# SAEED I. LATIF, Ph.D.

Department of Electrical and Computer Engineering
University of South Alabama
150 Student Services Drive, SHBC 4122 Mobile, AL, USA 36688
**Email**: slatif@southalabama.edu
**Phone**: 251-460-6998, **Fax**: 251-460-6028


## Education

**Ph.D. in Electrical Engineering** **2009**
University of Manitoba, Winnipeg, Manitoba, Canada

**Master of Science in Electrical Engineering** **2004**
University of Manitoba, Winnipeg, Manitoba, Canada

**Bachelor of Science in Electrical & Electronics Engineering** **2000**
Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

## Professional Experience

**Associate Professor** **2020-Present**
University of South Alabama

**Assistant Professor** **2014 – 2020**
University of South Alabama

**Visiting Assistant Professor** **2013 – 2014**
University of South Alabama

**NSERC Postdoctoral Fellow** **2011 – 2012**
CancerCare Manitoba and University of Manitoba

**Postdoctoral Fellow** **2009 – 2010**
University of Manitoba

**Instructor** **2011 - 2013**
University of Manitoba

**Teaching Assistant** **2002 – 2008**
University of Manitoba

**Graduate Research Assistant** **2001 – 2008**
University of Manitoba

**Engineer, Switching** **2000 - 2001**
TM International (Bangladesh) Ltd. (TMIB), Dhaka, Bangladesh

## Awards and Honors

- '**Excellence in Research Award**', College of Engineering, University of South Alabama **2020**
- Invited to participate in **NSF Ideas Lab: Cross-Cutting Technologies for CubeSats** **2019**
- **IEEE Antennas and Propagation Edward E. Altshculer Prize Paper Award** **2014**
- **MITACS Elevate Industrial Fellowship** **2013**
  Mathematics of Information Technology and Complex Systems (MITACS) Canada
- **MITACS Accelerate InDev Fellowship** **2013**
  Mathematics of Information Technology and Complex Systems (MITACS) Canada
- **NSERC Postdoctoral Fellowship** **2011 - 2012**
  CancerCare Manitoba and University of Manitoba
- **Young Scientist Award** **2007**
  Electromagnetic Theory Symposium (EMTS), International Conference of Commission B (Fields and Waves) of International Union of Radio Science (URSI), Ottawa, ON
- One of the **fifteen** finalists in Student Paper Competition **2004**
  IEEE Antennas and Propagation Symposium, Monterey, CA, USA

## Awards Received by my Students

- M. M. Reazul Haque Tanmoy, *Graduate Research Scholarship*, Alabama EPSCOR **2019, 2020**
- Kendrick Henderson, *Outstanding Thesis Award*, College of Engineering, Department of Electrical and Computer Engineering **2019**
- Best presentation award at the College of Engineering, University of South Alabama, Senior Design Symposium: J. Riede, T. Wheeler, T. Joiner and C. Blackwell, Senior design project: 5G Generation Beamforming Network **2019**
- Best presentation award at the College of Engineering, University of South Alabama, Senior Design Symposium: C. Austin, B. Stewart, and T. Stubblefield, Senior design project: MILLITHERM: Biomedical Applications of Millimeter Wave Flow Sensing **2019**

## Proposals Funded

1. 'CubeSat Ideas Lab: Collaborative Research: Space Weather Atmospheric Reconfigurable Multiscale Experiment (SWARM-EX) CubeSats' **2020-2023**
   Funding Agency: **National Science Foundation (NSF)**
   Role: Institutional Principal Investigator
   Lead Institution: University of Colorado at Boulder
2. 'Millimeter Wave Arrays on Metasurface for Future 5G Wireless Systems' **2019-2021**
   Funding Agency: **Alabama Commission on Higher Education (ACHE)**
   Role: Principal Investigator
3. 'RII-Track4: Investigating 3-D Dispersed Smart Antenna Arrays for Nearly Full Spherical Scanning by New Radios (NRs)' **2018-2020**
   Funding Agency: **National Science Foundation (NSF)**
   Role: Principal Investigator
4. 'Printed Phased Array Antenna with Smooth Beamscanning Capability for Software-Defined X-band CubeSat Radios to Enable Inter-Satellite Communications' **2018-2022**

Funding Agency: **Alabama Space Grant Consortium (ASGC)**:
Role: Principal Investigator

5. 'Network Protocol Architecture for 5G/LTE to 4G/LTE Seamless Handover' **2018-2019**
   Funding Agency: **University of South Alabama Research and Scholarship Development Grant (RSDG)**:
   Role: Co-Principal Investigator
6. 'Consortium for Alabama Renewable Energy (CARE) - Preproposal,' **2018-2019**
   Funding Agency: **National Science Foundation (NSF)** EPSCoR:
   Role: Co-Principal Investigator
7. 'Spatially Resolved Measurements of Plasma Density Irregularities in the Ionosphere F Region for Scintillation Studies' **2016-2021**
   **Funding Agency: National Aeronautics and Space Administration (NASA)** USA, Undergraduate Student Instrument Project (USIP)
   Role: Co-Principal Investigator
8. 'Microwave Radar and Infrared Sensing (MiRIS)-Based Breast Imaging Device for Cancer Detection' **2016-2017**
   **Funding Agency: National Institutes of Health (NIH)** – CCTS Partner Network
   Role: Principal Investigator
9. 'Development of an Adaptive and Tunable Frequency Selective Surface for the Multiband Reflector Feedhorn' **2015-2016**
   **Funding Agency: Southeastern Center for Electrical Engineering Education (SCEEE)** Development Grant
   Role: Principal Investigator
10. 'Ultra-wideband Planar Microstrip Antenna Design for a Breast Microwave Radar Imaging Device' **2015-2016**
    **Funding Agency: University of South Alabama Faculty Development Council (USAFDC)**
    Role: Principal Investigator
11. 'Sensor development for a compact and portable microwave imaging system for breast cancer detection' **2011-2012**
    **Funding Agency:** Natural Sciences and Engineering Research Council (NSERC) of Canada
12. 'Development of High-Performance Microwave Radio Network Systems with Broadband and Polarization Diversity Antennas to be Integrated with High-Speed Optical Fiber Networks' **2013-2014**
    **Funding Agency:** Mathematics of Information Technology and Complex Systems (MITACS) Canada [Partially used]
13. 'Ultra-wideband planar antenna design for microwave reflection imaging using spintronic microwave sensors' **2013**
    **Funding Agency:** Mathematics of Information Technology and Complex Systems (MITACS) Canada

