Jay W. McDaniel, Ph.D.

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University of Oklahoma
School of Electrical & Computer Engineering
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Advanced Radar Research Center
Radar Innovations Laboratory
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Education

Ph.D., August 2018
The University of Oklahoma, Electrical & Computer Engineering
Dissertation title:
"Self-Packaged and Low-Loss Suspended Integrated Strip-line Filters for Next Gen. Systems"

M.Sc., May 2015
The University of Kansas, Electrical Engineering & Computer Science
Thesis title:
"Design, Integration, and Miniaturization of a Multichannel Ultra-Wideband Snow Radar Receiver and Passive Microwave Components"

B.Sc., May 2013
Kansas State University, Electrical & Computer Engineering

Experience

Assistant Professor, August 2018 – Present
The University of Oklahoma, School of Electrical & Computer Engineering, Norman, OK

Primary Instructor, August 2017 – December 2017
The University of Oklahoma, School of Electrical & Computer Engineering, Norman, OK

Graduate Research Assistant, July 2016 – August 2018
The University of Oklahoma, Advanced Radar Research Center (ARRC), Norman, OK

Radar Engineer, May 2015 – July 2016
Kansas City National Security Campus (Honeywell FM&T), Kansas City, MO

Graduate Research Assistant, July 2013 – May 2015
The University of Kansas, Center for Remote Sensing of Ice Sheets (CReSIS), Lawrence, KS

Undergraduate Physics Laboratory Coordinator, August 2012 – May 2013
Kansas State University, Physics Department, Manhattan, KS

Primary Physics Laboratory Instructor, August 2011 – May 2012
Kansas State University, Physics Department, Manhattan, KS

Secondary Physics Laboratory Instructor, January 2011 – May 2011
Kansas State University, Physics Department, Manhattan, KS

Research Interests

Electromagnetic field theory; electromagentic modeling and simulations; RF and microwave component design and fabrication; radar system design for defense, commercial, and remote sensing applications; all-digital phased array radars; and multi-IMU fusion techniques for PNT.

Mentoring Experience

OK-LSAMP Mentor — Fall 2020 – Present
The University of Oklahoma, Norman, OK

Project Threshold Mentor — Fall 2018 – Present
The University of Oklahoma, Norman, OK

Graduate Mentor — July 2016 – August 2018
The University of Oklahoma, Norman, OK

Research Experience for Undergraduates (REU) Mentor — May 2014 – August 2014
The University of Kansas, Lawrence, KS

Graduate Mentor — July 2013 – May 2015
The University of Kansas, Lawrence, KS

Professional Memberships

(* = current membership)

Institute of Electrical and Electronics Engineers*
Member, 2018 – Present
Student Member, 2011 – 2015, 2016 – 2018

Member of IEEE Microwave Theory and Techniques Society*

Member of IEEE Electronics Packaging Society*

Member of IEEE Instrumentation and Measurement Society*

Member of International Microelectronics and Packaging Society*

Member of IEEE Aerospace and Electronic Systems Society*

Member of IEEE Geoscience and Remote Sensing Society

Tau Beta Pi, engineering honor society*

Eta Kappa Nu, electrical engineering honor society*

Professional Service

Session Chair - Emerging Planar Filters: from L-band to mm-Waves
2023 IEEE International Microwave Symposium — Summer 2023

Graduate Fellowship Award Committee Chair
IEEE Instrumentation and Measurement Society — Spring 2023 & 2024

Associate Editor
IEEE Transactions on Radar Systems Fall 2022 – Present

Technical Paper Review Committee
2023 IEEE International Microwave Symposium Fall 2022 / Spring 2023

Paper Competition Chair
2023 IEEE Wireless and Microwave Technology Conference Spring 2023

Session Chair - High-Density Integration of Transmission Line Structures: We1A
2022 IEEE International Microwave Symposium Summer 2022

Technical Paper Review Committee
2022 IEEE International Microwave Symposium Fall 2021 / Spring 2022

Inaugural MTT-24 Technical Committee Affiliate Member
Microwave/mm-wave Radar, Sensing, and Array Systems
IEEE Microwave Theory and Techniques Society Summer 2021

Session 8 Co-Chair - Radar and Sensing
2021 IEEE Texas Symposium on Wireless & Microwave Circuits and Systems Spring 2021

Inaugural MTT-4 Technical Committee Affiliate Member
Microwave Passive Components and Transmission Line Structures
IEEE Microwave Theory and Techniques Society Spring 2021

Graduate Fellowship Award Committee Chair
IEEE Instrumentation and Measurement Society Spring 2021 & 2022

Technical Program Committee
2020 IEEE Wireless and Microwave Technology Conference Spring 2020

Graduate Fellowship Award Committee Member
IEEE Instrumentation and Measurement Society Spring 2019 & 2020

Special Session Chair - UWB Antenna Technologies for Radar
2019 IEEE Antennas and Propagation Conference Spring 2019

Technical Program Committee
2019 IEEE Antennas and Propagation Symposium Spring 2019

Session Chair - Passive Components: M1A
2019 IEEE Wireless and Microwave Technology Conference Spring 2019

Peer Reviewer:

IEEE Transactions on Microwave Theory and Techniques (TMTT)

IEEE Transactions on Components, Packaging, and Manufacturing Technology (TCPMT)

IEEE Transactions on Aerospace and Electronic Systems (TAES)

IEEE Microwave and Wireless Component Letters (MWCL)

IET Electronic Letters

IEEE Radar Conference

IEEE Wireless and Microwave Technology Conference (WAMICON)

IEEE International Microwave Symposium

School Service

Undergraduate Research Opportunities Program
Mentor Fall 2022 – Spring 2023
Mentored ECE undergraduate student Alex Adkisson for his project titled "Design and Development of a Low Cost, Size, Weight, and Power Inertial Navigation System".

Undergraduate Research Opportunities Program
Mentor Fall 2021 – Spring 2022
Mentored ECE undergraduate student Andrew Gonzales for his project titled "3D Synthetic Aperture Radar Demonstrator using Vehicular Radar Evaluation Modules".

Undergraduate Research Opportunities Program
Mentor Fall 202 – Spring 2021
Mentored ECE undergraduate student Nicole Palmer for her project titled "Design of a Synthetic Aperture Radar Demonstrator using Vehicular Radar Evaluation Modules".

ECE Lab Fees Committee 3 Member Spring 2019 – Spring 2020
I am currently working with a team to identify lab usage and management as well as identifying lab fees currently charged to students or additional fees needing charged.

ECE Tenure Track Faculty Resources Committee 5 Member Spring 2019 – Spring 2020
I am currently working with another professor to compile a repository of useful documents and templates for tenure track faculty.

