Curriculum Vitae

Satish K. Sharma, *Ph. D., Senior Member IEEE, Member USNC/URSI Commission B, Member, Applied Computational Electromagnetic Society (ACES)*

Professor and Director, *Antenna and Microwave Laboratory (AML)*
Department of Electrical and Computer Engineering
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EDUCATIONAL BACKGROUND

Institution	Years Attended	Degree	Major Field
University of Manitoba	1999-2001	Post-Doctoral Fellow	Antenna Research (Electrical Engineering)
Indian Institute of Technology (IIT), Banaras Hindu University (BHU)	1993-1997	Ph. D.	Electronics Engineering
Kamla Nehru Institute of Technology Avadh University (now UPTU)	1987-1991	B. Tech.	Electronics Engineering

- **Post-Doctoral Fellow Research Topics:** Design and Analysis of Microstrip Antennas and Arrays
- **Ph. D. Dissertation:** Some Studies on Microstrip Antennas

AWARDS, FELLOWSHIPS, and SCHOLARSHIPS

- 2015 IEEE AP-S Harold A. Wheeler Prize Paper Award for a co-authored paper
- 2014 Outstanding Associate Editor, IEEE Trans Antennas and Propagation (July, 14)
- 2009 Faculty Early Career Development (CAREER) Award of National Science Foundation
- 2004 Young Scientist Award, URSI COMMISSION B, EMTS-2004
- 2001-2006 Research Associate, University of Manitoba, CANADA
- 1999 – 2001 Post-Doctoral Fellowship, University of Manitoba, CANADA
- 1996 - 1999 Senior/Junior Research Fellowship (SRF/JRF-CSIR), IIT, BHU, INDIA

PROFESSIONAL MEMBERSHIPS and RECOGNIGITIONS

- 2015 Selected for Ballot on AdCom Election, IEEE AP-Society
- 2010 Associate Editor, IEEE Trans Antennas and Propagation (Aug 2010—Continue)
- 2016 Editorial Board, Inter. Journal of RF & Microwave Computer-Aided Engineering (Jan 2016---continue)
- 2010 Editor, International Journal of Electronics and Communications (Elsevier, UK)
- 2012 Member, Directed Energy Professional Society (DEPS)
- 2010 Member, Applied Computational Electromagnetic Society (ACES)
- *2009* Full Member, United States National Committee for The International Union of Radio Science (USNC/URSI)**,** Commission B, Field and Waves
- 2009 Marquis Who's Who in America
- 2007 Who's Who in Engineering Higher Education (WWEHE), Academic Keys
- 2007 Professional Member, American Society for Engineering Education (ASEE)
- 2004 Senior Member, International Electrical and Electronics Engineers (IEEE), USA
- 2004 Professional Engineer (P. Eng.), Province of Manitoba, CANADA
- 2000 Member, IEEE (AP and MTT Societies), USA

INDUSTRIAL, RESEARCH AND TEACHING EXPERIENCES

- **August 2014-Continue**: Full Professor (*Tenured*), Department of Electrical & Computer Engineering, *San Diego State University*, San Diego, CA, USA (www.sdsu.edu)
- **June 2012---Continue:** Adjunct faculty with the Computational Science Research Center at San Diego State University, San Diego, CA, USA (www.sdsu.edu)
- **September 2010-August 2014**: Associate Professor (*Tenured*), Department of Electrical & Computer Engineering, *San Diego State University*, San Diego, CA, USA (www.sdsu.edu)
- **June 2010 – August 2010 (***Summer Work***):** Visiting Professor, Space Systems Loral, Palo Alto
- **July 2009 – August 2009 (***Summer Work***):** Principal Electrical Engineer, Space Systems Loral, Palo Alto, California, USA
- **August 2006-August 2010**: Assistant Professor (*Tenure Track*), Department of Electrical & Computer Engineering, *San Diego State University*, San Diego, CA, USA (www.sdsu.edu)
- **June 2001-August, 2006**: Research Associate, Department of Electrical & Computer Engineering, *The University of Manitoba*, CANADA (www.ee.umanitoba.ca)
- **May 2001-August 2006**: Senior Antenna Engineer, Antennas & Wireless Communications, *InfoMagnetics Technologies Corp.*, Winnipeg, Manitoba, CANADA (www.imt.ca)
- **March 1999-May 2001**: Post-Doctoral Fellow, Department of Electrical & Computer Engineering, *The University of Manitoba*, Winnipeg, Manitoba, CANADA
- **Dec. 1993-Feb. 1999**: Senior/Junior Research Fellow (CSIR)/Research Scholar, Department of Electronics Engineering, *Indian Institute of Technology, Banaras Hindu University*, INDIA

RESEARCH GRANTS/GIFT FUNDS (at SDSU)

P1. Office of Naval Research, ($469,555), DURIP 16: Quasi-Far-Field System Upgrade for Millimeter Wave (mmWave) Frequency Expansion of the Existing Antenna Measurement Facility, July 2016 to Dec 2017.

P2. Office of Naval Research (ONR) ($305,000), "Development of W-Band Millimeter-Wave Links for Nanosat Applications", Jan 16, 2016 to Jan 15, 2018

P3. Broadcom Inc., ($30,000), "Miniaturized dual band CP antenna covering L5 and L1 frequencies for GPS/GNSS receive applications", June 2016 to August 2016.

P4. SpaceMicro Inc. ($42,000), "Innovative Antenna Arrays Enabling Continuous Interceptor Communications", Dec 23, 2015 to Oct 20, 2016

P5. President Leadership Fund Award ($12,000)**, San Diego State University:** *Design and development of THz Antennas for Wireless Communications*, June 2014 to May 2015

P6. Knuckledragger Design Inc. ($7,500), *Multiband Antenna Design*, Dec 2013-March 2014.

P7. SpaceMicro Inc. ($75,000), **SPAWAR, SBIR Phase II program, as PI:** *High Performance UHF Antenna for Nanosatellites***,** August 2012 to July 2013

P8. NextGen Aeronautics ($195,000)**, DARPA SBIR, Phase II program, as PI**: *Platform Independent Omni-Directional Antennas (IODA "YODA")*, April 2011 to Sept 2013

P9. NextGen Aeronautics ($32,000)**, Navy STTR, Phase I program, as PI**: *Wideband Metamaterial Antennas Integrated into Composite Structures*, from August 2010 to March 2011

P10. SpaceMicro Inc. ($21,000), **SPAWAR, SBIR Phase I program, as PI:** *High Performance UHF Antenna for Nano-Satellites***,** Sept 2010 to Jan 2011

P11. National Science Foundation (NSF) ($400,000), **CAREER Award, as PI:** *Novel Reconfigurable Aperture Antennas and Arrays for Compact Multifunctional Antenna Solutions*, from August 2009 to July 2014

P12. NextGen Aeronautics ($28,000)**, DARPA SBIR, Phase I program, as PI**: *Platform Independent Omni-Directional Antennas (IODA "YODA")*, from February 2009 to October 2009