## Student Research Supervision

**Graduate Students**

- M.J. Alam (Ph.D. Systems Engineering, University of South Alabama, expected 2023): Ph.D. Thesis: Metasurface-based Transparent Array Antennas for 5G New Radios (Tentative)

- M.M. Hossain (M.Sc. University of South Alabama, expected 2021): Master's Thesis: Circularly Polarized Antennas for Cubesats for Deep Space Missions (Tentative)
- M.M.R.H. Tanmoy (M.Sc. University of South Alabama, expected 2021): Master's Thesis: Metasurface-based Dispersed Phased Array Antennas for future millimeter wave devices (Tentative)
- T. Moat (M.Sc. University of South Alabama, 2019): Master's Thesis: Open Multi-Slot Antennas and Large-Scale Orthogonal Arrays for MIMO Operations in 4G and 5G Mobile Terminals
- Kendrick Henderson (M.Sc., University of South Alabama, 2017): Master's Thesis: Adaptive Antenna System for Both 4G LTE and 5G Cellular Systems
- M. Mansoor (M.Sc., University of South Alabama, 2017): Master's Thesis: Humanoid Breast Phantom Sensing with Infrared Sensors Exposed to an Ultra-Wideband Planar Antenna
- M. Shakawat Hossain (M.Sc., University of South Alabama, 2016): Master's Thesis: Hybrid Perturbation Scheme for Wide Beamwidth Circularly Polarized Stacked Patch Microstrip Antenna for Satellite Communication
- Soundarya Yalamanchili: (2015-2016): Research Project: Unit Cell Study with L-shaped Slots for a Tunable Frequency Selective Surface

**M.Sc. Thesis Committee Member**

- Pavithra Ganesh Srinivas (M.Sc., University of South Alabama, expected 2019): Master's Thesis: Energy Dynamics of Geomagnetic Storms and Substorms Using the WINDMI Model (Tentative)
- Michael Ready (M.Sc., University of South Alabama, 2018): Master's Thesis: A RESTful Webserver with Predictive Failure and Performance Monitoring
- Rafiul Hye (M.Sc., University of South Alabama, 2018): Master's Thesis: Towards a Dynamic Internet Protocol Stack
- Sai Krishna Vadepu (M.Sc., University of South Alabama, 2018): Master's Thesis: Modeling Electron Plasma Dynamics Using a Finite Difference Time Domain Based Particle in Cell Method
- Nabila Shawki (M.Sc., University of South Alabama, 2018): Master's Thesis: Stability and Performance Analysis of a Computed-Torque Controlled Robot Manipulating Massive Payloads
- Sultan Mahmud (M.Sc., University of South Alabama, 2017): Master's Thesis: Alarm Correlation using method based on Bayesian Network with Bayesian recursive multifocal correlation

**Undergraduate Students' Research Supervised**

| | |
|---|---|
| • Tian Tan | • Vinhson La |
| • Chad Austin | • Blaze Wynn |
| • Thomas Stubblefield | • Anthony Durham |
| • Michael Ready | • Joseph Navero |

| | |
|---|---|
| • Dennis Nguyen | • Ajay Peddada |
| • Sydney Davis | • Haolin Guan |
| • Gunnar Harden | • Christopher Burns |
| • Yuko Kobayashi | • Jason Riede |
| • Ismael Hamadou | • Michael Goodly |
| • Lawrence Oberkirch | • James Saucier |
| • Tyler Joiner | • Trevor Wheeler |
| • Benjamin Barnes | • Crystal Pitts |
| • Fredrick Chuks | • Tayjon Culley |
| • Colin Campbell | • Drew Russ |
| • Chad Christian | • |

## Service

- Serving in the following Committees at the University of South Alabama
  - University Committee
    - International Education and Scholarship Committee **2015 – Present**
  - College of Engineering Committee
    - Graduate Affairs Committee **2019 – Present**
    - Undergraduate Affairs Committee **2015 – 2019**
    - 'Associate Dean - Undergraduate Affairs' Search Committee **2015 – 2016**
  - ECE Department Committees
    - Graduate Affairs Committee (Chair) **2019 - Present**
    - Undergraduate Affairs Committee (Chair) **2015 – 2019**
    - Undergraduate Affairs Committee (Member) **2014 – 2015**
    - ECE Strategic Planning Committee (Member) **2017 – Present**
    - ABET Curriculum Assessment Committee (Member) **2017 – 2019**
    - Open House Committee **2014 – 2019**
    - Scholarship Committee **2013 – 2019**
    - Faculty Search Committee **2016-2017, 2017-2018, 2018-2019, 2019-2020**
    - Accreditation Board for Engineering and Technology (ABET) Committee (Member) **2016 – 2017**
    - Pilot Advisor, Students Success Collaborator (SSC) **2014 – 2016**
- IEEE Mobile Section Executive Committee Member
  - Treasurer **2020 – present**
  - Membership Development **2016 – 2019**
- Organizing Committee Member: IEEE SoutheastCon 2022 (to be held in Mobile, AL)

## Other Academic and Professional Community Activities

- *Co-session chair*:
  - APS/URSI 2018 oral session 'FR-A1.2A: Bandwidth Enhancement for Planar Antennas and Arrays'
  - APS/URSI 2017 oral session 'MO-A1.2A: Wideband Slot Antennas'

- ANTEM/URSI 2016 oral session 'Microwave and Millimeter Wave Antennas I'
- ANTEM/AMEREM 2010 oral session 'WP25: Antenna Theory & Design I'
- ANTEM/URSI 2009 oral session 'TP2 - Antennas'