Undergraduate Research Opportunities Program
Mentor Spring 2019
Mentored ECE undergraduate student Russell Kenney for his project titled "Development of a Compact Synthetic Aperture Radar for Drone Applications".

IEEE Student Paper Competition
Advisor Fall 2018 – Spring 2019
Advised ECE undergraduate student Russell Kenney for his paper titled "Clock Incoherence in All-Digital Radar Back-Ends". Russell took first place at the OKC local and region 5 north area student paper competitions and took second place at the IEEE Region 5 competition.

ECE Fields II Lab Development and Funding Acquisition Fall 2018 – Present
I am currently leading and effort on the development of a Student Microwave Laboratory at the University of Oklahoma to provide experiential learning opportunities to electrical and computer engineering students in the fields of applied electromagnetics, RF/microwave engineering, and radar. Fund-raised over $200k ($140k from Tektronix) to purchase the microwave equipment and necessary components for the lab space.

A University of Oklahoma case study was featured on the Tektronix website here: `https://www.tek.com/solutions/education/case-studies/university-of-oklahoma-case-study`

College Service

Gallogly College of Engineering Graduate Recruitment Event Fall 2022

I served as the host for this event which provided prospective graduate students with information about the Gallogly College of Engineering at the University fo Oklahoma. 52 students attended the event and got to hear from faculty, students, and attended break out sessions for additional information within their respective departments of interest.

OK-LSAMP Mentor Fall 2020 – Present

I am currently serving as a faculty mentor for the Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) at the University of Oklahoma, where underrepresented minorities are provided mentor-ship on undergraduate research experiences, graduate school preparation, and international experiences.

Students for the Exploration and Development of Space (SEDS) Co-Chair Fall 2020 – Present

Currently working with co-chair Dr. Justin Metcalf and OU students to build the SEDS OU program, create a constitution and by-laws, and provide connections with space companies for employment and full-time career opportunities. SEDS OU was named the "Best New Chapter of the Year" at the SpaceVision 2020 conference.

HERE advisor Spring 2019

I am a faculty participant of the Honor's Engineering Research Experience (HERE) program. The HERE program facilitates the match process for undergraduates with faculty advisors to encourage undergraduate research.

Project Threshold Mentor Fall 2018 – Present

I am currently serving as a faculty mentor for the Project Threshold program at the University of Oklahoma, where first generation and students from economically disadvantaged backgrounds can receive special academic and professional mentoring.

University Service

ARRC Strategic Planning Committee Member Fall 2022

I am serving as a committee member on the strategic planning committee for the Advanced Radar Research Center. The outcome of this 5-year strategic plan is to revitalize our mission, vision, and values as well as put forth high-impact goals, objectives, and actions.

ARRC Recruitment Co-Chair Fall 2018 – Present

I am serving as co-chair for the recruitment committee at the Advanced Radar Research Center (ARRC) along with Dr. Jessica Ruyle. This includes prioritizing university relations, student travel and tours, and alignment of student interest with ideal faculty.

Additional Activities

IEEE Microwave Theory and Techniques Society, The University of Oklahoma, Fall 2016 – Present

Student Ambassador, Advanced Radar Research Center, Fall 2016 – Fall 2018

Student STEM Representative, Higher Education Day at Oklahoma Capitol, Spring 2016

Student Ambassador, Center for Remote Sensing of Ice Sheets, Fall 2013 – Spring 2015

HKN Beta Kappa Chapter Member, Kansas State University, Fall 2011 – Spring 2013

Tau Beta Pi Kansas Gamma Chapter Member, Kansas State University, Fall 2011 – Spring 2013

Engineering Ambassador Executive Member, Kansas State University, Fall 2011 – Spring 2013

Engineering Ambassadors Selections Chair, Kansas State University, Fall 2011 – Spring 2012

Honors and Awards

Recipient of the prestigious NSF CAREER Award, Fall 2022

Appointed associate editor for the inaugural IEEE Transactions on Radar Systems, Fall 2022

Unanimously Elected Inaugural Affiliate Member of the MTT-24 Technical Committee, Summer 2021

Award for Excellence in Research Grants - University of Oklahoma, Spring 2021

Unanimously Elected Inaugural Affiliate Member of the MTT-4 Technical Committee, Spring 2021

Tektronix - Featured Case Study Article for Experiential Learning EM Lab Development, Fall 2020

SEDS OU - Best New Chapter of the Year Award, Fall 2020.

Top 1% Most Download Article - Wiley Microwave and Optical Technology Letters, Spring 2020

IEEE WAMICON 2019 Young Professionals Best Paper Award Finalist, Spring 2019

NASA Travel Grant & Invited Lecture, Marshall Space Flight Center, Huntsville, AL, Spring 2019

NASA Travel Grant & Invited Lecture, Goddard Space Flight Center, Greenbelt, MD, Spring 2019

Outstanding Graduate Student Award in Research, The University of Oklahoma, May 2018

International Microwave Symposium PhD Student Sponsorship Initiative, IEEE, April 2018

Provost's Graduate Teaching Assistant Award, The University of Oklahoma, April 2018

Provost's Certificate of Distinction in Teaching Award, The University of Oklahoma, March 2018

Advanced Radar Research Center Journal Paper Award, The University of Oklahoma, February 2018

Advanced Radar Research Center Travel Award, The University of Oklahoma, February 2018

Outstanding Paper Award, Intern. Symp. in Earth-Science Challenges Conf., October 2017

Intern. Symp. on Earth-Science Challenges Fellowship, The University of Oklahoma, August 2017

Dolese Teaching Fellowship, The University of Oklahoma, August 2017

Electrical and Computer Engineering Travel Grant, The University of Oklahoma, March 2017

Best Poster Presentation and 1st Place Prize, The University of Oklahoma, February 2017

Electrical and Computer Engineering Travel Award, The University of Kansas, May 2015

Prestigious Richard K. Moore Best Masters Thesis Award, The University of Kansas, May 2015

Highest Honors Graduation for Outstanding Masters Thesis, The University of Kansas, May 2015

NASA-Kansas Space Grant Consortium Fellowship, The University of Kansas, May 2014

Knights of St Patrick's Award, Kansas State University, May 2013

Engineer Ambassador Executive of the Year Award, Kansas State University, May 2012

Certifications

ITAR Relative to Research Training, The University of Oklahoma, Fall 2016

Six Sigma Green Belt, Kansas City National Security Campus, Spring 2016

Solder Inspection, Kansas City National Security Campus, Spring 2016

Sponsored Research Projects

Current:

Title: CAREER: UAV-Based Radar Suite for Bulk-Snow Characterization and Risk Management
Sponsor: National Science Foundation (NSF)
PIs: Jay McDaniel
Award Amount: $625,218 **Period of Performance:** 08/01/2023 – 07/31/2028
Role: PI **Person-Months/Year:** 0.5