- **FUND TO SUPPORT STUDENT TRAVEL**

P13. National Science Foundation (NSF) ($10,000), To support travel for the Student Paper Contest (SPC) Finalists from the US Institutions, International Microwave Symposium, 2010, Anaheim, CA

- **San Diego State University's University Grant Program Awards**

P14. ($5,000): *Antennas for Breast Cancer Detection*, from January, 2011 to Dec 2011

P15. ($6,500): *Investigations on concentric dielectric resonator antennas (DRAs) and arrays with wide bandwidth for Wireless Communications* from January, 2008 to June 2009

P16. ($7,645): *Investigations on Compact Microstrip Slot Antenna Configurations for Ultra-wideband (UWB) Wireless Communications* from January 2007 to June 2008

- **Local Industry Gifts Secured ($79,400) for Antenna and Microwave Lab (AML) Fund**

GF1. Knuckledragger Design Inc. ($14,000): Nov 2016
GF2. TaoGlas Antenna Ltd. ($19,400): April 2016, June 2016, Dec 2016
GF3. Cubic Transportation Inc. ($10,000): October 2015
GF4. Knuckledragger Design Inc. ($4,000): Dec 2013, Nov 2014
GF5. 5Barz International Inc. ($5,000): May-June 2014
GF6. Nextivity Inc. ($1,000): Dec 2013
GF7. TaoGlas Antenna Ltd. ($1,000): April 2013
GF8. EMSS, FEKO, USA ($1,000): April 2013
GF9. Southwest Antennas Inc. ($1,000): Feb 2012
GF10. NextGen Aeronautics Inc, ($10,000): June 2011
GF11. Public Wireless Inc, ($2,000): October 2010
GF12. SpaceMicro Inc, ($1,000): November 2010
GF13. Nextwave Wireless Inc, ($10,000): November 2008

ANTENNA AND MICROWAVE LAB (AML) DEVELOPMENT

Director, Antenna and Microwave Laboratory (AML): Completely developed antenna analysis, design, fabrication and measurement facility since joining in Fall, 2006. The lab currently includes an **Anechoic Chamber** with combined far-field and spherical near-field radiation pattern

measurement system (800MHz to 32GHz), Orbit F/R spectrum analysis program, Vector Network Analyzers (low MHz to 4.5GHz, 40 MHz to 18 GHz, and 40MHz to 40GHz), LPKF CAD milling machine, LPKF via plating system, surface mount component soldering station, various broadband horn antennas and near-field probes, in addition to the full wave analysis simulation tools (such as **Ansys HFSS, and FEKO, TICRA GRASP**). Funding support came from the College of Engineering, NSF, and local industries.

This anechoic chamber is now being upgraded till 50 GHz. Additionally, another new addition is a mini-compact range from 50 GHz to 110 GHz. Both upgrade of current chamber and the mini-compact range installation is done by Orbit/FR. It includes a Keysight PNA till 110 GHz.

STUDENT/VISITING RESEARCHER ADVISING/MENTORING

- Financially supported most of the undergraduate and graduate students from my funded projects from the ONR, NSF, SBIR Phase I and Phase II, STTR Phase I and local industry grants.
- Financially support my students to attend conferences and symposia to present their research work.
- Co-authored journal and conference research papers with my research group members based on their level of research contributions.
- Graduated students are working as fulltime antenna/RF Engineers in defense and wireless industries such as: SPAWAR, Google, Qualcomm, Motorola, ViaSat, Nokia, Broadcom, Apple, Cubic Defense Applications, General Atomics, Northrop Grumman, Ethertronics, SpaceMicro, TaoGlas, Tyco Electronics, Knuckledragger Design, LitePoint a Teradyne Company, University of Hawaii, University of Southern California, and Medical College of Wisconsin, etc.

• Current Graduate Students Advising

• Advisor to the Joint Doctoral Ph.D. Students

1. **Ghanshyam Mishra** *(Started Fall, 2014---)*: Millimeter wave high gain antenna and arrays
2. **Nathan R. Labadie** (*Graduated, Spring, 2015*): A Novel Approach to Beam Steering Using Arrays Composed of Multiple Unique Radiating Modes (*UCSD Advisor: Prof. G. Rebeiz*)
3. **Behrouz Babakhani** (*Graduated, Fall, 2016*)**:** Wideband Frequency Agile Antenna with Simultaneous Polarization Reconfiguration for Beam Steering Array Antenna Applications

• Advisor to M.S. (EE) Thesis Students

1. **Allen Castro** *(Expected, Spring 2017)***:** 3D and Ink-Jet Printed Antennas and Arrays
2. **Anthony Wang** *(Expected, Spring 2017)*: Frequency reconfigurable antennas as multiple input multiple output antennas for portable and handheld devices
3. **Asmita Chaugule** *(Expected, Spring 2017)*: Planar microstrip array antennas with high gain at millimeter wave frequency for point to point wireless communications with high data throughput
4. **Azzam Tabbal** *(Started, Spring 2017……)*: High gain millimeter wave antennas
5. **Chu Hao-Lung** *(Started, Spring 2017…..)***:** Design of Millimeter Wavelength 5G Technology Massive MIMO Array Antenna Through Digital Beamforming

6. **Roshin Rose George** *(Expected, Spring 2017)***:** Planar high gain wideband circular polarized array antennas on curved surfaces and high gain feedhorn antenna at millimeter wave frequencies
7. **Sandhya Krishna** *(Expected, Fall 2017)***:** Massive MIMO antennas at Ka-band and ISM band
8. **Tyler Reid** *(Started, Spring 2017…...)***:** Design of 60GHz Antenna Array in LTCC and HTCC for 5G Applications

