

Contracts and Grants

Redstone Test Center Apache Project, Redstone Arsenal, "Apache CDL Ground Station Design", **Investigator**, \$12,000,000, 2012 – 2015.

Redstone Test Center AvSTIL Project, Redstone Arsenal, "Common Missile Warning System Real Time Emulator", **Principle investigator**, \$800,000, August 2009 – 2013.

Northrop Grumman Norden Systems, "X-band Fiber-optic delay line design", **Project Director**, \$42,500, November 1, 2008.

Fredwal, Inc., "S and L Band Optical Delay Line Design," **Project Director**, \$258,000, October 25, 2007.

Boeing, "Advanced CORFM Design," **Project Director**, \$426,822.50, Contract No.: DAAH01-03-C-R074, July 28, 2005 – July 29, 2006.

Northrop Grumman Norden Systems, "X-band Fiber-optic Delay Line Design", **Project Director**, \$25,000, August 2004.

Earthdata International, Inc., "UHF and X-Band Fiber-optic Delay Line Design", **Project Director**, \$30,500, 19 June 2007.

ERC, Inc. for the Redstone Technical Test Center, Redstone Arsenal, "Maverick Telemetry Package Design, **Principle Investigator**, \$100,000, 2005-2009.

AMTEQ, Inc. for the Redstone Technical Test Center, Redstone Arsenal, "AGM-130 Telemetry Package", **Principle Investigator**, \$50,000, 2003.

Naval Research Laboratory, "External Modulator Bias Circuit Design", **Project Director**, \$24,050, 13 June 2002.

Fredwal, Inc., "L and X Band Optical Delay Line Design," **Project Director**, \$120,000, 2000 – 2003.

Federal Aviation Administration, "Low-Cost Precision Gyroscope Technology - Phase IV," **Investigator**, **\$4,000,000**, Uni of Ala. OSEP Proposal No.: 99-07-0060, July 1, 2002 – May 30, 2004.

Army Research Laboratory, White Sands Missile Range, New Mexico, "Wavelength Division Multiplexing Fiber-Optic Microwave Delay System", **\$729,622.30**, **Project Director**, Phase II SBIR Contract Number: DAAD17-03-C-0098, May 2003 - February 2005.

Federal Aviation Administration, "Low-Cost Precision Gyroscope Technology – Phases II & III," **Investigator, \$3,643,650**, Uni of Ala. OSEP Proposal No.: 99-07-0060, January 1, 2000 – June 30, 2002.

Army Research Laboratory, White Sands Missile Range, New Mexico, "Wavelength Division Multiplexing Fiber-Optic Microwave Delay System", **\$69,430.92, Project Director**, Phase I SBIR Contract Number: DAAD17-00-C-0030, December 1999 – December 2000.

Lockheed Martin Integrated Systems, AIEWS Program Office, Syracuse, New York, "AIEWS Fiber-Optic Delay Line SRA Research and Design", **\$1,711,266.00, Project Director**, Lockheed Martin Contract Number: AEWSCMSP01, November 1999 - May 2001.

Army Research Laboratory, White Sands Missile Range, New Mexico, "10 nsec Minimum Delay Step Upgrade of the Prototype Fiber-Optic Delay Line", **\$8,905.60, Project Director**, SBIR Phase II Contract Number: DAAL01-95-C-2015, Mod. P00003, May 1999 - July 1999.

U. S. Army Research Office, Battelle STAS Contract, "Design and Fabrication of an Airborne RS232 Telemetry Package," **Project Director, \$28,826.00**, Uni. of Ala. OSEP Proposal No.: 99-07-0038, May 99 - August 1999.

Federal Aviation Administration, "Low-Cost Precision Gyroscope Technology - Phase I," **Investigator, \$356,059.00**, Uni of Ala. OSEP Proposal No.: 99-07-0060, 16 March 99 - 30 September 99.

Raytheon/TI Systems, Dallas, Texas, "Design of a UHF Phase Shifter Module", **\$138,000.00, Project Director**, December 1997 - December 1998.

Army Research Laboratory, White Sands Missile Range, New Mexico, "Design and Experimental Measurement of a High-Performance Programmable Recirculating Fiber-Optic Delay Line Network", **\$42,000.00, Project Director**, SBIR Phase II Contract Number: DAAL01-95-C-2015, Mod. P00002, May 1998 - January 1999.

Amtec Corporation, Redstone Arsenal, Alabama, "Design of a prototype PCM Encoder and Simulator for the Stinger Block II Weapon System", **\$41,360.00, Project Director**, May 1998- May 1999.

HPII, Fort Lauderdale, Florida, "Design of a Programmable 8-bit, 16,384 ft Free-Space Fiber-Optic Delay Line", **\$9,085.00, Project Director**, January 1997 - October 1997.

Army Research Laboratory, White Sands Missile Range, New Mexico, "Programmable Microwave Fiber-Optic Delay Line Network Upgrade", **\$24,033.28, Project Director**, Phase II SBIR Contract Number: DAAL01-95-C-2015, Mod. P00001, August 1997 - November 1997.

Cooper-Mitch Attorneys at Law, Birmingham, Alabama, "Mark Gatewood & The Homer Dome Vs. Amusement Products & E. K. Magrath, III", **\$300.00, Expert Witness**, 17 September 1997.