Title: Radar Consortium FY23: The Future of Airborne Radar
Sponsor: Kansas City National Security Campus (KCNSC)
PIs: Jay McDaniel, Hjalti Sigmarsson, Mark Yeary, and Nathan Goodman
Award Amount: $332,000 **Period of Performance:** 12/11/2022 – 12/31/2023
Role: PI **Person-Months/Year:** 1.0

Title: Fusion-Based State Estimation for Localization and Synchronization of Distributed Radar Sensor Networks
Sponsor: Office of Naval Research (ONR)
PIs: Jay McDaniel, Justin Metcalf, and Russell Kenney
Award Amount: $725,147 **Period of Performance:** 08/01/2022 – 07/31/2025
Role: PI **Person-Months/Year:** 1.0

Title: Advanced Comms & RF Systems
Sponsor: DEFENSEWERX
PIs: Jessica Ruyle, Jay McDaniel, and Justin Metcalf
Award Amount: $250,000 **Period of Performance:** 07/20/2022 – 07/24/2023
Role: Co-PI **Person-Months/Year:** 0.5

Title: Near-field Scanner and Projects for Advanced Digital Radar (ASTROS)
Sponsor: Office of Naval Research (ONR)
PIs: Nathan Goodman, Jessica Ruyle, Hjalti Sigmarsson, Mark Yeary, Jorge Salazar-Cerreno, Caleb

Fulton, Robert Palmer, Jay McDaniel, and Justin Metcalf
Award Amount: $7,405,000 **Period of Performance:** 10/01/2020 – 06/30/2023
Role: Co-PI **Person-Months/Year:** 0.5

Pending:

Title: Biological Instrument for Robust Detection of Avians using Radar (BIRDAR)
Sponsor: United States Geological Survey (USGS)
PIs: Justin Metcalf, Jessica Ruyle, and Jay McDaniel
Award Amount: $430,000 **Period of Performance:** 03/01/2023 – 02/28/2026
Role: Co-PI **Person-Months/Year:** 0.5

Title: Multi-sensor Fusion Framework for Enhanced Relative Navigation Accuracy in Cooperative Multi-Agent Networks
Sponsor: National Aeronautics and Space Administration (NASA)
PIs: Jay McDaniel and Jon Knowles
Award Amount: $251,837 **Period of Performance:** 08/01/2023 – 07/31/2026
Role: PI **Person-Months/Year:** 0.5

Past External Funding:

Title: The Future of Airborne Radar (FY22): Synthetic Aperture Radar Imaging, Frequency-Agile Electronics, Distributed Radar Sensor Networks, and IMU Fusion for Position, Navigation, and Timing
Sponsor: Kansas City National Security Campus (KCNSC)
PIs: Jay McDaniel, Hjalti Sigmarsson, Mark Yeary, and Nathan Goodman
Award Amount: $320,000 **Period of Performance:** 12/15/2021 – 12/14/2022
Role: PI **Person-Months/Year:** 0.5

Title: Numerical Modeling for Waveforms
Sponsor: DEFENSEWERX
PIs: Justin Metcalf and Jay McDaniel
Award Amount: $100,000 **Period of Performance:** 02/17/2022 – 10/31/2022
Role: Co-PI **Person-Months/Year:** 0.5

Title: OU Biotechnology Analysis and Collaboration
Sponsor: DEFENSEWERX
PIs: Justin Metcalf and Jay McDaniel
Award Amount: $25,000 **Period of Performance:** 01/27/2022 – 10/31/2022
Role: Co-PI **Person-Months/Year:** 0.5

Title: Revolutionary Radar - Miniaturized Airborne SAR Emulator
Sponsor: Sandia National Laboratories
PIs: Jay McDaniel, Hjalti Sigmarsson, Nathan Goodman, and Russell Kenney
Award Amount: $213,959 **Period of Performance:** 12/03/2020 – 09/30/2022
Role: PI **Person-Months/Year:** 0.5

Title: FY22: An Investigation of Through-Barrier Communications
Sponsor: Sandia National Laboratories
PIs: Jay McDaniel
Award Amount: $109,460 **Period of Performance:** 10/01/2021 – 09/30/2022
Role: PI **Person-Months/Year:** 0.5

Title: Radar Consortium FY21: Next Generation SAR, Frequency-Agile Electronics, and Fusion Techniques for Position, Navigation, and Timing
Sponsor: Kansas City National Security Campus
PIs: Jay McDaniel, Hjalti Sigmarsson, Mark Yeary, Nathan Goodman, and Caleb Fulton
Award Amount: $390,000 **Period of Performance:** 12/11/2020 – 12/31/2021
Role: PI **Person-Months/Year:** 0.5

Title: Radar Analysis and Novel Antenna Research
Sponsor: U.S. Federal Government
PIs: Jay McDaniel, Jessica Ruyle, Justin Metcalf, and Mark Yeary
Award Amount: $903,264 **Period of Performance:** 10/15/2019 – 08/28/2021
Role: PI **Person-Months/Year:** 0.5

Title: Radar Consortium FY20: Next Generation SAR Architectures and Integrated RF Technologies
Sponsor: Kansas City National Security Campus
PIs: Jay McDaniel, Hjalti Sigmarsson, Mark Yeary, Nathan Goodman, and Caleb Fulton
Award Amount: $290,000 **Period of Performance:** 12/11/2019 – 12/31/2020
Role: PI **Person-Months/Year:** 1.0

Title: Miniaturized SAR Hardware for Airborne Applications
Sponsor: Sandia National Laboratories
PIs: Jay McDaniel, Hjalti Sigmarsson, and Nathan Goodman
Award Amount: $110,719 **Period of Performance:** 04/15/2020 – 09/30/2020
Role: PI **Person-Months/Year:** 0.5

Title: Fine Resolution Position Estimation Using Multi-IMU Techniques
Sponsor: Sandia National Laboratories
PIs: Jay McDaniel
Award Amount: $30,000 **Period of Performance:** 10/15/2019 – 09/30/2020
Role: PI **Person-Months/Year:** 0.5

Title: Switched Octave Filter Bank
Sponsor: Parry Labs
PIs: Jay McDaniel, Hjalti Sigmarsson, and Shahrokh Saeedi
Award Amount: $205,271 **Period of Performance:** 05/13/2019 – 11/30/2019
Role: PI **Person-Months/Year:** 1.0

Title: Radar 2021 Consortium Grant Phase IV

Sponsor: Kansas City National Security Campus
PIs: Jay McDaniel, Hjalti Sigmarsson, Mark Yeary, Nathan Goodman, and Caleb Fulton
Award Amount: $180,700 **Period of Performance:** 09/15/2018 – 09/14/2019
Role: PI **Person-Months/Year:** 1.0