- *Editorial Board Member*:
  - International Journal of Electronics and Communications (AEU)
- *International program committee member*:
  - International Conference on Computer and Information Technology (ICCIT 2014 - 2019), Dhaka, Bangladesh
- *Technical program committee member*:
  - 18th International Symposium on Antenna Technology and Applied Electromagnetics and the Canadian Radio Sciences Meeting (ANTEM2018) Waterloo, ON, Canada, (2018)
  - 12th International Symposium on Medical Information and Communication Technology (ISMICT 2018), Sydney, Australia, (2018)
  - 17th International Symposium on Antenna Technology and Applied Electromagnetics and the Canadian Radio Sciences Meeting (ANTEM2016) held in Montreal, QC, Canada, (2016)
  - 14th International Symposium on Antenna Technology and Applied Electromagnetics and the Canadian Radio Sciences Meeting (ANTEM/AMEREM 2010) held in Ottawa, ON (2010)
  - 13th International Symposium on Antenna Technology and Applied Electromagnetics and the Canadian Radio Sciences Meeting (ANTEM/URSI 2009) held in Banff, AB (2009)
- *Technical reviewer*:
  - IEEE Antennas and Propagation Magazine
  - IEEE Transactions on Antennas and Propagation
  - IEEE Antennas and Wireless Propagation Letters
  - IEEE Transactions on Dielectrics and Electrical Insulation
  - IET Microwave, Antennas and Propagation Journal
  - International Journal of Electronics and Communications (AEU)
  - International Journal of RF and Microwave Computer-Aided Engineering (Wiley)
  - Journal of Optics and Laser Technology
  - International Journal Bioautomation
  - Public Library of Science (PLOS) One Journal
  - Proc. 2015-2020 IEEE AP-S Symposium on Antennas and Propagation (APS 2015-2020)
  - Proc. 17$^{th}$ - 22$^{nd}$ International Conference on Computer and Information Technology (ICCIT2014-2019)
  - Proc. 16$^{th}$ - 18th International Symposium on Antenna Technology and Applied Electromagnetics and the Canadian Radio Sciences Meeting (ANTEM 2014, 2016, and 2018)
  - Proc. 2016 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE)
  - Proc. 9$^{th}$ and 10th European Conference on Antennas and Propagation (EuCAP 2015 and 2016)
  - Proc. 2$^{nd}$ International Conference on Advances in Electrical Engineering (ICAEE 2013)

## Publications

### Book chapters:

1. **Saeed I. Latif** and S.K. Sharma, "Frequency Reconfigurable Antennas" in 'Multifunctional Antennas and Arrays for Adaptive Communication Systems', Eds. S.K. Sharma and S. Chieh, Wiley, In Press
2. **Saeed I. Latif** and S.K. Sharma, "Metamaterials in Reconfigurable Antennas" in 'Multifunctional Antennas and Arrays for Adaptive Communication Systems', Eds. S.K. Sharma and S. Chieh, Wiley, In Press
3. L. Shafai, Z.A. Pour, **Saeed I. Latif**, and A. Rashidian, "Circularly Polarized Antennas," in 'Handbook of Antenna Technologies,' Ed.: Z. N. Chen, Springer, 2016
4. L. Shafai, Z.A. Pour, and **Saeed I. Latif**, "Electrically Small Feeds," in 'Handbook of Reflector Antennas and Feed Systems: Vol. II, Eds: L. Shafai, S. Sharma, and S. Rao, Artech House, Norwood, MA, USA, 2013

### Journal papers:

1. F. Mansoor, and **Saeed I. Latif**, "A Planar Elliptical Slotted Patch Antenna without any Matching Liquid for Biomedical Application," International Journal of Bioautomation, vol. 24, no. 2, pp. 199-208, 2020.
2. **Saeed I. Latif**, C.M. Austin, J. Chatham, B. Stewart, T. Stubblefield, and D.A. Nelson, "A Novel Transducer for Measurement of Skin Blood Flow using Radio Frequency Energy," *ASME Journal of Engineering and Science in Medical Diagnostics and Therapy*, vol. 2, no. 6, 2019, 6 pages
3. K.Q. Henderson, **Saeed I. Latif**, G.Y. Lazarou, S.K. Sharma, and A. Tabbal, "Multi-slot antennas excited by novel dual-stub loaded microstrip lines for 4G LTE bands," *Journal of Progress in Electromagnetics Research M*, Vol. 75, pp. 1-12, 2018.
4. Z.A. Pour, **Saeed I. Latif**, M. Qudrat-E-Maula, and L. Shafai, "Coaxial cavity waveguide antennas excited by stacked circular microstrip patches for use as prime-focus reflector feeds," *International Journal of RF and Microwave Computer Aided Engineering*, vol. 27, no. 4, May 2017.
5. D. Flores Tapia, D.R. Herrera, M.S. Nepote, N. Kopotun, **Saeed I. Latif,** O. Maizlish, L. Fu, Y. Gui, C.-M. Hu, and S. Pistorius, "Experimental feasibility of multistatic holography for breast microwave radar image reconstruction," *Medical Physics*, vol. 43, pp. 4674, 2016.
6. **Saeed I. Latif**, D. Flores Tapia, D. Rodriguez Herrera, M.S. Nepote, S. Pistorius, and L. Shafai, "A Directional Antenna in a Matching Liquid for Microwave Radar Imaging," *International Journal of Antennas and Propagation*, Special Issue on 'Progress in Microwave Imaging: From Theoretical Developments to Cutting Edge Applications (MITA)', vol. 2015 (2015), Article ID 751739, 8 pages.
7. **Saeed I. Latif**, D. Flores-Tapia, S. Pistorius, and L. Shafai, "Design and performance analysis of the miniaturised water-filled double-ridged horn antenna for active microwave imaging applications," *IET Microwaves, Antennas & Propagation*, vol. 9, no. 11, August 2015, pp. 1173-1178.

