

ATEF Z. ELSHERBENI **IEEE Life Fellow and ACES Fellow**

Funded Grants: (Total 50 Research Grants, 18 Service Grants, 38 Education Grants)

Funded Research Grants:

2023

- “Improving Health and Safety of Mining Operations Through Development of the Smart Bit Concept for Automation of Mechanical Rock Excavation Units and Dust Mitigation,” NIOSH/CDC. (C-PI)
- “Electronic Beam Forming Antennas,” AUGUSTUS. (PI)

2022

- “Amateur Radio Digital Communications (ARDC) Scholarship,” ARDC. (Co-PI)
- “Quantitative Electromagnetic Visualization of Microwave Circuits Under Realistic Operating Conditions,” ARDC. (Co-PI)

2019

- Integrating real-time personal dust exposure monitoring with location tracking,” NIOSH/CDC. (Co-PI)
- Digital Technologies Improve Mine Safety and Health,” Alpha Foundation (Co-PI)

2018

- “Higher Order FDTD for Cellular Antennas Simulation,” Futurewei. (PI)

2014

- “Transmitarray Antennas,” NSF. (PI)

2013

- Antenna Research,” ZANT Antenna Technologies Cooperation. (PI)

2012

- “Reconfigurable Antennas and Reflectarrays,” NASA. (Co-PI)

2011

- “Small Satellite Technologies: An Educational Initiative for Ole Miss,” NASA/MS Space Grant Consortium Research Infrastructure Program, January 2011 – December 2011. (PI)

2010

- “Reconfigurable Antenna Designs for Planetary Rovers,” NASA/MS Space Grant Consortium Research Infrastructure Program, December 2009 – July 2010 (Co-PI, PI Fan Yang)

2009

- “Reconfigurable Antennas and Reflect arrays for NASA Space Science Missions,” NASA/MS EPSCoR, August 2009 – July 2011. (Co-PI, PI Fan Yang)
- “Reconfigurable Antenna Designs for Planetary Rovers,” NASA/MS Space Grant Consortium Research Infrastructure Program, December 2008 – December 2009. (Co-PI, PI Fan Yang)
- “Techniques for Improving Capacity of Mobile Wireless Communication Networks,” NASA/MS Space Grant Consortium Research Infrastructure Program, February 2009 – January 2010. (Co-PI, PI Mustaf Matalgah)
- Vertical Integration for Missile Defense Surveillance Data, Jackson State University. (Co-PI, PI: A. Glisson, Co-PI: J. Daigle)

2008

- “Analysis and Design of Antennas, Sensors, and RFID Tags,” Diversified Technologies Inc./Department of Defense (DoD), December 2007 – December 2009. (PI, Co-PIs Fan Yang, and Ahmed Kishk)
- “Reconfigurable Antenna Design for Planetary Rovers,” NASA/MS Space Grant Consortium Research Infrastructure Program, December 2007 – December 2008. (Co-PI, PI Fan Yang)

2007



- "Performance Evaluation of Radio Frequency Identification (RFID) Tags," Cytec Corporation, Navy Automatic Identification Technology Engineering Support Center, 2006-2007. (PI, Co-PIs Fan Yang, and Ahmed Kishk)
- "Single Layer Multi-Band Planar Reflect Array Antennas for NASA Space Large Aperture Applications," NASA/MS Space Grant Consortium Research Infrastructure Program, 2006-2007. (Co-PI, PI Fan Yang)
- "Optimum Diversity Technique for Higher Order Modulation Schemes in Faded Wireless Communications Channels," NASA/MS Space Grant Consortium Research Infrastructure Program, 2006-2007. (Co-PI, PI Mustafa Matalgah)

2006

- "Advanced Radar Power Technology," U. S. Army Space Missile Defense Command, April 2006 - March 2007. (Project Director, Co-PIs Ahmed Kishk and Allen Glisson)
- "Radar on a Chip," U. S. Army Space Missile Defense Command, April 2006 - March 2007. (Co-PI, PI: Ahmed Kishk, Co-PI: Allen Glisson)
- Vertical Integration of Data, Jackson State University. (Co-PI, PI: A. Glisson, Co-PI: J. Daigle)
- Dielectric Enhances Sensor Systems (DESS), Radiance Technologies. (Co-PI, PI: A. Kishk, Co-PI: A. Glisson)