Title: Radar 2021 Consortium Grant Phase III
Sponsor: Kansas City National Security Campus
PIs: Hjalti Sigmarsson, Jay McDaniel, Mark Yeary, Nathan Goodman, and Caleb Fulton
Award Amount: $165,000 **Period of Performance:** 09/15/2017 – 09/14/2018
Role: Co-PI **Person-Months/Year:** 0.0

Title: Radar 2021 Consortium Grant Phase II
Sponsor: Kansas City National Security Campus
PIs: Hjalti Sigmarsson, Jay McDaniel, Mark Yeary, Nathan Goodman, and Caleb Fulton
Award Amount: $150,000 **Period of Performance:** 09/15/2016 – 09/14/2017
Role: Co-PI **Person-Months/Year:** 0.0

Title: Radar 2021 Consortium Grant Phase I
Sponsor: Kansas City National Security Campus
PIs: Jay McDaniel, Sean Garrison, Ambrose Wolf
Award Amount: $1,200,000 **Period of Performance:** 09/15/2015 – 09/14/2016
Role: PI **Person-Months/Year:** 0.0

Thesis

[1] **J. W. McDaniel**, "Design, Integration, and Miniaturization of a Multichannel Ultra-Wideband Snow Radar Receiver and Passive Microwave Components," *Masters Thesis*. Retrieved from https://www.cresis.ku.edu/sites/default/files/biblio/TechRpt161.pdf, 2015.

Dissertation

[1] **J. W. McDaniel**, "Self-Packaged and Low-loss Suspended Integrated Stripline Filters for Next Generation Systems," *PhD Dissertation*. Retrieved from https://shareok.org/handle/11244/301298, 2018.

Publications and Presentations

Journal Papers

R. H. Kenney, R. E. Jarvis, H. H. Sigmarsson, and **J. W. McDaniel**, "Efficient Time-Domain Tuning of Microwave Filters Using Concepts from the Unscented Kalman Filter," *IEEE Trans. on Microwave Theory and Technologies*, 2023. (preparing resubmission).

B. Sun, M. B. Yeary, H. H. Sigmarsson, and **J. W. McDaniel**, "Reduced Navigation Error Using a Multi-sensor Fusion Technique Based on the Particle Filter and Sequential Importance Resampling," *IEEE Trans. on Instrumentation and Measurement*, 2023. (preparing resubmission).

J. M. Knowles, H. H. Sigmarsson, and **J. W. McDaniel**, "Generalized Theory and Realization of Continuously Loss-Programmable Bandpass Filtering Attenuators," *IEEE Trans. on Microwave Theory and Technologies*, 2023. (preparing resubmission).

R. H. Kenney and **J. W. McDaniel**, "Cooperative Navigation of Mobile Radar Sensors Using Time-of-Arrival Measurements and the Unscented Kalman Filter," *IEEE Trans. on Instrumentation and Measurement*, 2023. (preparing resubmission).

R. E. Jarvis, J. G. Metcalf, and **J. W. McDaniel**, "The Impact of Electromagnetic Radiation Regulations on Biomedical Imaging Radar," *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology (J-ERM)*, 2023. (under review).

E. W. Wells, H. H. Sigmarsson, and **J. W. McDaniel**, "A Surface-Mountable Suspended Integrated Strip-Line Technology Using Castellated Vias," *IEEE Trans. on Components, Packaging, and Manufacturing Technology*, 2023. (under review)

K. J. Kanaly, S. F. Bass, R. E. Jarvis, **J. W. McDaniel**, K. C. Kerby-Patel, and J. E. Ruyle, "Calibrated Cross-Frequency Backscatter Measurement of Antennas with Time-Varying Loads," *IEEE Antennas and Wireless Propagation Letters*, Dec. 2022. (accepted)

C. Silva, A. A. Wael, **J. W. McDaniel**, and N. Pohl, "TC-24 Microwave/mm-Wave Radar, Sensing, and Array Systems Committee–2022," *IEEE Microwave Magazine*, vol. 23, no. 11, pp. 126-127, Oct. 2022. (accepted)

R. E. Jarvis, J. G. Metcalf, and **J. W. McDaniel**, "Adaptive Pulse Compression and Its Application in Radar Cross Section Measurements," *IEEE Trans. on Instrumentation and Measurement*, vol. 71, pp. 1-8, Oct. 2022. (accepted)

R. E. Jarvis and **J. W. McDaniel**, "Methodology and Techniques for Highly-Precise Radar Cross Section Measurements at W-Band," *IEEE Access*, vol. 10, pp. 86744-86749, Aug. 2022.

R. H. Kenney, J. L. Salazar-Cerreno, and **J. W. McDaniel**, "Two-Dimensional Beam Pattern Synthesis for Phased Arrays with Arbitrary Element Geometry via Magnitude Least Squares Optimization," *IEEE Journal of Microwaves*, vol. 2, no. 2, pp. 337-346, Apr. 2022.

R. E. Jarvis, J. G. Metcalf, J. E. Ruyle, and **J. W. McDaniel**, "Wideband Measurement Techniques for Extracting Accurate RCS of Single and Distributed Targets," *IEEE Trans. on Instrumentation and Measurement*, vol. 71, pp. 1-12, Feb. 2022.

B. Sun, R. H. Kenney, M. B. Yeary, H. H. Sigmarsson, and **J. W. McDaniel**, "An Up-Sampled Particle Filter Fusion Technique and Its Application in Synthetic Aperture Radar Imaging," *IEEE Journal of Microwaves*, vol. 2, no. 1, pp. 108-122, Nov. 2021.

R. E. Jarvis, R. G. Mattingly, and **J. W. McDaniel**, "UHF-Band Radar Cross Section Measurements Using Single Antenna Reflection Coefficient Results," *IEEE Trans. on Instrumentation and Measurement*, vol. 70, pp. 1-4, Aug. 2021.

R. H. Kenney, C. Walker, H. H. Sigmarsson, and **J. W. McDaniel**, "A Varactor-Based Tunable Combline Bandpass Filter Using Suspended Integrated Stripline (SISL)," *IEEE Journal on Miniaturization for Air and Space Systems*, vol. 2, no. 3, pp. 112-116, Oct. 2020.

C. Walker, H. H. Sigmarsson, and **J. W. McDaniel**, "Design of a Wideband Surface Mountable Suspended Integrated Strip-line Technology," *IEEE Access*, vol. 8, pp. 188825-188832, Oct. 2020.

F. R. Morales, C. Leuschen, J. Paden, C. Carabajal, A. Wolf, and S. Garrison, and **J. W. McDaniel**, "An Improved UWB Microwave Radar for Very Long-Range Measurements of Snow Cover," *IEEE Transactions on Instrumentation and Measurement*, vol. 69, no. 10, pp. 7761-7772, Oct. 2020.