8. **Saeed I. Latif**, S. Pistorius, L. Shafai, and D. Flores-Tapia, “A planar ultrawideband elliptical monopole antenna with reflector for breast microwave imaging,” *Microwave and Optical Technology Letters*, vol. 56, no. 4, April 2014, pp. 808-813.
9. **Saeed I. Latif**, M.S.H. Abadi, C. Shafai, and L. Shafai, “Development of adaptive structures incorporating MEMS devices to be used as reflectarrays or transmitarrays,” *Microwave and Optical Technology Letters*, vol. 56, no. 4, April 2014, pp. 935-938.
10. **Saeed I. Latif**, L. Shafai, and C. Shafai, “An engineered conductor for the gain and efficiency improvement of miniaturized microstrip antennas,” *IEEE Antennas and Propagation Magazine*, vol. 55, no. 2, April 2013, pp. 77-90.
11. **Saeed I. Latif**, and L. Shafai, "Circular polarisation from dual-layer square-ring microstrip antennas," *IET Journal on Microwaves, Antennas & Propagation*, vol. 6, no. 1, January 2012, pp. 1-9.
12. **Saeed I. Latif**, and L. Shafai, “Investigation on the EM-coupled stacked square ring antennas with ultra-thin spacing,” *IEEE Transactions on Antennas & Propagation,* vol. 59, no. 11, November 2011, pp. 3978-3990.
13. **Saeed I. Latif**, and L. Shafai, “Pattern equalization of circular patch antennas using different substrate permittivities and ground plane sizes,” *IEEE Transactions on Antennas & Propagation,* vol. 59, no. 10, October 2011, pp. 3502-3511.
14. **Saeed I. Latif**, and L. Shafai, "Polarization and resonant characteristics of gap loaded microstrip square ring antennas," *IET Journal on Microwaves, Antennas & Propagation*, vol. 4, no. 6, June 2010, pp. 733-742.
15. **Saeed I. Latif**, L. Shafai, and C. Shafai, “Gain and efficiency enhancement of compact and miniaturized microstrip antennas using multi-layered laminated conductors,” *IET Journal on Microwaves, Antennas & Propagation*, vol. 5, no. 4, March 2010, pp. 402-411.
16. **Saeed I. Latif**, and L. Shafai, "Polarization characteristics of multi-band loaded microstrip annular ring antennas," *IEEE Transactions on Antennas & Propagation,* vol. 57, no. 9, September 2009, pp. 2788-2793.
17. **Saeed I. Latif**, and L. Shafai, "Hybrid perturbation scheme for wide angle circular polarisation of stacked square-ring microstrip antennas," *Electronics Letters,* vol. 43, no. 20, September 2007, pp. 1065-1066.
18. **Saeed I. Latif**, and L. Shafai, “Investigation on probe-fed open-ring microstrip antenna for miniaturization,” *Microwave and Optical Technology Letters*, vol. 48, no. 11, November 2006, pp. 2175-2179.
19. **Saeed I. Latif**, L. Shafai and S.K. Sharma, "Bandwidth enhancement and size reduction of microstrip slot antennas," *IEEE Transactions on Antennas & Propagation*, vol. 53, no. 3, March 2005, pp. 994-1003.

## Conference papers:

20. M.M. Hossain, M. Qudrat-E-Maula, **Saeed I. Latif**, and, E. Spencer, “A Dual-Band Circularly Polarized Printed Antenna for Deep Space CubeSat Communication”, Proc. 34th Annual Small Satellite Conference, August 2020, pp. 1-5.
21. M.M.R.H. Tanmoy, **Saeed I. Latif**, A.T. Almutawa, F. Capolino, and M.M. Hossain, “Wide Gain-Bandwidth from an Ultrathin High Impedance Surface-Based Leaky Wave Antenna

using Multi-Feed Excitation", accepted for publication in Proc. IEEE SouthEastCon, Raleigh, NC, March 12-15, 2020.

22. S.H. Russ, E. Spencer, T. Scroggins, and **Saeed I. Latif**, "Power-Efficient Software Architecture for a CubeSat System," accepted for publication in Proc. IEEE SouthEastCon, Raleigh, NC, March 12-15, 2020.
23. E. Spencer, **Saeed I. Latif**, and R. Arslanbekov, "Hybrid Electron Fluid-Particle In Cell Simulations of an Antenna in a Plasma for Ionosphere Measurements," Submitted to IEEE AP-S Symposium (APS2020), Montreal, QC, Canada, July 5-10, 2020.
24. M.M.R.H. Tanmoy, **Saeed I. Latif**, A.T. Almutawa, and F. Capolino, "Beamsteering Capability of a Leaky Wave–Based Curved High Impedance Surface Antenna", Submitted to IEEE AP-S Symposium (APS2020), Montreal, QC, Canada, July 5-10, 2020
25. M.M.R.H. Tanmoy, **Saeed I. Latif**, A.T. Almutawa, and F. Capolino, "Small-Scale Beam Scanning with an Ultrathin High Impedance Surface-Based Leaky Wave Antenna with Multiple Feeds", accepted for publication in Proc. IEEE International Microwave Symposium (IMS2020), Los Angeles, CA, June 21-26, 2020
26. M.M.R.H. Tanmoy, and Saeed I. Latif, "Metasurface-based antennas with Beamscanning Capability for 5G Wireless Applications", 26th NSF EPSCoR National Conference, Columbia, SC, October 27-30, 2019
27. E. Spencer, **Saeed I. Latif**, S. Russ and C. Montalvo "JAGSAT I: A NASA USIP CubeSat to Perform Measurements of Plasma Density Irregularities In The Ionosphere For Scintillation Studies," Proc. American Geophysical Union Fall Meeting, San Francisco, CA, USA, December 2019.
28. S.E. Palo, M. Pilinski, J. Thayer, S. D'Amico, **Saeed I. Latif**, K. Lemmer, W. Lohmeyer, and G. Lightsey, "Space Weather Atmospheric Reconfigurable Multiscale Experiment Cubesat (SWARM-EX)," Proc. 2019 Coupling, Energetics and Dynamics of Atmospheric Regions (CEDAR) Workshop, Santa Fe, NM, June 16-22, 2019.
29. T.E. Moat, **Saeed I. Latif**, G.Y. Lazarou and S. Sajal, "Large-Scale Planar Arrays with Orthogonal Elements for 5G Mobile Terminals," Proc. 2019 IEEE International Conference on Electro Information Technology (EIT), Brookings, SD, USA, 2019, pp. 363-366.
30. T.E. Moat, **Saeed I. Latif**, and G.Y. Lazarou, "Open Multi-Slot Wideband MIMO Antennas with Microstrip Feed Line for 4G LTE," Proc. IEEE AP-S International Symposium & USNC/URSI National Radio Science Meeting, Atlanta, GA, 2019, pp. 1509-1510.
31. E. Spencer, and **Saeed I. Latif**, "FDTD Simulations Of The Impedance of a Dipole Antenna in a Plasma," IEEE AP-S International Symposium & USNC/URSI National Radio Science Meeting, Atlanta, GA, 2019, pp. 1661-1662.
32. T. E. Moat, **Saeed I. Latif**, and G. Lazarou, "Improving Isolation of Open Multi-Slot 4G Antennas with Microstrip Feed Line for MIMO Applications," *2019 IEEE SoutheastCon*, Huntsville, AL, 2019, pp. 1-2.
33. S. Sajal, **Saeed I. Latif**, and E. Spencer, "Circularly polarized small-footprint ring-patch stacked antenna for pico-satellite missions," Proc. IEEE AP-S International Symposium & USNC/URSI National Radio Science Meeting, Boston, MA, USA, July 2018, pp. 335-336.
34. K.Q. Henderson, **Saeed I. Latif**, G.Y. Lazarou, S.K. Sharma, A. Tabbal and S. Sajal, "Dual-stub loaded microstrip line-fed multi-slot printed antenna for LTE bands," Proc. IEEE AP-S