- **Graduated MS/MEng Students**

- **MS (EE) Thesis Students Advising**
  1. **Abhishek Singh** *(Fall, 2009)*: Investigations on wideband dielectric resonator antenna and arrays on finite ground plane
  2. **Alex R. Moody** *(Spring, 2010)*: Investigations on Ultra-Wideband (UWB) Planar Monopole Antennas with Unidirectional Patterns by Employing Planar and Pyramidal Shaped Reflectors
  3. **Anup N. Kulkarni** *(Spring, 2012)*: Investigation on compact internal antenna solutions for future 4G LTE wireless devices with MIMO implementation
  4. **Anubhava Jain** *(Spring, 2009)*: Performance of Microstrip Patch Antennas and Arrays on Electromagnetic Bandgap (EBG) Structures
  5. **Ashish Tuteja** *(Spring, 2010)*: Investigations on dual band orthogonally polarized and multimode reconfigurable corrugated choke feed horn antennas
  6. **Bhakti Joshi** *(Fall, 2014)*: Design of multiband antenna for portable devices with MIMO implementation
  7. **Balamurugan Shanmugam** *(Spring, 2012)*: Investigations and performance of a cavity backed novel modified balun free Archimedean spiral antenna and planar array implementation
  8. **Christopher Meagher** *(Fall, 2008)*: Investigations on Wideband Aperture-Coupled Microstrip Patch Antennas and Arrays Employing Spaced Dielectric Covers for Enhanced Gain Performance
  9. **Daria Lane**: Inkjet printed ultra-wide bandwidth (UWB) antenna on flexible PET substrate materials for body wearable applications (*Defended in Summer, 2015*)
  10. **Dave West** *(Spring, 2014)*: FREQUENCY RECONFIGURABLE COMPACT MULTIBAND QUASI-LOG PERIODIC DIPOLE ARRAY (QLPDA) ANTENNA FOR WIRELESS COMMUNICATIONS
  11. **Eleonora Tryosi** (*Exchange Student, Univ of Pavia, Italy, 2010)*): Design and Experimental Verification of Frequency Reconfigurable Circularly Polarized Patch Antennas, (Advisors: Prof Luca Perregrini and Prof. S. K. Sharma)
  12. **Elias Mireles** *(Fall, 2011)*: Investigations and Design Of UHF (860-960 MHz) Band Novel Reader Antenna and Tag Antenna Mountable on Metallic Objects for Universal RFID Applications
  13. **Henk Visser** *(Spring, 2013)*: Multiband microstrip slot antenna with multiple-input-multiple-output (MIMO) implementation for handheld devices
  14. **Jennifer Taylor Rayno** *(Summer, 2012)*: Design and analysis of frequency reconfigurable compact spirograph planar monopole antenna (SPMA) elements for a beam scanning array
  15. **Joshua Patin** *(Spring, 2011)*: Design and analysis of a compact dielectric resonator circularly polarized antenna and four resonator bandpass filter at Ku-band for satellite communications applications
  16. **Justin Church** *(Fall, 2009)*: Investigations on the Sierpinski Fractal Microstrip Antenna for wideband radiation performance by employing novel feed mechanisms
  17. **Kirthika Nahalingam** *(Spring, 2011)*: A comparison of omni-directional ultra-wideband (UWB) microstrip pentagon slot and directional wideband ψ-shape microstrip patch antennas for the microwave detection of breast tumors

18. **Manveer Kaur Brar** *(Fall, 2011)*: Investigations on aperture coupled pentagon shape dielectric resonator antennas and arrays with wideband and multiband responses for wireless communications
19. **Mehak Garg** *(Summer, 2012)*: Performance of a cylindrical dielectric resonator antenna with controllable wideband and monopole like omni-directional radiation patterns and beam focusing properties of circular array implementation
20. **Mohana Vamsi Komandla** *(Spring 2017)*: Investigations on High Impedance Surface (HIS) Based Pattern Reconfigurable antenna and Cavity Backed Dual Slant Polarized Massive MIMO Antenna with Beamforming
21. **Mukund Thyagarajan** *(Fall, 2012)*: Performance of reflector antennas by employing triple mode feedhorn and a frequency reconfigurable spiral loaded planar dipole antenna
22. **Nathan R. Labadie** *(Fall, 2009)*: Investigations on novel Volumetric Metamaterial Structures at Microwave frequencies for Antenna Applications
23. **Pankaj Dagar** (*Fall, 2013)*: Compact Wide-Bandpass Filters Implemented Using Defected Ground Planes
24. **Phil Tran** *(Spring, 2016)***:** An Archimedean Spiral Antenna with Dielectric Loading Providing Directional Radiation Patterns Using a Novel Shape 3D Printed Ground Structures
25. **Rafid Damman** *(Spring, 2016)***:** DESIGN OF FREQUENCY TUNABLE COMPACT ANTENNA AND MILLIMETER TO TERAHERTZ ARRAY ANTENNAS
26. **Rahul Bakshi** *(Summer, 2010)*: Investigations on Frequency Agile Behavior of Narrowband and Wideband Microstrip Patch Antennas by Employing Variable Height Ground Planes
27. **Ryan Bartsch** (*Spring, 2017*): DESIGN AND DEVELOPMENT OF RECONFIGURABLE MULTI-ELEMENT MICROSTRIP FREQUENCY AGILE ANTENNA ARRAY
28. **Shiv K. Varanasi** *(Fall, 2010)*: Investigations on cavity backed microstrip patch antennas with enhanced performance for wireless communication applications
29. **Sunil Rajgopal** *(Spring, 2008)*: Ultra-Wideband Pentagon Shape Planar Microstrip Slot Antenna and Array for Wireless Communications
30. **Tavis Hall** *(Spring, 2016)***:** MODIFIED PIFA ANTENNAS WITH SINGLE AND DUAL BANDS FOR MIMO IMPLEMENTATIONS ON CYLINDRICAL GROUND PLANE
31. **Treasa Hlaing** *(Fall, 2014)*: Novel Multiband Annular Ring Aperture Coupled Microstrip Patch Antennas In MIMO Implementation for Wireless Routers
32. **Tuan Q. Tran** *(Fall, 2010)*: Performance of single layer multimode concentric circular microstrip patch antenna for reconfigurable radiation patterns

- **MEng. Students Advising**
  1. **Amar Lingineni** *(Spring, 2010)*: Effective Technical and Management Planning for Implementing WiMAX
  2. **Anusha Kalikonda** *(Summer, 2013)*: Body Wearable Antennas: Investigations of Wideband Microstrip E-shape Patch Array Antenna on Curved Surfaces
  3. **Jason Thomas** *(Fall, 2011)*: Design of Radio Frequency Identification (RFID) System in the 430MHz Band for Soccer Goal Line Situations
  4. **Kiran Thota** *(Fall, 2008)*: Impact of RFID's in Theft Prevention for Retail Industry
  5. **Samer Hamade** *(Spring, 2015)*: Microstrip array antennas with circular polarization for Ku-band Trasmit/Receive Communications
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- **Undergraduate Students Mentoring**
  1. **Alejandro "Allen" Castro** (*Fall, 2012- August 2015*): Ultra-wide bandwidth (UWB) planar monopole antennas
  2. **Arturo Morales** *(Summer and Fall, 2009)*: Microstrip Antenna for Breast Cancer Detection
  3. **Danierick Gomes** (Exchange student from Brazil: *Summer, 2015- August 2015*): Substrate Integrated Horn Antennas

4. **Margie Ramos** *(Summer and Fall, 2009)*: Microstrip Antenna for Breast Cancer Detection
5. **Michael Hlavaty** *(Summer, 2011)*: Printed Antenna for Portable Devices
6. **Treasa Hlaing** *(Summer and Fall, 2010)*: Wideband and Ultra-Wideband Antennas for Breast Cancer Detection
7. **Rafid Damman** *(Summer and Fall 2011 and Spring, 2012)*: Linear Microstrip Array Antenna with Wide Bandwidth for Beam Scan Performance
8. **Sean Fernandez** *(Spring, Summer, Fall, 2012 and Spring, 2013)*: Multiple Input Multiple Output (MIMO) Multiband Planar Antennas for Wireless Routers
9. **Felipe Fideles** (Exchange student from Brazil: *Summer and Fall, 2012*): Radiation Pattern Reconfigurable Planar Yagi-Uda Antenna
10. **Christian Rempel** (Exchange student from Brazil: *Summer, 2012*): Wideband Beam Steering Antennas
11. **Jack Powell** (*Summer, 2013-Fall, 2013*): Effect of Via and Metal Conductivities on Multiple Radiating Modes Microstrip Patch Antennas