F. R. Morales, **J. W. McDaniel**, C. Carabajal, C. Leuschen, A. Wolf, and S. Garrison, "Prototyping an UWB Airborne Radar for Snow Probing Using Modular Building Blocks," *Microwave Journal*, vol. 62, no. 9, pp. 78-90, Sept. 2019.

J. W. McDaniel and H. H. Sigmarsson, "Low Loss and Ultra-wide Passband Highpass Filter Using Suspended Integrated Strip-line Technology," *IET Electronic Letters.*, vol. 55, no. 14, pp. 803-805, July 2019.

J. W. McDaniel, J. B. Yan, and S. Gogineni, "Super-wideband Cascaded Bandpass Filter Using Suspended Substrate Stripline Technology," *Wiley Microwave and Optical Technology Letters*, vol. 61, no. 6, pp. 1491-1499, Apr. 2019.

J. W. McDaniel, S. Saeedi, M. B. Yeary, and H. H. Sigmarsson, "A Low Loss Fully-Board Integrated Low Pass Filter Using Suspended Integrated Strip-line Technology," *IEEE Trans. on Compon. Packag. Manuf. Technol.*, vol. 8, no. 11, pp. 1948-1955, Nov. 2018.

J. W. McDaniel, M. B. Yeary, H. H. Sigmarsson, J. A. Wolf, S. Garrison, K. Byers, and M. Clewell, "Integration and Miniaturization of a Ka-Band Stepped Frequency Radar for UAV Applications," *Advancing Microelectronics*, vol. 45, no. 2, pp. 6-10, Mar. 2018. (invited).

J. B. Yan, **J. W. McDaniel**, D. Gomez, Y. Li, and S. Gogineni, "Ultra-Wideband FMCW Radar for Airborne Measurements of Snow Over Sea-ice and Land," *IEEE Trans. Geosci. Remote Sens.*, vol. 55, no. 2, pp. 834-843, Feb. 2017.

J. W. McDaniel, J. B. Yan, and S. Gogineni, "Design, Integration, and Miniaturization of a Multichannel Ultrawide-band (UWB) Snow Radar Receiver for Airborne Remote Sensing," *Microwave Journal*. vol. 59, no. 4, pp. 20-28, Apr. 2016.

Conference Papers
Full Paper:

J. M. Knowles, H. H. Sigmarsson, and **J. W. McDaniel**, "Higher-Order Filtenuator Generalization and Filter Shape Optimization," *in Proceedings of 2023 IEEE Wireless and Microwave Technology Conference (WAMICON)*, 2023. (ready fo submission)

B. D. Carlton, **J. W. McDaniel**, and J. G. Metcalf, "Optimizing the Tradeoff Between Radar Waveform Resolution and Sidelobe Level Using a Dolph-Chebyshev Approach," *in Proceedings of 2023 IEEE Radar Conference (RadarConf)*, San Antonio, TX, 2023. (accepted)

E. W. Wells, H. H. Sigmarsson, and **J. W. McDaniel**, "Design of a Frequency-Agile and Surface Mountable Suspended Integrated Strip-Line Bandpass Filter Using Castellated Vias," *in Proceedings of 2022 IEEE Wireless and Microwave Technology Conference (WAMICON)*, Clearwater Beach, FL, 2022.

J. M. Knowles, H. H. Sigmarsson, and **J. W. McDaniel**, "Design of a Symmetric Lumped-Element Bandpass Filtering Attenuator (Filtenuator)," *in Proceedings of 2022 IEEE Wireless and Microwave Technology Conference (WAMICON)*, Clearwater Beach, FL, 2022.

C. Fulton, N. Goodman, M. Yeary, B. Palmer, H. H. Sigmarsson, and **J. W. McDaniel**, "Preliminary System Integration and Performance Features for an S-Band, Dual-Polarized, All-Digital Phased Array Radar," *in Proceedings of 2022 IEEE International Microwave Symposium (IMS)*, Denver, CO, 2022.

J. L. Salazar, D. Schvartzman, D. Bodine, R. Palmer, **J. W. McDaniel**, M. Yeary, N. Aboserwal, B. Cheong, and T. Yu, "A Dual-Doppler Ka-Band Mobile Radar Architecture with Rapid-Scanning Volumetric Imaging for Earth Systems Science," *in Proceedings of 2022 IEEE Radar Conference (RadarConf)*, Times Square, New York, 2022.

R. E. Jarvis, J. G. Metcalf, J. E. Ruyle, and **J. W. McDaniel**, "High Temporal Resolution Time-Gating for Wideband Radar Cross Section Measurements," *in Proceedings of European Microwave Week*, London, UK, 2021.

R. E. Jarvis, J. G. Metcalf, J. E. Ruyle, and **J. W. McDaniel**, "Measurement and Signal Processing Techniques for Extracting Highly Accurate and Wideband RCS," *in Proceedings of 2021 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Glasglow, Scotland, May 2021.

R. H. Kenney, K. Konyalioglu, M. B. Yeary, H. H. Sigmarsson, and **J. W. McDaniel**, "An All-COTS High Sampling Frequency Pulse-Doppler Imaging Radar," *in Proceedings of 2020 IEEE Radar Conference (RadarConf)*, Florence, Italy, Sept. 2020.

B. Sun, M. B. Yeary, H. H. Sigmarsson, and **J. W. McDaniel**, "A New Multi-Particle Filter Sensor Fusion Technique Based on Sequential Importance Re-sampling," *in Proceedings of 2020 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Dubrovnik, HR, May 2020.

J. G. Metcalf, **J. W. McDaniel**, J. E. Ruyle, N. A. Goodman, and J. C. Borders, "An Examination of Frequency-Modulated Continuous Wave Radar for Biomedical Imaging," *in Proceedings of 2020 IEEE Radar Conference (RadarConf)*, Washington, D.C., Apr. 2020.

A. M. Palmer, N. L. Bohannon, **J. W. McDaniel**, K. C. Kerby-Patel, and J. E. Ruyle "Investigation of Varactor Loaded Slot Antenna for Parametric Mixing," *in Proceedings of 2019 Antenna Applications Symposium*, Allerton Park, Monticello, IL, 2019.

B. Sun, M. B. Yeary, H. H. Sigmarsson, and **J. W. McDaniel**, "Fine Resolution Estimation Using Kalman Filtering," *in Proceedings of 2019 IEEE International Instrumentation and Measurement Technology Conference (I2MTC)*, Auckland, NZ, May 2019.