International Symposium & USNC/URSI National Radio Science Meeting, Boston, MA, USA, July 2018, pp. 1743-1744.

35. E. Spencer, **Saeed I. Latif**, and S.K. Vadepu, "The impedance characteristics of an electrically long dipole immersed in a magnetized plasma," Proc. IEEE AP-S International Symposium & USNC/URSI National Radio Science Meeting, Boston, MA, USA, July 2018, pp. 271-272.
36. S. Sajal, and **Saeed I. Latif**, "Hybrid Perturbation Technique Applied to Stacked Patches for Circular Polarization," 2018 IEEE International Conference on Electro/Information Technology (EIT), Rochester, MI, USA, 2018, pp. 638-640.
37. D.A. Nelson, **Saeed I. Latif**, C.M. Austin, and J. Chatham, "Feasibility of Using a Printed Microstrip Antenna in Evaluation of Peripheral Microcirculation," Proc. ASME Frontiers in Biomedical Devices, 2018 Design of Medical Devices Conference (DMD2018), Minneapolis, MN, April, 2018, 4 pages.
38. K.Q. Henderson, **Saeed I. Latif**, and G.Y. Lazarou, "A Multi-Slot Printed Antenna Excited with a Microstrip Line for 4G Wireless Systems," Proc. IEEE AP-S International Symposium and & USNC/URSI National Radio Science Meeting, San Diego, CA, July 2017, pp. 2117-2118
39. M. Mansoor, T. Tan, and Saeed I. Latif, "The performance of an ultra-wideband planar antenna with a humanoid breast phantom," Proc. IEEE AP-S International Symposium, San Diego, CA, July 2017, pp. 105-106
40. E. Spencer, S.H. Russ, D. Clark, **Saeed I. Latif**, and C. Montalvo, "Spatially resolved measurement of plasma density irregularities in the ionosphere F region for scintillation studies," Proc. American Geophysical Union Fall Meeting, San Francisco, CA, USA, December 2016
41. K.Q. Henderson, **Saeed I. Latif**, and G.Y. Lazarou, "A microstrip line-fed multi-resonant slot antenna in the 4G/LTE band for smartphones," *Proc. Military Communications Conference* (MILCOM'2016), Baltimore, MD, USA, Nov 1-3, 2016, pp. 208 - 212
42. **Saeed I. Latif**, D.A. Nelson, and V. La, "An on-body conformal printed array antenna at mmWave frequencies for healthcare applications," *Proc. 17th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM),* Montreal, QC, Canada, pp. 1-2, July 10-13, 2016
43. M.S. Hossain, **Saeed I. Latif**, S.K. Sharma, and M.S. Alam, "Hybrid Perturbations in stacked ring-patch antennas for wide beamwidth circular polarization," *Proc. 2016 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2016*), Fajardo, Puerto Rico, June 26 – July 1, 2016, pp. 27 - 28
44. **Saeed I. Latif**, S. Yalamanchili, and S.K. Sharma, "Tunable frequency selective surface using L-shaped slots," *Proc. 2016 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2016*), Fajardo, Puerto Rico, June, 2016, pp. 773 - 774
45. D. Flores Tapia, M. Solis Nepote, D. Rodriguez Herrera, L. Fu, Y. Gui, V. Benyon, C.-M. Hu, S. Pistorius, and **Saeed I. Latif**, "Multistatic Microwave Holography: Initial Results on Anthropomorphic Phantoms" *Proc. 10th European Conference on Antennas and Propagation* (*EuCAP 2016*), Davos, Switzerland, 2016, pp. 1-2
46. M.S. Hossain, **Saeed I. Latif**, and M.S. Alam, "A wideband stacked patch-ring antenna with corner perturbations for circular polarization," *Proc. 18th International Conference on*

*Computer and Information Technology* (ICCIT 2015), Dhaka, Bangladesh, December 21 - 23, 2015, pp. 588 – 591

