence and Mentor Graphics tool flows.

EDO Corporation, EDO RSS, Morgan Hill, California USA

Summer researcher

June, 2006 - September, 2006

Developed test procedures for prototype antennas from 0.5-26GHz. Measured antenna patterns in an anechoic chamber, used swept frequency sources, traveling wave tube amplifiers, network analyzers and a 3 axis control pedestal. Simulated control and signaling circuits for intercept systems. Wrote and tested software to control an antenna positioner.

UC Davis Learning Skills Center, Davis, California USA

Student tutor

September, 2004 - June, 2005

Led small classroom discussions and problem solving sessions, developed meaningful instructional materials to help students grasp complex scientific concepts. Generated study plans for students and offered one-on-one tutoring as needed.

UC Davis Genome Center, Davis, California USA

Bio-Informatics Programmer

July, 2004 - November, 2005

Worked in the Michelmore Lab on Bio-Informatics programming. Developed software which aided in genetic visualization and verification. Software developed in Python helped validate heatmaps and MySQL databases.

California Electric Company, Ojai, California USA

Journeyman Electrician

April, 1999 - August, 2003

Team leader responsible for finishing fast paced jobs, managing material orders and scheduling work.

TECHNICAL SKILLS

- Programming Languages: Python, Matlab, C, L^AT_EX, VISA, VB, Unix shell scripts.
- CAD tools and Software: Simulink, Maple, Visio, Hspice, Cadence Tools, Virtuoso AMS Designer, Virtuoso Analog Design Environment, Virtuoso Layout Suite, Virtuoso Spectre Circuit Simulator, Mentor Graphics Calibre, Mentor Graphics PADS, Agilent ADS, Eagle, Microsoft Office database, spreadsheet, and presentation software.
- Test Equipment: Clock generators, logic analyzers, oscilloscopes, pattern generators, function generators, signal analyzers, spectrum analyzers, network analyzers and power meters.
- Operating Systems: Unix/Linux, Windows.