J. W. McDaniel, "Simulation Guidelines for Wideband Ground Backed Coplanar Waveguide Transmission Lines," *in Proceedings of 2019 IEEE Wireless and Microwave Technology Conference (WAMICON)*, Cocoa Beach, FL, Apr. 2019.

R. H. Kenney, M. B. Yeary, H. H. Sigmarsson, and **J. W. McDaniel**, "Clock-Incoherence in All-Digital Radar Back-Ends," *in Proceedings of 2019 Government Microcircuit Applications and Critical Technology Conference (GOMACTech)*, Albuquerque, NM, Mar. 2019.

J. W. McDaniel, S. Saeedi, M. B. Yeary, and H. H. Sigmarsson, "A Ka-band Suspended Integrated Strip-line Transition and Low Pass Filter Design," *in Proceedings of 2018 Government Microcircuit Applications and Critical Technology Conference (GOMACTech)*, Miami, FL, Mar. 2018.

J. W. McDaniel, H. H. Sigmarsson, M. B. Yeary, F. R. Morales, C. Leuschen, A. Feathers, "Ultrawideband Frequency Modulated Continuous Wave Radar and Ku-Band Synthetic Aperture Radar for Airborne Imaging and Snow Characterization," *in Proceedings of 2017 International Symposium on Earth-Science Challenges (ISEC)*, Uji, Kyoto, Japan, Oct. 2017.

F. R. Morales, C. Leuschen, A. Feathers, **J. W. McDaniel**, J. A. Wolf, and S. Garrison, "Packaging and Miniaturization of a 2-18 GHz UWB Radar for Measurements of Snow and Ice: Initial Results," *in Proceedings of 2017 International Microelectronics Assembly and Packaging Conference (IMAPS)*, Raleigh, NC, Oct. 2017.

J. W. McDaniel, M. B. Yeary, H. H. Sigmarsson, J. A. Wolf, S. Garrison, K. Byers, and M. Clewell, "Integration and Miniaturization of a Ka-Band Stepped Frequency Radar for UAV Applications," *in Proceedings of 2017 International Microelectronics Assembly and Packaging Conference (IMAPS)*, Raleigh, NC, Oct. 2017.

J. W. McDaniel, S. Saeedi, M. B. Yeary, and H. H. Sigmarsson, "Suspended Integrated Stripline Transition Design for Highly Integrated Radar Systems," *in Proceedings of 2017 Government Microcircuit Applications and Critical Technology Conference (GOMACTech)*, Reno, NV, Mar. 2017.

J. B. Yan, **J. W. McDaniel**, D. Gomez, Y. Li, and S. Gogineni, "Multi-channel Ultra-Wideband Airborne Radar for Snow Back-scattering Measurements," *in Proceedings of 2016 IEEE International Symposium on Phased Array Systems and Technology (PAST)*, Waltham, MA, Oct. 2016.

J. B. Yan, **J. W. McDaniel**, D. Gomez, Y. Li, C. Leuschen, S. Gogineni, and J. Brozena, "Ultra-wideband 2-18 GHz FMCW Radar with 1.4-cm Range Resolution for Airborne Measurement of Snow," *Snow Thickness on Sea Ice Working Group (STOSIWIG)*, Irvine, CA, 2015. (invited).

Patents:

J. W. McDaniel, M. B. Yeary, H. H. Sigmarsson, and B. Sun, "Multi-Inertial Measurement Unit Fusion for Fine Resolution Position Estimation," U.S. Patent 11,435,485, issued Sept. 6, 2022.

J. W. McDaniel, J. G. Metcalf, and R. E. Jarvis, "Application of Adaptive Pulse Compression (APC) in Cluttered Radar Cross-Section (RCS) Measurements," U.S. Patent and Trademark Office, Provisional Patent 63/379,553, submitted Oct. 14, 2022.

Case Study:

J. W. McDaniel, "Inspiring the Next Generation of RF Engineers," *Featured Tektronix Case Study*, Tektronix, Fall 2020.

Abstracts:

J. Salazar-Cerreno, R.D. Palmer, D. Bodine, **J.W. McDaniel**, C.R. Homeyer, et. al, "Dual-Doppler 3D Mobile Ka-band Rapid-Scanning Volume Imaging Radar for Earth System Science," *102nd American Meteorological Society Annual Meeting*, Houston, TX, Jan. 2022.

R.D. Palmer, **J. W. McDaniel**, et. al, "Transportable Phased Array Radar: Meeting Weather Community Needs," *102nd American Meteorological Society Annual Meeting*, Houston, TX, Jan. 2022.

R.D. Palmer, **J. W. McDaniel**, et. al, "The Transportable Phased Array Radar: Meeting Community Imperatives in Weather Science," *AGU Fall Meeting*, New Orleans, LA, Dec. 2021.

J. Salazar, D. J. Bodine, **J. W. McDaniel**, C. R. Homeyer, R. D. Palmer, et. al, "A New Ka-Band Image PAR Concept for 4D-Volume Rapid Scan for Cloud Observations," *100th American Meteorological Society Annual Meeting*, Boston, MA, Jan. 2020.

D. J. Bodine, J. Salazar, **J. W. McDaniel**, C. R. Homeyer, R. D. Palmer, et. al, "Next-Generation Cloud Radars: How Do We Obtain Rapid Three-Dimensional Observation of Clouds?," *100th American Meteorological Society Annual Meeting*, Boston, MA, Jan. 2020.

D. J. Bodine, J. Salazar, **J. W. McDaniel**, C. R. Homeyer, R. D. Palmer, et. al, "Next-generation cloud radars: Applications of rapid-scan cloud radars for three-dimensional mapping of clouds," *AGU Fall Meeting*, San Francisco, CA, Dec. 2019.

P. E. Kirtsetter, R. D. Palmer, D. J. Bodine, C. R. Homeyer, T. Y. Yu, **J. W. McDaniel**, et. al, "Stratospheric Radar Observations of Convection and Precipitation," *AGU Fall Meeting*, San Francisco, CA, Dec. 2019.

A. M. Palmer, **J. W. McDaniel**, N. L. Bohannon, and J. E. Ruyle "Investigation of Varactor Loaded Slot Antenna for Parametric Mixing," *CAPCON XIV*, VA, May 2019.

Presentations

J. W. McDaniel, "Airborne Synthetic Aperture Radar: Low C-SWaP Position, Navigation and Timing Solutions, OU System Flight Tests, mmWave SAR, and Distributed Coherent Radar Concepts," *Invited: Jet Propulsion Laboratories Radar Science and Engineering Lecture*, JPL, Nov. 2022.

J. W. McDaniel, "The Future of Airborne Radar: High Performance and Low-SWaP Components and Systems for Advanced Radar Applications," *Invited: NNSA Cross-Consortia Research Presentation*, KCNSC, July 2022.