47. V. La, **Saeed I. Latif**, and D.A. Nelson, "A millimeter-wave printed antenna at 35 GHz for biomedical applications," *Proc. 15th Annual Early Career Technical Conference* (ECTC 2015), Birmingham, AL, USA, November 7 – 8, 2015
48. M. Qudrat-E-Maula, Z.A. Pour, L. Shafai, and **Saeed I. Latif**, "Suppressing higher order modes of cavity surrounded stacked microstrip antennas for prime focus reflectors," *Proc. 2015 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2015*), Vancouver, BC, Canada, July 19-25, 2015, pp. 2433 - 2434
49. D. Flores-Tapia, D.R. Herrera, M.S. Nepote, **Saeed I. Latif**, and S. Pistorius, "An experimental study on the effects of the antenna - breast surface separation in microwave radar imaging," *2014 IEEE Conference on Antenna Measurements & Applications* (*CAMA 2014*), Antibes Juan-les-Pins, France, November 16-19, 2014, pp. 1-4
50. M.S. Nepote, D.R. Herrera, D. Flores-Tapia, **Saeed I. Latif**, and S. Pistorius, "A comparison study between horn and Vivaldi antennas for 1.5–6 GHz breast microwave radar imaging," *Proc. 8th European Conference on Antennas and Propagation* (*EuCAP 2014*), The Hague, The Netherlands, April 6-11, 2014, pp. 59-62
51. **Saeed I. Latif**, S. Pistorius and L. Shafai, "A double-ridged horn antenna design in canola oil for medical imaging," *Proc. International Conference on Advances in Electrical Engineering* (*ICAEE*), Dhaka, Bangladesh, December 19-21, 2013, pp. 421-424
52. L. Shafai, and **Saeed I. Latif**, "Reduction of ohmic loss in planar circuits and antennas using laminated conductors", *Proc. IEEE 4th Applied Electromagnetics Conference* (*AEMC 2013*), Bhubaneswar, India, December 18-20, 2013
53. **Saeed I. Latif**, D. Flores-Tapia, S. Pistorius, and L. Shafai, "An ultrawideband elliptical monopole antenna for breast microwave radar imaging," *Proc. 2013 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2013*), Orlando, FL, USA, July 7-12, 2013, pp. 686 - 687
54. **Saeed I. Latif**, M. Maula, and L. Shafai, "Study of stacked circular patch antennas with circular symmetric patterns as reflector feeds," *Proc. 2013 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2013*), Orlando, FL, USA, July 7-12, 2013, pp. 1826 - 1827
55. L. Shafai, **Saeed I. Latif**, and C. Shafai, "Loss Reduction in Planar Circuits and Antennas Over a Ground Plane Using Engineered Conductors," *Proc. 7th European Conference on Antennas and Propagation* (*EuCAP 2013*), Gothenburg, Sweden, April 8-12, 2013, pp. 1031-1035
56. L. Shafai, **Saeed I. Latif**, Z.A. Pour, and C. Shafai, "Antennas in real, meta and virtual forms," Invited paper, 2012 IEEE International Conference on Wireless Information Technology and Systems (ICWITS 2012), Maui, HI, USA, November 11-16, 2012, pp. 1-2
57. L. Shafai, C. Shafai, Z.A. Pour and **Saeed I. Latif**, "Mathematics in antenna design innovation," Invited paper, 10th International Symposium on Antennas, Propagation, and EM Theory (ISAPE 2012), Xi'an, CHINA, October 22-26, 2012
58. **Saeed I. Latif**, D. Flores-Tapia, S. Pistorius, and L. Shafai, "Parametric study of a water-filled double-ridged horn antenna for biomedical imaging application," *Proc. 15th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Tolouse, France, June 25-28, 2012, pp. 1-2

59. **Saeed I. Latif**, D. Flores-Tapia, S. Pistorius, and L. Shafai, "Size reduction of a double-ridged horn antenna for a bistatic radar-based breast imaging system," *Proc. 15th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Tolouse, France, June 25-28, 2012, pp. 1-2
60. **Saeed I. Latif**, D. Flores-Tapia, L. Shafai, and S. Pistorius, "An investigation on the transmission response of a miniaturized double-ridged horn antenna for radar-based imaging," *Proc. 2012 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2012*), Chicago, IL, USA, July 8-12, 2012, pp. 1-2
61. **Saeed I. Latif**, M.S.H. Abadi, C. Shafai, and L. Shafai, "Development of an adaptive surface controlled by MEMS-bridges to transmit or reflect electromagnetic waves," *2011 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting* (*APS/URSI 2011*), Spokane, WA, USA, July 3-8, 2011, pp. 2020-2023
62. **Saeed I. Latif**, C. Shafai, and L. Shafai, "Study of the microstrip patch or ring as a cell element for a transmit-array with slotted ground plane," *2010 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting,* Toronto, ON, Canada, July 11-16, 2010, pp. 1-4
63. **Saeed I. Latif**, and L. Shafai, "Circular patch antenna with nearly-equal E- and H-plane co-polarization patterns," *2010 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting,* Toronto, ON, Canada, July 11-16, 2010, pp. 1-4
64. **Saeed I. Latif**, and L. Shafai, "Effects of finite ground plane and substrate permittivity on E- and H-plane co-polarization patterns of the circular patch antenna," *14th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Ottawa, ON, Canada, July 5-10, 2010, pp. 1-4
65. **Saeed I. Latif**, L. Shafai, and C. Shafai, "Reflect-array study with shorted slotted ground plane using microstrip patches or rings as cell elements," *14th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM)*, Ottawa, ON, Canada, July 5-10, 2010, pp. 1-4
66. **Saeed I. Latif**, and L. Shafai, "Relationships among multiple modes of open ring microstrip antennas," *Proc. International Conference on Aerospace Electronics, Communications and Instrumentation* (*ASECI*-2010), Vijayawada, AP, India, January 6-7, 2010, pp. 1-4
67. **Saeed I. Latif**, C. Shafai, and L. Shafai, "Development of an adaptive surface using electromagnetically coupled patches," *Proc. 2009 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting,* June 1-5, 2009, Charleston, SC, USA, pp. 1-4
68. **Saeed I. Latif**, and L. Shafai, "Electromagnetically-coupled multiple square rings for multi-frequency operation," *Proc. 2009 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting,* June 1-5, 2009, Charleston, SC, USA, pp. 1-4
69. **Saeed I. Latif**, and L. Shafai, "Loaded annular ring antennas for multi-frequency operation," *Proc. 13th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) and the Canadian Radio Sciences (URSI/CNC),* Banff, AB, Canada, February 15-18, 2009, pp. 1-4
70. **Saeed I. Latif**, L. Shafai, and C. Shafai, "Ohmic loss reduction and gain enhancement of microstrip antennas using laminated conductors," *Proc. 13th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) and the Canadian Radio Sciences (URSI/CNC),* Banff, AB, Canada, February 15-18, 2009, pp. 1-4