- **VISITING RESEARCHER MENTORING**

1. **Dr. Xinhua Yu,** *Post Doctoral Fellow*, School of Information and Communication, Guilin University of Electronic Technology, China (Feb 2017 to Jan 2018)
2. **Dr. Guangli Yang**, Visiting Professor, Director of RF Research Group, Shanghai University, China (July 2016 to Sept 2016)
3. **Dr. Meng Fanji**, *Post Doctoral Fellow*, School of Astronautics and Aeronautics, University of Electronic Science and Technology of China, China (*June 20, 2013—1 Year*): Frequency selective surface (FSS) based high gain antennas
4. **Dr. Kumud Ranjan Jha**, *Post Doctoral Fellow*, School of Electronics & Communication Engineering, Shri Mata Vaishno Devi University (*September 25, 2013—1 Year*): THz Antennas and Antennas for handheld devices
5. **Dr. Santanu K. Behera**, *Visiting Professor*, from National Institute of Technology (NIT), Rourkela, India (*One month*)
6. **Dr. H.-G. Cho**, *Visiting Professor*, Kookmin University, South Korea (*Aug 2008—1 Year*): RFID Tag Antennas for Metallic Objects
7. **Ph D Scholars:** Yogesh Choukiker, Runa Kumari and Biswajit Dwivedy from National Institute of Technology (NIT), Rourkela, India (*2 months each*)

- **GRADUATE STUDENT AWARDS**

1. **2017 USNC-URSI Travel Fellowship Grant Award**, Boulder Colorado, USA: **Roshin R. George**
2. **IEEE Antennas and Propagation Society, Student Paper Contest, Honorable Mention Award, 2016,** Porte Rico, USA: **Behrouz Babakhabi**
3. 2016 USNC-URSI Travel Fellowship Grant Award, Boulder, Colorado, USA: Alejandro Castro
4. **IEEE Antenna and Propagation-Society Harold A. Wheeler Prize Paper Award, 2015** (N. Labadie, **S. K. Sharma**, and G. Rebeiz, "A Circularly Polarized Multiple Radiating Modes Microstrip Antenna with Beam Peak and Null Steering Satellite Receive Applications", IEEE Trans Antennas and Propagation, USA, Vol. 62, No. 7, July 2014, pp. 3490 – 3500)
5. **USNC-URSI Student Travel Awards**, IEEE APS-URSI symposium, 2015, Vancouver, Canada: **Behrouz Babakhani**
6. **Los Alamos award for Outstanding Poster and Presentation, ACSESS 2014**, San Diego: **Behrouz Babakhani**

7. **Student Paper Finalist and Young Scientist Travel Grant**, IEEE International Symposium on Antennas and Propagation, 2012 Nagoya, Japan: **Nathan Labadie**
8. **Student Paper Contest (SPC) Finalists** (based on double blind review), *IEEE International Antennas & Propagation Society Symposium* and USNC/URSI National Radio Science Meeting to be held from July 3-8, 2011 in Spokane, WA, USA: **Balamurugan Shanmugam**
9. College of Engineering, The **Dean's Award** in Student Research Symposium 2011: **Nathan Labadie**
10. CLASTECH 2010: **K. Nahalingam, A. Kulkarni, and E. Mireles (jointly 1st prize)**
11. College of Engineering, The **Dean's Award** in Student Research Symposium 2009: **Alex R. Moody**
12. CLASTECH 2009, **Nathan Labadie**, 1st Prize
13. CLASTECH 2008, **Christopher Meagher**, 2nd Prize
14. College of Engineering, The **Dean's Award** in Student Research Symposium 2008: **Christopher Meagher**

- **COURSES TAUGHT at SDSU (since Fall 2006: *Spring (S), Fall (F)*)**

- Teaching evaluations are generally very high and rated as one of the best professors by the students.
- EE740: Advanced Topics in Physical Electronics (S08, S09, S10, S11, S12, F13, F14, F15. F16)
- EE645: Antennas & Propagation (F06, F07, F08, F09, F10, F11, F12, F13, F14, F15. F16)
- EE596/EE455: Antenna Theory and Design (S11, S12, S15, S16)
- EE540: Microwave Devices & Systems (F06, S07, S08, F08, S09, S10, F10, F11, F12, 13, F14, F15, F16)
- EE540L: Microwave Devices and Systems Laboratory (S08, S09, F09, S10, F10, S11, F11, S12, F12, S13, F13, F14, S15, F15, F16)
- EE499: Special Topics (Antenna Theory and Design) (F10, S13, S14)
- EE440/450: Electromagnetic Waves/Transmission Lines & Electromagnetic Waves (S07, F07, S09, S10, S11, S12, S13, S14, S15, S16)
- EE340: Electric & Magnetic Field (F09)

- **EXPERIMENT MANUALS/COURSE MATERIAL PREPARATIONS**

1. **S. K. Sharma**, "*Antenna Starter Kits: Experiment Manual for Undergraduate Antenna Course Teaching*", prepared under ***Remote Education Antenna Laboratory:*** *a NSF funded Project* (PI: Dr. D. Stancil and Co-PI: Dr. M. Gupta) in collaboration with Carnegie Mellon University and San Diego State University. **The project website: http://preal.ece.cmu.edu**.
2. **S. K. Sharma**, "*Experiment Manual, EE540L: Microwave Devices and Systems Laboratory Course*", San Diego State University, Beta Edition (Fall, 2014) to 5th Edition, Montezuma Publications, Fall 2014.
3. **S. K. Sharma,** "*Course Material for EE455: Antenna Theory and Design*", with the support of NSF CAREER funding support.

INDUSTRIAL PROJECTS COMPLETED AT SPACE SYSTEMS LORAL (SS/L), Palo Alto, CA

I. Direct Radiating Horn Array Antennas as an alternative antenna system on Satellite Payloads (SS/L)
II. Design of Shaped Reflector Antennas for various coverage areas on the Earth on Satellite Payload
III. Multimode feedhorn for suppressing cross-polarization in feedhorns and single and dual reflector antennas for Satellite Payloads (SS/L)

INDUSTRIAL ANTENNA RESEARCH PROJECTS COMPLETED at InfoMagnetics Technologies Corporation as Senior Antenna Engineer

(May 2001-Aug 2006: Proposal Writing, Research Contracts Work)