2005

- "Advanced Radar Power Technology," U. S. Army Space Missile Defense Command, March 2005 - November 2006. (Project Director, with Charles Smith, Ahmed Kishk, Allen Glisson)
- Radiance Mississippi Powerline (RAMP)-SBIR-Phase II, Year 2, Radiance Technologies. (PI)
- Guardian Angel UAV, Mississippi Engineering and Science Technology (MIEST), Year 1. (PI, Co-PI: Mustafa Matalgah)
- Vertical Integration of Data, Jackson State University. (Co-PI, PI: A. Glisson, Co-PI: J. Daigle)

2004

- "Advanced Radar Power Technology," U. S. Army Space Missile Defense Command, March 2004 - November 2004. (Project Director, with Charles Smith, Ahmed Kishk, and Allen Glisson)
- "Evaluation and Field Testing of Low-Cost Sensors for Remote Sensing Applications," The Mississippi Space Commerce Initiative, July 15, 2004 - July 14, 2005. (Co-PI with R. Mantenna, J. Sharma, and C.E. Smith)
- Radiance Mississippi Powerline (RAMP)-SBIR-Phase II, Year 1, Radiance Technologies. (PI)
- Dielectric Enhances Sensor Systems (DESS), Radiance Technologies, (Co-PI, PI: Dr. A. Kishk, Co-PI: Dr. A. Glisson)
- Vertical Integration for Missile Defense Surveillance Data, Jackson State University. (Co-PI, PI: A. Glisson, Co-PI: J. Daigle),

2003

- "Advanced Radar Power Technology," U. S. Army Space Missile Defense Command, March 2003 - November 2003. (Project Director, with Charles Smith, Ahmed Kishk, and Allen Glisson)

2002

- "Broadband Spatial Power Combiner: System Modeling and Antenna Design for Space Applications" NASA EPSCoR Research Project, April 2002-April 2003. (Co-PI, PI: A. Yakovlev)
- "Ultra-High-Resolution Imagery Using Spaced-Based Array Radars" NASA EPSCoR Research Project, April 2002 - April 2003. (PI, Co-PI: C.E. Smith, R. Gordon, and A. Yakovlev)
- "Wideband Printed Antennas for Radar and Space Applications" NASA EPSCoR Research Project, April 2002 - April 2003. (PI, Co-PI: C.E. Smith)

2001

- "Advanced Radar Power Technology," U. S. Army Space Missile Defense Command, June 2001-August 2002. (Senior Investigator with C. E. Smith, PI)

2000

- "Advanced Radar Power Technology," U. S. Army Space Missile Defense Command, August 2000 - August 2001. (Senior Investigator with C. E. Smith, PI)



- "Low-Cost Airport Noise Sensor Evaluation and Interface With SENS System," The Mississippi Space Commerce Initiative, May 1, 2000- May 31, 2001. (Co-PI with R. Mantenna, J. Sharma, and C.E. Smith)
- "Needs Assessments for Mapping of Field Strength of RF Signals in Real World Environment," The Mississippi Space Commerce Initiative, May 1, 2000- September 31, 2000. (Co-PI with C. E. Smith, H. Sloan, and G. Eassen)

1999

- "Space Systems and Technology Studies," NASA, Sub-Contract No. SSC-76, January 1999- December 2000. (Co-PI with C. E. Smith, and R. Avant)
- "Evaluation of Soil Moisture Measurement Devices," The Mississippi Space Commerce Initiative, November 1, 1999 - April 31, 2000. (PI, Co-PI D. Kajfez)

1998

- "Hyper-Space Remote Sensing Technology Application," NASA Stennis Space Center, September 1998 - August 2000. (Co-PI with C. E. Smith)

1996

- "Fabrication of Scaled Models of Coupled Transmission Lines," University of Mississippi Faculty Small Grants Program, December 1996-1997. (Co-PI with C. E. Smith)

1995

- "Higher Order Modes in Dielectric Resonators," Army Research Office (ARO), June 1995-December 1995-1996. (Co-PI with D. Kajfez)