71. L. Shafai, **Saeed I. Latif**, and S.–S. Oh, "Polarization and multi-frequency characteristics of loaded microstrip square ring antennas," Invited paper, *International Symposium on Antennas and Propagation*, October 27-30, 2008, Taipei, Taiwan
72. **Saeed I. Latif**, and L. Shafai, "Microstrip square-ring antenna with capacitive feeding for multi-frequency operation," *Proc. 2008 IEEE AP-S International Symposium, and USNC/URSI Radio Science Meeting,* July 5-12, 2008, San Diego, CA, USA, pp. 1-4
73. **Saeed I. Latif**, and L. Shafai, "Proximity-coupled microstrip square ring antenna for circular polarization using an L-shaped feed line," *Proc. 2007 North American Radio Science Conference URSI - CNC/USNC (URSI 2007)*, Ottawa, ON, Canada, July 22-26, 2007
74. **Saeed I. Latif**, and L. Shafai, "Gain enhancement of small microstrip antennas using multi-layered laminated conductors," *Proc. Electromagnetic Theory Symposium (EMTS 2007)*, Ottawa, ON, Canada, July 26-28, 2007
75. **Saeed I. Latif***,* and L. Shafai, "Gap-loaded microstrip square ring for antenna miniaturization," *Proc. 12th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) and the Canadian Radio Sciences (URSI/CNC),* Montreal, QC, Canada, July 16-19, 2006
76. **Saeed I. Latif**, C. Shafai, and L. Shafai, "Reduction in ohmic loss of small microstrip antennas using multiple copper layers," *Proc. 2006 IEEE AP-S International Symposium, USNC/URSI and AMEREM Meeting*, Albuquerque, New Mexico, USA, July 9-14, 2006, pp. 1625-1628
77. **Saeed I. Latif**, and L. Shafai, "Dual-layer square-ring antenna (DLSRA) for circular polarization," *Proc. 2005 IEEE Antennas and Propagation Society (AP-S) International Symposium and USNC/URSI National Radio Science Meeting* (*APS/URSI 2005*), Washington, D. C., USA, July 3-8, 2005, Vol. 2A, pp. 525-528
78. **Saeed I. Latif**, and L. Shafai, "Effects of reflector size and spacing on microstrip slot antenna performance," *Proc. 10th International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) and URSI Conference* (*URSI*), Ottawa, ON, Canada, July 20-23, 2004, pp. 1-4
79. **Saeed I. Latif**, and L. Shafai, "Wideband and reduced size microstrip slot antennas for wireless applications," *Proc. 2004 IEEE Antennas and Propagation Society* (*AP-S*) *International Symposium and USNC/URSI National Radio Science Meeting* (*APS/URSI 2004*), Monterey, CA, USA, Vol. 2, June 20-26, 2004, vol. 2, pp. 1959-1962
80. **Saeed I. Latif**, S.K. Sharma, and L. Shafai, "Wideband microstrip L-slot antenna for wireless communications," *Proc. 2004 URSI International Symposium on Electromagnetic Theory* (*EMTS 2004*), Pisa, Italy, Vol. 2, May 23-27, 2004, pp. 1158-1160
81. **Saeed I. Latif**, S.K. Sharma and L. Shafai, "Wideband microstrip monopole slot antenna," *Proc. 6th International Symposium on Antennas, Propagation and EM Theory* (*ISAPE'03*)*,* Beijing, China, October 28 - November 1, 2003, pp. 54-57

**Technical Posters and Presentations**

1. B. Barnes, T. Culley, F. Chuck, I. Hamdou, and **Saeed I. Latif**, "X- and S-band Communication Subsystem for Gamma-7 6U Cubesat for Lunar Mission," ASGC Collaborative CubeSat Merit and Feasibility Review, University of Alabama at Huntsville, Huntsville, AL, October 18, 2019

2. L. Oberkirch, J. Saucier, W. Ford, and **Saeed I. Latif**, "Communication Subsystem for Gamma-7 6U Deep Space Cubesat," ASGC Collaborative CubeSat Mission Concept Review (MCR), University of Alabama, Tuscaloosa, AL, April 5, 2019
3. G. Lazarou, and **Saeed I. Latif**, "Heterogeneous Access to 4G and 5G Wireless Systems using Smart Adaptive Antennas", Fall Research Forum, University of South Alabama, October 30, 2019
4. M. Goodly, and **Saeed I. Latif**, "Study of Port Isolation for Open Slot Printed Antennas Operating in 4G LTE Bands," Alabama LSAMP Spring Research Conference, Mobile, AL, April, 2019
5. **Saeed I. Latif**, "Meeting the Future Mobile Data Needs with New Radios using 4G/5G Antennas and Arrays," College of Engineering Research Seminar, University of South Alabama, Mobile, AL, USA, January 10, 2019
6. J.F. Riede, T. E. Moat, and **Saeed I. Latif**, "5G Beamforming Network Design using MATLAB," The 2018 Undergraduate Research symposium, Mobile, AL, USA, November 16, 2018
7. M. Goodly, and **Saeed I. Latif**, "Isolation Improvement in a Dual-feed Multi-Slot Printed Antenna for LTE Bands," Alabama LSAMP Spring Research Conference, Tuscaloosa, AL, April 11, 2018
8. C. Austin, D. A. Nelson, and **Saeed I. Latif**, "Testing of a Microstrip Antenna for Thermal Applications," The 19th Annual Undergraduate Research symposium, Mobile, AL, USA, October 20, 2017
9. F. Mansoor, and **Saeed I. Latif**, "Benign and malignant breast phantom sensing with infrared sensors exposed to an ultra-wideband antenna," Nanobio Summit 2017, Atmore, AL, November 2017
10. M. Mansoor, and **Saeed I. Latif**, "The Design of a Planar Ultra-wideband Elliptical Ring Monopole Antenna for Breast Imaging", Engineering Research Day, University of South Alabama, February 2017
11. K.Q. Henderson, **Saeed I. Latif**, and G.Y. Lazarou, "Microstrip Line–Fed Multi-Slot Printed Antennas for 4G/LTE Wireless Communication Systems", Engineering Research Day, University of South Alabama, February 2017
12. C. Austin, **Saeed I. Latif**, and D. A. Nelson, "Testing of a Microstrip Antenna for Thermal Applications," The 18th Annual Undergraduate Research symposium, Mobile, AL, USA, October 21, 2016
13. T. Stubblefield, and **Saeed I. Latif**, "Infrared sensing of normal and malignant tissues in humanoid phantoms," The 18th Annual Undergraduate Research symposium, Mobile, AL, USA, October 21, 2016
14. **Saeed I. Latif**, "Microwave Radar and Infrared Sensing (MiRIS) Based Breast Imaging Device for Cancer Detection," University of Alabama at Birmingham (UAB) Center for Clinical and Translational Science (CCTS) meeting, May 24, 2016
15. M. Shakawat Hossain and **Saeed I. Latif**, "Hybrid Perturbation Scheme for Wide Beamwidth Circularly Polarized Stacked Patch Microstrip Antenna for Satellite Communication", 23rd Annual Graduate Research Forum, University of South Alabama, March 2016
16. Saeed I. Latif and Tian Tan, "Ultra-wideband Planar Microstrip Antenna Design for a Breast Microwave Radar Imaging Device", 23rd Annual Graduate Research Forum, University of South Alabama, March 2016