1. Orthogonally linearly polarized feed horn for the Polarmetric Radar reflector antenna
2. Space Based Radar (SBR) reflector antenna with the capability of scan in elevation plane and independent phase centers in horizontal plane
3. Multimode microstrip phased array Radar antenna providing multi-phase centers
4. Multimode microstrip patch antennas to achieve the beam steering for the GMTI Radar
5. MEM Ground plane microstrip transmission line phase shifters for space applications
6. Ka-band (20/30GHz) dual circularly polarized (LHCP/RHCP) feedhorn for satellite communications
7. Ka-band (20 GHz) circularly polarized feed horn antenna cluster for monopulse Radar
8. Ku-band linearly polarized multimode feed horn antenna for the monopulse Radar
9. Feed horns providing vertical and horizontal multi-phase centers for the GMTI Radar
10. Micro-Machined variable parameter microstrip transmission line phase shifter utilizing different circular corrugated membranes for space application
11. High frequency surface wave Radar miniaturized Quasi-Fractal Log-Periodic Zigzag antenna
12. Compact dielectric loaded wire monopole adaptive antenna for Digital Radio Broadcast

SERVICE FOR THE UNIVERSITY (SDSU) AND THE COMMUNITY

SERVICE TO THE SAN DIEGO STATE UNIVERSITY (SDSU)

- **Chair**, College of Engineering, Retention, Tenure and Promotion (RTP) Committee (Fall 2016-Spring 2017)
- **Member**, University Grant Program (UGP), College of Engineering (Fall 2016-Spring 2017)
- **Chair**, College of Engineering, Retention, Tenure and Promotion (RTP) Committee (Fall 2015-Spring 2016)
- **Chair**, University Grant Program (UGP), College of Engineering (Fall 2015-Spring 2016)
- **Voting Member**, University Research Council and Graduate and Research Affairs, **Student Research Committee** (August 1, 2013—Continue)
- **Introduced new SRS 2015** award for **WOMEN IN ENGINEERING (WIE)** with First prize $150 and Second prize $100
- **Member**, Extended Studies Advisory Council, San Diego State University (Sept 2012—continue)
- **Member**, University Undergraduate Curriculum Committee (UCC), San Diego State University (Sept 2012-- Continue)
- **Search Committee Member,** Vice President Student Affairs (2013-2014)
- **Member**, College RTP Committee (Fall 2014---Continue)
- **Member,** Graduate (MS, EE) Admissions Committee, Fall 2014---Spring, 2015)
- **Member,** ECE Department RTP By-Laws Committee, (Fall 2014—Continue)
- **Member,** ECE Department Assigned Work Load Committee (Spring 2014)
- **Member,** ECE Department RTP Committee**,** 2012-2013
- Electromagnetic Systems **subject area coordinator** for the comprehensive examination for Fall, 2012, 2014, 2015, 2016.
- **Participates** in San Diego State University, OPEN House for the high school students and sophomore undergraduate students the last three-four years.
- **Assisted** in signing Memorandum of Understanding (MoU) between SDSU and National Institute of Rourkela, India for future education and research collaborations (*July 2012*)
- **Served** as judges and moderators in the previous Student Research Symposium (SRS) yearly events

- **Served** as external (3rd) thesis committee members for the MS students from both College of Engineering and College of Sciences, San Diego State University
- **Member,** ECE Department RTP Committee, 2011-2012
- **Member** of the Graduate Program Committee, Department of Electrical and Computer Engineering, San Diego State University. *(Fall 2006, Spring 2007, Fall 2007 and Fall 2009--Continue)*
- **Member** of the Undergraduate Curriculum Committee, Department of Electrical and Computer Engineering, San Diego State University. *(Spring 2008 to Spring 2009)*
- Physical Electronics subject area coordinator for the comprehensive examination of Spring 2007.
- **Member** of the search committee, Electromagnetic area faculty position, Department of Electrical and Computer Engineering, San Diego State University. *Fall 2007 and Spring 2008)*

SERVICE TO PROFESSIONAL COMMUNITY

a) Journal Editing/Proposal Review/Service to IEEE Society

- **Associate Editor**, IEEE Transactions on Antennas and Propagation (Aug 2013-Cont.: 2nd Term)
- Editorial Board, Inter. Journal of RF & Microwave Computer-Aided Engineering (Fall 2016--)
- Served **Proposal Reviewer** for The NASA Earth Science Technology Office (ESTO), Advanced Information Systems Technology (AIST) program Proposal, July 2014.
- Served CAREER Proposal **Panelist** for **National Science Foundation** (NSF), Communications, Circuits, and Sensing-Systems (CCSS) Program, Electrical, Communications, and Cyber Systems (ECCS) organization in engineering directorate in *September 23-24, 2013.*
- **Associate Editor**, IEEE Transactions on Antennas and Propagation (August 2010-July 2013: Term 1 completed.)
- **Served as Electronic Proposal Reviewer for National Science Foundation (NSF), under** the US-Egypt Joint Science & Technology Fund, **February, 2010.**
- **Editor**, International Journal of Electronics and Communications (Elsevier, UK) (Completed)
- Served on the **IEEE Admission and Advancement (A & A) Committee** panel to review IEEE Senior Member applications to elevate deserving IEEE Members to Senior Member status on January 9, 2010 in San Diego.
- Served as **Member** of **the IEEE Antennas & Propagation Society's new standing committee** (*Sub-committee of Education Committee*) for the Symposium's Student Paper Contest organization, *January 2009 to December 2010.*
- Served **Panelist** for **National Science Foundation** (NSF) Proposals, Integrative Hybrid and Complex Systems (IHCS) Program, Electrical, Communications, and Cyber Systems (ECCS) organization in engineering directorate in *January 2007*

REVIEWER OF RERFEED JOURNALS

- *Trans. IEEE Antennas and Propagation*
- *IET Journal of Microwave, Antennas & Propagation*
- *IET Electronic Letters*
- *IEEE Antennas and Wireless Propagation Letters*
- *IEEE Antenna and Propagation Magazine*
- *IEEE Microwave Magazine*
- *Trans. IEEE Microwave Theory & Techniques*
- *IEEE Microwave and Wireless Components Letters*

- *ETRI Journal (Korea)*
- *URSI Radio Science*
- *International Journal of Antennas and Propagation (Hindawi)*
- *International Journal of Radio and Space Physics (CSIR, India)*
- INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS (Elsevier)
- *International Journal of RF and Microwave Computer-Aided Engineering (Wiley, USA)*
- *Applied Computational Electromagnetic Society (ACES) Journal (USA)*
- *Journal of Micromechanics and Microengineering*
- *Journal of Electromagnetic Waves*