J. W. McDaniel, "Novel Multi-INS Fusion for Fine Resolution Position Estimation," *Invited Seminar*, KCNSC, July 2019.

J. W. McDaniel, "Overview of OU ARRC Radar Program and Next Generation RF/Microwave Component and System Designs for Airborne and Spaceborne Applications," *Invited Seminar, NASA Marshall Space Flight Center*, NASA, April 2019.

J. W. McDaniel, "Novel Multi-INS Fusion for Fine Resolution Position Estimation," *Invited Seminar*, SNL, March 2019.

J. W. McDaniel, "Overview of OU ARRC Radar Program and Next Generation RF/Microwave Component and System Designs for Airborne and Spaceborne Applications," *Invited Seminar, NASA Goddard Space Flight Center*, NASA, March 2019.

J. W. McDaniel, "Overview of OU ARRC Radar Program and RF/Microwave Design Activities," *Invited Seminar, U.S. Naval Research Laboratory*, NRL, October 2018.

J. W. McDaniel, "Design and Development of a Ku-band Synthetic Aperture Radar and Novel Microwave Components," *Invited, Advanced Radar Research Center's Industry and Government Days*, University of Oklahoma, November 2017.

J. W. McDaniel, "Design and Development of a Ku-band Synthetic Aperture Radar and Novel Microwave Components," *Invited, Bi-Annual Advisory Board Meeting*, University of Oklahoma, November 2017.

J. W. McDaniel, "Frequency Scaling of Suspended Integrated Strip-line Filter Technology for Highly Integrated Microwave Transceivers up to Ka-band," *Kansas City National Security Campus Update*, KCNSC, Summer 2017.

J. W. McDaniel, "Design of a Novel Suspended Integrated Strip-line Filter Technology for Highly Integrated Microwave Transceivers," *Kansas City National Security Campus Update*, KCNSC, Spring 2017.

J. W. McDaniel, "Design and Development of a Ku-band Synthetic Aperture Radar and Microwave Components for UAV Imaging," *Oklahoma Research Day*, University of Oklahoma, Spring 2017.

J. W. McDaniel, "Suspended Integrated Strip-line Transition for Highly Integrated Radars Systems," *GOMACTech 2017*, Reno, NV, March, 2017.

J. W. McDaniel, "Design and Integration of a Ku-band SAR Imaging Radar," *Kansas City National Security Campus Update*, KCNSC, Summer 2016.

J. W. McDaniel, "Design and Integration of a 2-18 GHz FMCW Snow Radar and Passive Microwave Components," *National Science Foundation*, Arlington, VA, Spring 2015.

J. W. McDaniel, "Design and Integration of a 2-18 GHz FMCW Snow Radar," *Naval Research Laboratory Research Update*, University of Kansas, Spring 2015.

J. W. McDaniel, "Importance of Higher Education and Innovative Research," *Invited Talk, Self Fellow Summer Program*, University of Kansas, June 2014.

J. W. McDaniel, "Design and Integration of a 2-18 GHz FMCW Snow Radar," *Naval Research Laboratory Research Update*, University of Kansas, Spring 2014.

J. W. McDaniel, "The Decision Making Process for Graduate School vs. Industry," *Invited Talk, IEEE HKN Lecture Series*, Kansas State University, March 2014.

Courses Taught

ECE 4973/5973: RF & Microwave Circuits: An Electromagnetics Approach	Spring 2023
ECE 4703/5703: Electromagnetic Fields and Wave Propagation II	Fall 2022
ECE 3613: Electromagnetic Fields I	Fall 2021
ECE 4973/5973: RF & Microwave Circuits: An Electromagnetics Approach	Spring 2021
ECE 4703/5703: Electromagnetic Fields and Wave Propagation II	Fall 2020
ECE 4973/5973: RF & Microwave Circuits: An Electromagnetics Approach	Spring 2020
ECE 3613: Electromagnetic Fields I	Fall 2019
ECE 4703/5703: Electromagnetic Fields and Wave Propagation II	Fall 2018

Students Mentored or Advised

Current:

Undergraduate

Ethan Aldridge: Undergraduate Research Assistant	Spring 2023 – Present
Alex Adkisson: Undergraduate Research Assistant	Fall 2021 – Present

Masters

Cora DeFrancesco: Master's Committee Chair	Spring 2023 – Present
Rosalind Agasti: Master's Committee Member	Fall 2022 – Present
Chaise Glenn: Master's Committee Member	Fall 2022 – Present
Andrew Gonzales: Master's Committee Chair	Summer 2022 – Present

PhD

Randall Summers: Doctoral Committee Member	Fall 2022 – Present
Brian Carlton: Doctoral Committee Co-Chair	Fall 2022 – Present
Jon Knowles: Doctoral Committee Chair	Summer 2022 – Present
Rylee Mattingly: Doctoral Committee Member	Fall 2021 – Present
Rachel Jarvis: Doctoral Committee Chair	Summer 2021 – Present
Russell Kenney: Doctoral Committee Chair	Summer 2020 – Present
Syed Shahan Jehangir: Doctoral Committee Member	Spring 2020 – Present
Alexander Moreno: Doctoral Committee Member	Fall 2019 – Present

Graduated (or otherwise completed):

Undergraduate

Joseph LaSala

Employment:	Undergraduate Research Assistant, Fall 2022
Affiliation:	University of Oklahoma (Masters Program)

Undergraduate

Cora DeFrancesco

Employment:	Undergraduate Research Assistant, Fall 2022
Affiliation:	University of Oklahoma (Masters Program)

Andrew Gonzales

Position:	Undergraduate Research Assistant, Spring 2022
Employment:	University of Oklahoma (Masters Program)
Thesis:	Design of a Volumetric Synthetic Aperture Radar Demonstrator

Rylee Mattingly

Position:	Summer Graduate Research Assistant, Summer 2020
Employment:	University of Oklahoma (PhD Program)
Thesis:	Automation of a Broadband Radar Cross Section Test Setup

Mohammad Alwahdanee

Position:	Undergraduate Research Assistant, Spring 2021
Employment:	TESLA

Eric Wells

Position:	Undergraduate Research Assistant, Spring 2021

Employment: University of Oklahoma (Masters Program)

Nicole Palmer
- Position: Undergraduate Research Assistant, Spring 2021
- Employment: L3-Harris

Jonathan Knowles
- Position: Undergraduate Research Assistant, Fall 2020
- Employment: University of Oklahoma (Masters Program)

Amanda Garcia
- Position: Undergraduate Research Assistant, Spring 2020
- Employment: Valero

Grant Karber
- Position: Undergraduate Research Assistant, Spring 2020
- Employment: University of Oklahoma (Masters Program)
- Thesis (Honors): Analysis of DGS in Suspended Integrated Stripline (SISL) Cavities