Texas Instruments, Inc., Plano, Texas, "Design, Fabrication, and System Integration of the EAGLE LRS RF Preprocessor", **\$98,158.00, Co-Principal Investigator**, University of Alabama OSEP Proposal No. 4175, December 1996 - December 1998.

Physical Science Laboratory, Las Cruces, New Mexico, "Travel Account for the Design of a Prototype MMIC-Based Microwave Subsystem for the VAL RGPO 1.5 GHz Fiber-Optic Delay Line Upgrade", PSL-71804-PR, **\$2,109.00, Project Director**, December 1996 - July 1997.

Physical Science Laboratory, Las Cruces, New Mexico, "Design of a Prototype MMIC-Based Delay Segment Microwave Subsystem for the VAL RGPO 1.5 GHz Fiber-Optic Delay Line Upgrade and Bias Control Subsystem for the Ortel 5 GHz 1540A DFB Laser", PSL-71803-PR, **\$70,255.00, Project Director**, December 1996 - July 1997.

U.S. Army Summer Faculty Research and Engineering Program, **\$15,297.00, Principal Investigator**, Battelle, Research Triangle Park, North Carolina, May 1996 - August 1996.

Motorola M68HC16EVB Design Station Grant, **\$2,000.00, Project Coordinator**, Motorola, Inc., August 1996.

Army Research Laboratory, White Sands Missile Range, New Mexico, "Programmable Microwave Fiber-Optic Delay Line Network", **\$599,780.20, Project Director**, Phase II SBIR Contract Number: DAAL01-95-C-2015, May 1996 - June 1997.

Custom Microelectronic Systems, Inc., Northport, Alabama, "Programmable Microwave Delay Line", **\$26,045, Project Director**, University of Alabama BER Proposal Number 3940, June 1996 - June 1997.

Army Research Laboratory, White Sands Missile Range, NM., "Programmable Microwave Fiber-Optic Delay Line Network", **\$69,725.00, Project Director**, Phase I SBIR contract Number: DAAL01-95-C-2015, March 1995 - September 1995.

National Science Foundation sponsored MOSIS VLSI Integrated Circuit Fabrication, **\$10,120, Principal Investigator**, Spring 1995.

Army Research Laboratory and Countermeasures Engineering Corporation, White Sands Missile Range, NM., "Prototype Optical-based Jammer for Patriot", **\$254,000, Principal Investigator**, 1994.

Custom Microelectronic Systems, Inc., "Equipment for Hybrid Electronics Laboratory", **\$661.71, Principal Investigator**, May 25, 1994.

Bevel Technology Center for Advanced Electronics Technology, Eufaula, Al, "Loan of laboratory equipment", **\$40,000, Principal Investigator**, September 1994.

Hughes Missile Electronics, Eufaula, Al, "Design of Cable TV Splitters and Taps", **\$7,634, Project Director**, May 5, 1994 - October 10, 1994.

RF Prime Co., Sacramento, Ca, "RF component grant", **\$12,500, Project Director**, October 14, 1994.

Survivability/Lethality Analysis Directorate Electronic Warfare Division Army Research Laboratory, White Sands Missile Range, New Mexico, "Design of a Prototype Programmable 1.5 GHz Fiber-Optic Delay Module (FODM)", **\$254,000.00, Principal Design Engineer**, May 1993 - June 1994

National Science Foundation sponsored MOSIS VLSI Integrated Circuit Fabrication, **\$11,000, Principal Investigator**, Fall 1993.

Hybrid Laboratory Equipment Loan, **\$25,100, Principal Investigator**, Fall 1993.

EESOF RF/Microwave Design Software Grant, **\$6,500, Principal Investigator**, Summer 1993.

U.S. Army MICOM electronic hardware gift, **\$100,500, Principal Investigator**, March 1993.

National Science Foundation sponsored MOSIS VLSI Integrated Circuit Fabrication, **\$2,025, Principal Investigator**, Spring 1993.

Design of VLSI Control and Sensor Electronic System for NASA Project SELENE, **\$66,000, Project Director**, October 1992 - August 1995.

National Science Foundation sponsored MOSIS VLSI Integrated Circuit Fabrication, **\$1,350, Principal Investigator**, Fall 1992.

Control Electronics Applications for the SELENE Project, **\$4,781, Co-Principal Investigator**, November 1992 - November 1993.

Mentor-Graphics Software Gift, **\$1,900,000, Principal Investigator**, Fall 1992.

MICOM Enhanced Throughput Array Processor Study, DAAH01-91-D-R001, **\$30,925, Principal Investigator**, February 4 - June 30 1992.

National Science Foundation sponsored MOSIS VLSI Integrated Circuit Fabrication, **\$4,500, Principal Investigator**, Fall 1991.

MICOM Electronic Radiation Effects study, DAAH01-90-R-0391, **\$30,514, Principal Investigator**, Summer 1991.

National Science Foundation sponsored MOSIS VLSI Integrated Circuit Fabrication, **\$4,180, Principal Investigator**, Fall 1990.

MICOM SOW BIT/BITE Study, **\$28,884, Co-Principal Investigator**, Summer 1989.

Annual Report and Renewal Proposal SSC Generic Detector R&D, **\$286,483, Co-Investigator**, Fall 1989 - Fall 1990.

R&D Proposal for a Fast Radiation-Hard Calorimeter for the SSC, **\$354,466, Co-Investigator**, March 1990 - March 1992.