SERVED/SERVING ON STEERING COMMITTEES OF INTER. SYMPOSIA/CONFERENCES

1. **Local Organizing Committee**, 2019 URSI EM Theory Symposium (EMTS) in San Diego, CA, May 27-31, 2019
2. **General Co-Chair,** IEEE AEMC 2017, Aurangabad, India, Dec 19-24, 2017
3. **Short courses and Workshops Co-Chair,** IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2017, San Diego, USA**
4. **Co-Chair, Technical Program Committee (TPC)**, IEEE APPLIED ELECTROMAGNETICS CONFERENCE 2015, 18 – 20 **Dec 2015**, Guwahati, India
5. **Chair, Special/Focused Sessions**, IEEE APPLIED ELECTROMAGNETICS CONFERENCE 2013, 18 – 20 **Dec 2013**, Bhubaneswar, India
6. **Chair**, **Student Paper Contest**, 29th International Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2013
7. **Member**, **Advisory Board Committee**, The 2012 International Symposium on Antennas and Propagation (ISAP2012), Nagoya, Japan, October 29 through November 2, 2012
8. **Co-Chair**, **Student Paper Contest**, IEEE AEMC/IAW 2012, Kolkata, India
9. **Co-Chair**, **Student Paper Contest**, IEEE MTT-society's International Microwave Symposium (IMS-2010), May 23-28, 2010, Anaheim, CA, USA.
10. **Chair, Student Paper Contest,** IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting held from July 5-12, 2008 in San Diego. Created 15 new Honorable Mention awards for supporting student travel for the conference.
11. ***A conference report*** *was published by me*, **"**Report on the 2008 AP-S Symposium student paper contest", in IEEE Antennas and Propagation Magazine, IEEE, Vol. 50, Issue 4, Aug. 2008 Page(s):116 - 116

SERVED ON TECHNICAL PROGRAM COMMITTEES (TPC) OF INTERNATIONAL SYMPOSIA/CONFERENCES

1. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2017**
2. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2016**
3. IEEE Applied Electromagnetics Conference (AEMC) in year 2015, Guwahati, India served as TPC Co-Chair
4. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2015**, Vancouver, Canada
5. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2014**, Memphis, USA

6. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2012** (Toulouse, France)
7. IEEE Applied Electromagnetics Conference (AEMC) in year **2011, Kolkata, India** served on Scientific Committee
8. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2011** (Spoken, Washington, USA)
9. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2010** (Toronto, Canada),
10. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2008** (San Diego, CA, USA)
11. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2007** (Honolulu, Hawaii, USA)
12. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2006** (Montreal, Canada)
13. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2005 (**Saint-Malo, France)

SERVED as CO-SESSION CHAIR IN INTER. CONFERENCES/SYMPOSIA

1. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2016, Porte Rico, USA**
2. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2015, Vancouver, Canada**
3. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2014, Memphis, USA**
4. International Symposium on Antennas and Propagation**, Cochin, India**, Dec 17-19, 2014.
5. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2013, Orlando, Florida, USA**
6. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2012, Chicago, Illinois, USA**
7. The 2012 International Symposium on Antennas and Propagation **(ISAP2012), Nagoya**, Japan, October 29 through November 2, 2012
8. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2011, Spoken, Washington, USA**
9. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2010, Totonto, Canada**
10. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2009, Charleston, South Carolina, USA**
11. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2008, San Diego, CA, USA**
12. URSI CNC/USNC North America Radio Science Meeting (**URSI 2007**), **Ottawa, Canada**
13. International Electromagnetic and Theory Symposia (**EMTS 2007**), **Ottawa, Canada**
14. IEEE International Antennas & Propagation Society Symposium in **year 2007, Honolulu, USA**
15. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2006, Albuquerque, NM, USA**
16. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2006, Montreal, Canada**
17. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2005, Washington, DC., USA**
18. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2005, Saint-Malo, France**

19. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2004, Montreal, Canada**

REVIEWED PAPERS for INTERNATIONAL CONFERENCES/SYMPOSIA

1. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2017**
2. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2016**
3. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2015, Vancouver, Canada**
4. 9th European Conference on Antennas and Propagation, to be held in Lisbon, Portugal, on 12-17 APRIL 2015
5. the XXXI General Assembly and Scientific Symposium of the International Union of Radio Science - Union Radio Scientifique Internationale, August 16-23, 2014 Beijing, China
6. 9th IEEE International conference on Industrial and Information Systems (ICIIS2014), Gwalior, India
7. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2014, Memphis, USA**
8. IEEE International Microwave and RF Conference **2014, Bangalore, India**, Dec 15-17, 2014.
9. 29th International Review of Progress in Applied Computational Electromagnetics (ACES), **2013**
10. IEEE International Conference on Wireless Information Technology and Systems (ICWITS) **2012**
11. IEEE International Symposium On Personal, Indoor and Mobile Radio Communications in year **2011**
12. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2011, Spoken, Washington, USA**
13. IEEE Applied Electromagnetics Conference (AEMC) in year **2011, Kolkata, India**
14. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2010, Toronto, Canada**
15. IEEE International Symposium On Personal, Indoor and Mobile Radio Communications in year **2010**
16. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2009, Charleston, South Carolina, USA**
17. IEEE Applied Electromagnetics Conference (AEMC) in year **2009, Kolkata, India**
18. IEEE International Symposium On Personal, Indoor and Mobile Radio Communications in year **2009**
19. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2008, San Diego, CA, USA**
20. XXIX URSI General Assembly in year **2008, Chicago, Illinois, USA**
21. IEEE International Antennas & Propagation Society Symposium in year **2007, Honolulu, Hawaii, USA**
22. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2006, Montreal, Canada**
23. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2005, Saint-Malo, France**

INVITED SPEAKERS

1. Invited Talk "**Investigations of Some Novel Phased Arrays and Massive MIMO Array Antennas at San Diego State University**", Google, Mountain View, CA, Feb 9, 2017
2. Invited Speaker "**5G Technology Massive MIMO Array Antenna**" Qualcomm, San Diego, 31 Jan, 2017
3. Invited Speaker "**Some Novel MIMO Antennas for Handheld and Portable Devices including Massive MIMO Antenna Design: A Research Activity at AML, SDSU**", Huawei Device USA Inc, San Diego, 22 July, 2016
4. Invited Speaker, "**Novel Multiple Radiating Modes based Null and Beam Peak Steering Antennas",** IEEE AP/MTT Kolkata Chapter (University of Kolkata, Depart of Radio Physics), Dec 28, 2015.
5. Invited Tutorial Speaker, "**Uncertainty Estimation in Antenna Measurements",** IEEE AEMC 2015, Guwahati, India, Dec 18, 2015 (co-presented by K T Selvan due to my delayed flight).
6. Invited Speaker, "**Novel Multiple Radiating Modes based Beam Steering Antennas",** International Symposium on Antennas and Propagation (APSYM 2014), Cochin, India, Dec 18, 2014.
7. Invited Workshop Speaker, "**Reconfigurable and Tunable Planar Antennas: Design Considerations and Challenges**", IEEE International Microwave and RF Conference, Bangalore, India, Dec 15, 2014
8. Invited Speaker, "**Some Investigations on MIMO Antennas by Employing Novel Radiating Elements, and High Gain Antennas with Beam Steering",** IEEE Mohawk Chapter, Rome, NY, November 13, 2014
9. Invited Speaker, **"Some Investigations on MIMO Antennas by Employing Novel Radiating Elements, and High Gain Antennas with Beam Steering",** Air Force Research Lab (AFRL), Rome, NY, November 2014.
10. Invited Speaker, "**Novel Reconfigurable and Tunable Planar Antennas: Future Research Activities**", Qualcomm, San Diego, September 23, 2014.
11. Invited Speaker, "**Design Considerations of Reconfigurable and Tunable Planar Antennas**", IEEE Applied Electromagnetic Conference (IEEE, AEMC, 2013), Bhubaneshwar, India
12. Invited Speaker, "**Reconfigurable and Tunable Planar Antennas: Design Considerations and Challenges**", Power Amplifier Symposium, University of California, San Diego, September 4-5, 2013
13. Invited Workshop Speaker at Institute for Defense and Government Advancement (IDGA)'s Military Antenna West Conference, April 24, 2013 on topic related to the grant, "**Design of Reconfigurable Antennas for Wireless Communications"** covering different aspects of reconfigurable antennas.
14. Invited talk, "**NOVEL RECONFIGURABLE ANTENNAS AND ARRAYS**", in Computational Science Research Center (CSRC) at San Diego State University as a speaker, October 5th, 2012.
15. Invited Workshop Speaker at Institute for Defense and Government Advancement (IDGA)'s Military Antenna West Conference, March 19, 2012 on topic related to the grant, "**Multiple Radiating Mode Aperture Antennas for Reconfigurable Radiation Patterns and Frequency Reconfigurable Multimode Antennas with MIMO Implementations for Portable Devices**".