1994

- "Crosstalk Reduction in Integrated Circuits and Microwave and Millimeter Wave Interconnection," Defense Experimental Program to Simulate Competitive Research (DEPSCOR), September 1994- August 1997. (PI with C. E. Smith)
- "Finite Difference Analysis of Microstrip Transmission Lines and Microwave Interconnections," University of Mississippi, School of Engineering, May - June 1994

1993

- "Frequency and Time Domain Characteristics of Microwave Integrated Circuits," The University of Mississippi, Faculty Research Program, December 1993 - December 1994. (PI)
- "Crosstalk Reduction in Embedded ICs and Microwave/Millimeter Wave Circuits," University of Mississippi Faculty Small Grants Program, February 1993 - February 1994. (PI with C. E. Smith)
- "A Comparative Study of Different Two-Dimensional Techniques for Electromagnetic Scattering by Multiple Objects," University of Mississippi, School of Engineering, May - July 1993. (PI)

1992

- "Crosstalk Reduction in IC and Microwave/Millimeter Wave Circuits," University of Mississippi Faculty Small Grants Program, February 1992 - February 1993. (PI with C. E. Smith)
- "Crosstalk Reduction in IC and Microwave/Millimeter Wave Interconnections," Army Research Office, June - November 1992. (PI with C. E. Smith)

1990

- "Analysis and Design of Cylindrical Reflector Antennas, University of Mississippi," Faculty Small Grants Program, December 1990 - December 1991. (PI)
- "Critical Analysis of Partially Open Cylindrical Reflector Antennas," Air Force Engineering Foundation Research Initiation Grants, September 1990 - August 1991. (PI)
- "A High-Frequency Technique for Multiple Scattering of Electromagnetic Waves By Cylindrical Objects," University of Mississippi, Faculty Research Program, June - August 1990. (PI)

1989

- "Radar Cross-Section of Conducting Cylinders Loaded with Inhomogeneous Dielectric Material," University of Mississippi, Faculty Small Grants Program, February 1989 - February 1990.
- "Optimum Radar Cross-Section of Conducting Cylinders," the University of Mississippi, School of Engineering, May - August 1989. (PI)

1988



- "A Novel Technique for Improving the Efficiency of Reflector Antennas", University of Mississippi, Faculty Research Program, May - December 1988. (PI)

Funded Service Grants:

2010

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2010 - March 2011

2009

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2009 - March 2010

2008

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2008 - March 2009

2007

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2007 - March 2008

2006

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2006 - March 2007

2005

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2005 - March 2006.

2004

- "Acquisition of Instrumentation for Near Field Antenna Measurements Research" The National Science Foundation (NSF), Jan 22, 2004. (Co-PI with Ahmed Kishk, and Allen Glisson)
- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, March 2004 - March 2005. (PI)

2003

- "ACES Electronic Publications Pilot Project, Phase V" The Applied Computational Electromagnetic Society, March 2002 - March 2003. (PI)

2002

- "Network Switch and Microsoft Office XP," The University of Mississippi, Associates' and Partners' Funds Program, December 2002-2003. (PI)
- "Signal Generator for HF and Microwave Laboratory," The University of Mississippi, Lapsed Salary Funds Program, October 2002-2003. (PI, Co-PI: C.E. Smith)
- "ACES Electronic Publications Pilot Project, Phase IV" The Applied Computational Electromagnetic Society, March 2002 - March 2003. (PI)

2000

- "ACES Electronic Publications Pilot Project, Phase III" The Applied Computational Electromagnetic Society, March 2000 - March 2001. (PI)
- "ACES Electronic Publications Pilot Project, Phase II" The Applied Computational Electromagnetic Society, March 2000- March 2001.