Rachel Jarvis
- Position: Undergraduate Research Assistant, Fall 2019 – Spring 2020
- Employment: University of Oklahoma (Masters Program)
- Thesis (Honors): Broadband RF Backscatter Measurements with Multi-path Clutter Cancellation for Enhanced Chamber Dynamic Range Capabilities

Darren Midkiff
- Position: Undergraduate Honors Research, Fall 2019
  Undergraduate Research Assistant, Fall 2018 – Spring 2019
- Employment: University of Colorado, Boulder (Masters Program)
- Thesis (Honors): FPGA Multi-Capture Firmware for Synthetic Aperture Radar

Joseph Tullius
- Position: Undergraduate Research Assistant, Spring 2019 – Fall 2019
- Employment: Garmin International - Analog RF Engineer
- Thesis: Multi-layer Via Modeling for High Frequency Low Loss Transitions

Heath Vann
- Position: Undergraduate Research Assistant, Spring 2019
- Employment: University of Oklahoma, Norman (Masters Program)
- Thesis: 3D-Printable 2-18 GHz Vivaldi Tapered Horn Antenna Design

Russell Kenney
- Position: Undergraduate Honors Research, Fall 2018
  Undergraduate Research Assistant, Fall 2018 – Spring 2019

Employment: University of Oklahoma, Norman (Masters Program)
Thesis (Honors): Clock Incoherence Correction in All-Digital Radar Back-Ends

Christopher Walker
Position: Undergraduate Research Assistant, Summer 2018
Employment: University of Oklahoma, Norman (Masters Program)

Masters

Kurt Konyalioglu
Role: Masters Thesis Committee Chair, Fall 2019 – Spring 2022
Employment: University of Oklahoma (Advanced Radar Research Center)
Thesis: Design and Integration of a Low Cost, Size, Weight, and Power Vertical-Pointing Synthetic Aperture Radar

Jon Knowles
Role: Masters Thesis Committee Chair, Spring 2021 – Spring 2022
Employment: University of Oklahoma (PhD Program)
Thesis: Design and Implementation of a Loss-Programmable Filtering Attenuator

Eric Wells
Role: Masters Thesis Committee Chair, Fall 2021 – Spring 2022
Employment: Northrup Grumman
Thesis: Design and Fabrication of a Frequency-Agile and Surface Mountable Suspended Integrated Stripline (SISL) Bandpass Filter

Kyle Kanaly
Role: Masters Thesis Committee Member, Summer 2020 – Fall 2021
Employment: Electronic Warfare Associates (EWA)
Thesis: Design and Validation of Measurement Procedures for Time-Varying Scatterers and Antennas

Randall Summers
Role: Masters Thesis Committee Member, Fall 2020 – Fall 2021
Employment: University of Oklahoma (PhD Program)
Thesis: Digital Predistortion of Wideband Radar Waveforms

Savannah Pate
Role: Masters Thesis Committee Member, Fall 2020 – Summer 2021
Employment: Raytheon
Thesis: Predictive Tracking Simulation and Techniques for All-Digital Radar

Paul Hartline
Role: Masters Thesis Committee Chair, Summer 2019 – Summer 2021
Employment: Sandia National Laboratories

Thesis: Design and Implementation of a High Power, High Temperature, and Surface Mountable 2-4 GHz Circulator for Integrated RF Transceivers

Grant Karber
- Role: Masters Thesis Committee Chair, Fall 2020 – Summer 2021
- Employment: Skydweller Aero
- Thesis: Spurious Suppression Techniques in Integrated and Embedded Microwave Components

Rachel Jarvis
- Role: Masters Thesis Committee Chair, Fall 2020 – Spring 2021
- Employment: University of Oklahoma (PhD program)
- Thesis: Calibration and Clutter Cancellation Techniques for Accurate and Wideband Radar Cross Section Measurements

Alex Pham
- Role: Masters Thesis Committee Member, Fall 2020 – Spring 2021
- Employment: L3-Harris
- Thesis: Reconfigurable Filter Design Using Liquid Metal Actuation

Paul Boydstun
- Role: Masters Thesis Committee Member, Fall 2018 – Fall 2020
- Employment: TBD
- Thesis: Quasi-Omnidirectional Broadband Anti-Reflective Surface of Multi-Level Sub-Wavelength Structures

Russell Kenney
- Role: Masters Thesis Committee Chair, Fall 2019 – Spring 2020
- Employment: University of Oklahoma (PhD Program)
- Thesis: Design and Implementation of an All-COTS Digital Back-end for a Pulse-Doppler Synthetic Aperture Radar

Callin Schone
- Role: Masters Thesis Committee Member, Fall 2019 – Spring 2020
- Employment: L3-Harris
- Thesis: SAR Image Formation Via Subapertures and 2D Backprojection

Ashley Palmer
- Role: Masters Thesis Committee Member, Fall 2018 – Fall 2019
- Employment: L3-Harris
- Thesis: Investigation of a Generalized Frequency Domain Method for Modeling Time-Varying Loads on Antennas

Christopher Walker
- Role: Masters Thesis Committee Chair, Fall 2018 – Fall 2019

Employment: L3-Harris
Thesis: Design of a Circularly Polarized Rectifying Antenna on a Flexible Substrate at X-Band

Eivy Arroyo Diaz
Role: Masters Thesis Committee Member, Fall 2018 – Spring 2019
Employment: Northrop Grumman
Thesis: Highly Miniaturized VHF Helical Filters with Fully Reconfigurable Capabilities

PhD

Dr. Brian Sun
Role: Doctoral Committee Chair, Fall 2018 – Spring 2022
Employment: University of Oklahoma (ARRC Research Scientist)
Thesis: Fusion of Multiple Inertial Measurement Units and Its Application in Reduced Cost, Size, Weight, and Power Synthetic Aperture Radars

Dr. Stephen Bass
Role: Doctoral Committee Member, Fall 2019 – Fall 2021
Employment: IC Post-Doctoral Program (University of Illinois - Urbana Champagne)
Thesis: Non-Linear Time Invariant Antenna Design and Modeling Techniques

Dr. Siddhant Gupta
Role: Doctoral Committee Member, Spring 2021 – Fall 2021
Employment: Brookhaven National Laboratory
Thesis: In-Situ and Satellite-Based Estimates of Aerosol-Cloud Interactions Between Biomass Burning Aerosols and Marine Stratocumulus Clouds over the Southeast Atlantic Ocean

Dr. Nicholas Peccarelli
Role: Doctoral Committee Member, Fall 2018 – Spring 2020
Employment: Amazon (Project Kuiper)
Thesis: Non-Linear Equalization and Digital Pre-Distortion Techniques for Future Radar and Communications Digital Array Systems