16. Panel Discussion on "**Reconfigurable antennas**" on March 20, 2012 during IDGA's Military Antenna West Conference in San Diego
17. Invited talk to IEEE SDSU Students Branch on April 3, 2012 on topic "**Antenna and Microwave Research Activity in Antenna and Microwave Lab (AML), SDSU**" which highlighted research work supported from the grant
18. ***Hosted two day FEKO Training Class for Industry Engineers and SDSU students***, San Diego, May 21-22, 2012 EMSS (USA) which also included 1 hour my talk on Antenna Research Activity by my group and mainly discussing the progress of funded research through this grant
19. Invited talk, "**Frequency Reconfigurable Spirograph Planar Monopole Antenna (SPMA)**", International Symposium on Antennas and Propagation (ISAP 2012), Nagoya, Japan, Oct 29-Nov 2, 2012.
20. Offered two day antenna course workshop, "**Antenna, Theory and Design**", to NextGen Aeronautics Inc., Torrance, CA, engineers on June 10-11, 2012 on their invitation.
21. Invited talk, "**Investigations on a Wideband Novel Modified Archimedean Spiral Antenna Array Covering DCS/PCS/WLAN and LTE Wireless Communication Bands**", IEEE Applied Electromagnetic Conference (IEEE, AEMC, 2011), Kolkata, India

- **PUBLIC INTERVIEWS:**

- ***EE Web Featured Engineer, September 27, 2011, Webpage:*** http://www.eeweb.com/spotlight/interview-with-dr.-satish-k-sharma

- ***Five Minutes with... Satish K. Sharma, Ph. D.: Multiple Input Multiple Output (MIMO) Advances at SDSU*** *(*Contributor: Christopher Dauer, Posted: 03/01/2012 12:00:00 AM EST), Webpage: **http://www.idga.org/communications-engineering-and-it/articles/five-minutes-with-satish-k-sharma-ph-d-multiple-in/**

- Interviewer Chris Archer: Feb 10, 2013, Interview can be found under the 'panel of experts': http://www.militaryantennasevent.com/MediaCenter.aspx

- AML Lab was highlighted in SDSU Graduate Research Affairs https://www.foundation.sdsu.edu/pdf/about_sdsu_research_highlights_1516.pdf

LIST OF PATENTS/BOOKS/BOOK CHAPTERS

• INVENTIONS/PATENTS

1. **US Patent:** B. Balaji, A. Damini, G. Haslam, L. Shafai, and **S. Sharma**, "*Multiple Phase Center Feedhorn for Reflector Antennas"* US Patent # **7,180,459** granted **February 20, 2007**.
2. **Canadian Patent:** B. Balaji, A. Damini, G. Haslam, L. Shafai, and **S. Sharma**, "*Multiple Phase Center Feedhorn for Reflector Antenna"*, Canadian Patent # **CA 2470281 granted Dec 24, 2004**

• CO-EDITED BOOKS

1. **S. K. Sharma,** S. Rao and L. Shafai, "*Handbook on Reflector Antennas and Feed Systems*, **Volume I: Theory and Design of Reflectors**", Artech House, USA, June, 2013
2. L. Shafai, **S. K. Sharma** and S. Rao, "*Handbook on Reflector Antennas and Feed Systems*, **Volume II: Feed Systems**", Artech House, USA, June, 2013
3. S. Rao, L. Shafai and **S. K. Sharma**, "*Handbook on Reflector Antennas and Feed Systems*, **Volume III: Applications of Reflectors"**, Artech House, USA, May, 2013

• BOOK CHAPTERS

1. **S. K. Sharma**, and L. Shafai, "Printed Antennas for Wireless Applications", a book chapter in the book entitled "Microstrip and Printed Antennas: New Trends, Techniques and Applications", EDITED by D. Guha and Y.M.M. Antar, Wiley. ISBN: 978-0-470-68192-3, January 2011
2. **S. K. Sharma**, S. Rao, "Chapter 1: Introduction", in "*Handbook on Reflector Antennas and Feed Systems"*, **Volume I: Theory and Design of Reflectors**", EDITED by S. K. Sharma, S. Rao and L. Shafai, Artech House, USA, June, 2013
3. **S. K. Sharma**, Z. Pour and L. Shafai, "Chapter 4: Reflector Antennas with Adaptive Apertures", in "*Handbook on Reflector Antennas and Feed Systems"*, **Volume I: Theory and Design of Reflectors**", EDITED by S. K. Sharma, S. Rao and L. Shafai, Artech House, USA, June, 2013
4. L. Shafai, **S. K. Sharma** and Z. Pour, "Chapter 1: Introduction", in "*Handbook on Reflector Antennas and Feed Systems*, **Volume II: Feed Systems**", EDITED by L. Shafai, S. K. Sharma and S. Rao, Artech House, USA, June, 2013
5. L. Shafai, Z. A. Pour and **S. K. Sharma**, "Chapter 8: Generalized Asymmetric Reflector Antenna Feeds for Polarization Control and Adaptive Virtual Array Design", in "*Handbook on Reflector Antennas and Feed Systems*, **Volume II: Feed Systems**", EDITED by L. Shafai, S. K. Sharma and S. Rao, Artech House, USA, June, 2013
6. **S. K. Sharma**, and S. Krishna, "A Massive MIMO Panel Array at Ka-Band with Flexible Patterns and Beam Steering Performance", **Book: Ad Hoc Networks, Chapter No: 33, ADHOCNETS 2016,** Lecture Notes in Computer Science, LNICST 184, DOI:10.1007/978-3-319-51204-4_33

LIST OF REFEED JOURNAL PUBLICATIONS

• Under Revision/Submitted/Under Preparation

J1. M. Komandla, G. Mishra and **S. K. Sharma**, "Investigations on Dual Slant Polarized Cavity Backed Massive MIMO Antenna Panel with Beamforming", **IEEE Trans Antennas and Propagation, (Under Review)**.