1999

- "ACES Electronic Publications Pilot Project," The Applied Computational Electromagnetic Society, March 1999- March 2000. (PI)
- "Upgrade of Two Multimedia Computers for the Electrical Engineering Labs.," The University of Mississippi, Associates' and Partners' Funds Program, December 1999-2000.(PI)

1990

- "Telecommunications Laboratories," University of Mississippi, Associates' and Partners' Funds, December 1988 - December 1989. (PI)

1988



- Grant to attend the National Communication Forum, NEC Information Industry Faculty Program, October 1988. (PI)

Funded Education Grants:

2002

- "Continuation of Computer Simulation of Synthetic Aperture Radars for Tracking and Identifying of Targets," NASA Space Grant Research Experience Program, The University of Mississippi, August 2002- February 2003. (PI, Student: Edward Woo)
- "Modeling and Simulation of Synthetic Aperture Radar Imaging Systems", Mississippi Space Commerce Initiative (MSCI), Graduate Fellowship for Chris Robert Riley, July 2002-June 2003. (PI, Student: Chris Riley)
- "Computer Simulation of Earth/Satellite(s) for Remote Sensing Applications," NASA Space Grant, The University of Mississippi, July 2001. (PI, Co-PI: C.E. Smith)

2001

- "Computer Simulation of Synthetic Aperture Radars for Tracking and Identifying of Targets," NASA Space Grant Research Experience Program, The University of Mississippi, August 2001- February 2002. (PI, Student: Edward Woo)

1999

- "Upgrade of Two Multimedia Computers for the Electrical Engineering Labs.," The University of Mississippi, Associates' and Partners' Funds Program, December 1999-2000. (PI)

1997

- "Windows NT Server to establish an electronic publication site," The University of Mississippi, Associates' and Partners' Funds Program, December 1997-1998. (PI)
- "Microsoft Academic Cooperative Instructional Grant," Microsoft Corporation, February 1997-1999. (Co-PI with C. E. Smith)

1995

- "Expanded Use of Multimedia in Undergraduate Electrical Engineering Laboratories", National Science Foundation (NSF), Instrumentation and Laboratory Improvement (ILI) program, November 1995-1998. (PI, Co-PI M. Tew)

1994

- "A Proposal to Bring Multimedia Instruction Into the Classroom, "Mississippi Institution of Higher Learning, December 1994-December 1995. (PI with M. Tew)
- Grant to attend the PC-Integrated Engineering Workstation for Science and Engineering Workshop, Electrical Engineering Department, Bucknell University, PA, July 24-29, 1994.

1993

- Match for NSF Grant Supporting Multimedia Instruction in Electrical Engineering Laboratories, Associates' and Partners' Funds, December 1993 - June 1995. (PI with M. Tew)
- Grant to attend the National Engineering Consortium's Multimedia Workshop, Orlando, Florida, November 1993.
- "Multimedia Equipment for Laboratory Instruction," National Science Foundation (NSF), June 1993 - November 1995. (PI with M. Tew)
- "Antenna Pattern Visualization," Computer Applications in Electromagnetic Education Center (CAEME), June - November 1993.(PI)
- "Analysis and Design of Antenna Arrays," Computer Applications in Electromagnetic Education Center (CAEME), June - July 1993.(PI)

1992

- "Animated Display of Radiation Patterns of Antennas and Antenna Arrays," NASA Space Grant, Faculty-Undergraduate research project, University of Mississippi, School of Engineering, June - July 1992.(PI)
- "Quasi-Static Characteristics of Conformal Microstrip Lines," NASA Space Grant, Faculty-Undergraduate research project, University of Mississippi, School of Engineering, June - July 1992.(PI)



1991

- "WGVMAP (Version 2.0): Analysis and Visualization of Electromagnetic Wave Inside Waveguides and Cavities," NSF/IEEE Computer Applications in Electromagnetic Education Center (CAEME), October 1991- September 1992.(PI)

1990

- "Interactive Software Package for The Analysis And Visualization Of Electromagnetic Fields Inside Cylindrical waveguides," NSF/IEEE Computer Applications in Electromagnetics Education Center (CAEME), September 1990 - August 1991. (PI)
- "Telecommunications Laboratories," University of Mississippi, Associates' and Partners' Funds, December 1988 - December 1989. (PI)

Equipment and Service Type Grants

2024

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2023

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2022

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2021

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2020

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2019

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2018

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2017

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2016

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2015

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2014

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2013

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2012

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)



2011

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, One year. (PI)

2010

- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, March 2010 - March 2011

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- "ACES Electronic Publications Project and Society Web Site Development" The Applied Computational Electromagnetic Society, ACES Society, March 2007 - March 2008

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- "ACES Electronic Publications Pilot Project," The Applied Computational Electromagnetic Society, ACES Society, March 1999- March 2000. (PI)
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