17. V. La, **Saeed I. Latif**, and D.A. Nelson, "Simulation and Modeling of a millimeter-Wave Microstrip Antenna for Biomedical Applications," The 16th Annual UCUR (University Committee on Undergraduate Research) symposium, Mobile, AL, USA, October 15, 2015
18. **Saeed I. Latif**, "Microwave imaging using radar detection technique for breast cancer detection: system development and associated challenges," IEEE Technical Meeting and ECE Colloquium, University of South Alabama, Mobile, AL, USA, November 21, 2013
19. **Saeed I. Latif**, "Antenna design process for the active microwave imaging system using spintronics sensors," Journal Club Meeting, CancerCare Manitoba, Winnipeg, MB, Canada, March 27, 2013
20. **Saeed I. Latif**, "Performance analysis of a water-filled double-ridged horn antenna for bistatic radar based biomedical imaging applications," Journal Club Meeting, CancerCare Manitoba, Winnipeg, MB, Canada, November 28, 2013
21. **Saeed I. Latif,** Daniel-Flores Tapia, L. Shafai, and S. Pistorius, "Study of a high-permittivity dielectric loaded double-ridged horn antenna for radar-based imaging," Journal Club Meeting, CancerCare Manitoba, Winnipeg, MB, Canada, February 8, 2012
22. **Saeed I. Latif** and S. Pistorius, "Antennas for microwave breast imaging techniques," Journal Club Meeting, CancerCare Manitoba, Winnipeg, MB, Canada, November 2, 2011
23. **Saeed I. Latif,** C. Shafai, and L. Shafai, "Gain improvement of miniaturized microstrip antennas using multilayered laminated conductors," *IEEE Waves Chapter Seminar*, Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, MB, Canada, August 7, 2008
24. **Saeed I. Latif**, C. Shafai, and L. Shafai, "Loss reduction of plane conductor by introducing multiple laminating layers," *ECE Graduate Conference (GRADCON'07)*, Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, MB, Canada, November 16, 2007
25. **Saeed I. Latif**, C. Shafai, and L. Shafai, "Multiple laminated copper layers for the gain enhancement of small microstrip antennas," *ECE Graduate Conference (GRADCON'06)*, Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, MB, Canada, October 13, 2006
26. **Saeed I. Latif**, and L. Shafai, "Investigation on microstrip square ring antenna for circular polarization," *ECE Graduate Conference (GRADCON'05)*, Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, MB, Canada, October 14, 2005
27. **Saeed I. Latif**, "A survey on ultra-wideband antennas," September 2005
28. **Saeed Latif**, "Microstrip antenna miniaturization," *ECE Graduate Conference (GRADCON'02)*, Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, MB, Canada, October 18, 2002

## Patents

1. D.A. Nelson, and Saeed I. Latif, "Improved Blood Flow Measurement Apparatus and Method," Patent pending, filed on March 30, 2019, Technology ID: 2017-030-ENG
2. Saeed I. Latif, and G. Lazarou, "Large MIMO Array Antennas in Portable Devices Integrated with 4G Antennas for Heterogeneous Access to 4G/LTE and 5G Cellular Systems," Provisional Patent, filed on October 8, 2019, Technology ID: 2017-024-ENG

## Outreach Activities

- ECE Open House Demonstrations **2015 - Present**
- Served as the evaluator at 'ECE Senior Design Project' presentations at the University of South Alabama **2015 - Present**
- Served as the Judge at 'Jubilee BEST Robotics Competition' in Mobile, AL **2015**
- JROTC STEM Academy Project Demonstrations **2016**
- JROTC STEM Academy Robot Demonstrations **2015**

## Professional Memberships

- **Professional Engineer (P.Eng.)**, Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM), Winnipeg, MB, Canada **2007-Present**
- **Senior Member**, Institute of Electrical and Electronics Engineers (IEEE), New York, USA **2014-Present**
- **Member**, Institute of Electrical and Electronics Engineers (IEEE), New York, USA **2008-2014**
- **Student Member**, Institute of Electrical and Electronics Engineers (IEEE), New York, USA **2003-2008**
- **Member**, IEEE Antennas and Propagation Society
- **Member**, IEEE Microwave Theory and Technique Society
- **Member**, IEEE Young Professionals
- **Member**, IEEE Communications Society
- **Member**, IEEE Biometrics Council
- **Member**, IEEE Council on Superconductivity
- **Member**, IEEE Nanotechnology Council
- **Member**, IEEE Sensors Council
- **Member**, IEEE Systems Council
- **Member**, Institute of Electronics and Telecommunication (IET) **2014-Present**
- **Member**, American Society for Engineering Education (ASEE) **2014-Present**

## Publication Citations (From Google Scholar, as of August 22, 2020)