J2. K. Jha and **S. K. Sharma**, "Combination of Frequency Agile and Quasi-Elliptical Planar Monopole Antennas in MIMO Implementations for Handheld Devices", **IEEE Antennas and Propagation Magazine, USA (Under Review)**

J3. P. Tran and **S. K. Sharma**, "An Archimedean Spiral Antenna with Dielectric Loading Providing Directional Radiation Patterns Using a Novel Shape 3D Printed Ground Structure", **Applied Computational Electromagnetic Society (ACES) Journal** (Under Review).

J4. R. Damman, G. Mishra, **S. K. Sharma** and B. Babakhani, "A Single Feed Planar Antenna With 4G Tunable Bands and Consistent Upper LTE Bands Between 1.29 GHz–2.05 GHz", **Microwave and Optical Technology Letters, (Under Review)**.

J5. B. Babakhani and **S. K. Sharma**, "Dual Null Steering and Limited Beam Peak Steering Using Triple Mode Circular Microstrip Patch Antenna", **IEEE Trans Antennas and Propagation, (Under Review).**

J6. A. Castro, B. Babakhani, and **S. K. Sharma**, "Design and Development of a Multimode Waveguide Corrugated Horn Antenna Using 3D Printing Technology and its Comparison with Aluminum based Prototype", **IET Microwaves, Antennas & Propagation (Provisionally Accepted)**

J7. U. Baseer, K. R. Jha, G. Mishra, G. Singh, and **S. K. Sharma**, "Octahedron Shaped Linearly Polarized Antenna for Multi-Standard Services including RFID and IoT," **IEEE Trans. Antenna Propag. (Revision Stage)**

J8. K. R. Jha, G. Mishra, and **S. K. Sharma,** "Analysis and Design of a Microwave Absorber using Non-Resonance Constituent Parameter Retrieval Method for Wireless Communication Applications", **IEEE AWPL, (Under Review).**

J9. Mohana V. Komandla, B. Babakhani, and **S. K. Sharma**, "Dual Mode Dipole Antenna on High Impedance Surface for Beam Switching Applications", **IEEE Antennas and Wireless Propagation Letters, (Under Preparation).**

J10. A. Wang, and **S. K. Sharma**, "Four Elements Compact MIMO Antenna with Reconfigurable Lower Band and Consistent High Band for Tablet Applications", **IEEE Microwaves, Antennas & Propagation (Under Preparation)**

J11. R. George, A. Castro, and **S. K. Sharma**, ""Comparison of 8x8 Sequentially Rotated Wideband Circularly Polarized High Gain Microstrip Patch Array Antennas on Planar and Curved Surfaces", **IET Microwaves, Antennas & Propagation (Under Preparation).**

• Accepted/Published

Year 2016

J12. N. Labadie, **S. K. Sharma**, and G. Rebeiz, "Investigations on the use of Multiple Unique Radiating Modes for 2D Beam Steering", **IEEE Trans Antennas and Propagation, Vol. 64, No. 11, November 2016.**

J13. Behrouz Babakhani, and **S. K. Sharma**, "A Frequency Agile Microstrip Patch Phased Array Antenna with Polarization Reconfiguration", **IEEE Trans Antennas and Propagation, Vol. 74, No. 10, October 2016.**

J14. F. Meng, B. Babakhani, **S. K. Sharma**, "A Wideband Frequency Agile Fork-Shape Microstrip Patch Antenna with Nearly Invariant Radiation Patterns", **International Journal of RF and Microwave Computer-Aided Engineering, Vol. 26, No. 7, September 2016**

J15. F. Meng, and **S. K. Sharma**, "A single feed dual-band (2.4 GHz/5 GHz) miniaturized patch antenna for wireless local area network (WLAN) communications", **Journal of Electromagnetic Waves and Applications, October 2016, PP. 1-12.**

J16. B. Babakhani, **S. K. Sharma**, and G. Mishra, "Wideband Circularly Polarized HIS Backed Fan-Shaped Antenna with Directional Patterns Covering L1-L5 GPS Bands", **Microwave and Optical Technology Letters (Accepted for publication).**

J17. T. Hall, and **S. K. Sharma**, "S- and C-Band Modified PIFAs in MIMO Arrangement on Cylindrical Ground Plane" **Microwave and Optical Technology Letters, Vol. 58, No. 9, September 2016.**

Year 2015

J18. N. Labadie, **S. K. Sharma**, and G. Rebeiz, "A Novel Approach to Beam Steering using Arrays Composed of Multiple Unique Radiating Modes", **IEEE Trans Antennas and Propagation, USA, Vol. 63, No. 7, July 2015, pp. 2932 - 2945.**

J19. F. Meng and **S. K. Sharma**, "A Dual-band High Gain Resonant Cavity Antenna with A Single Layer Superstrate", **IEEE Trans Antennas and Propagation, USA, Vol. 63, No. 5, May 2015.**

J20. B. Babakhani and **S. K. Sharma**, "Wideband Frequency Tunable Concentric Circular Microstrip Patch Antenna With Simultaneous Polarization Reconfiguration", **IEEE Antennas and Propagation Magazine, USA, April 2015.**

J21. **S. K. Sharma**, "A Discussion on Reconfigurable and Frequency Agile Planar Antennas", **Forum for Electromagnetic Research Methods and Application Technologies (e-Fermat) Journal,** Vol 9 Feb 2015 **(Review Article).**

Year 2014

J22. N. Labadie, **S. K. Sharma**, and G. Rebeiz, "A Circularly Polarized Multiple Radiating Modes Microstrip Antenna with Beam Peak and Null Steering Satellite Receive Applications", **IEEE Trans Antennas and Propagation, USA**, Vol. 62, No. 7, July 2014, pp. 3490 – 3500.

J23. D. D. Stancil, **S. K. Sharma**, A. L. Fay, "The Remote Educational Antenna Laboratory: Making it Easier to Add Projects to Antenna Courses", **IEEE Antennas and Propagation Magazine**, **USA**, Volume: 56 , Issue: 1, 2014 , Page(s): 211 - 220

J24. Y. Choukiker, **S. K. Sharma**, and S. K. Behera, "Hybrid Fractal Shape Planar Monopole Antenna Covering Multiband Wireless Communications with MIMO Implementation for Handheld Mobile Devices", **IEEE Trans Antennas and Propagation, USA**, Vol. 62, No. 3, March 2014, pp. 1483-1488.

Year 2013

J25. S. Fernandez and **S. K. Sharma**, "Multi-Band Printed Meandered Loop Antennas with MIMO Implementations for Wireless Routers", **IEEE Antennas and Wireless Propagation Letters, USA** (January 2013, pp. 96-99).

J26. **S. K. Sharma**, F. Fideles, and A. Kalikonda, "Planar Yagi-Uda Antenna with Reconfigurable Radiation Patterns", **Microwave and Optical Technology Letters**, Vol. 55, No. 12, December 2013, pp. 2946-2952.

J27. M. Garg, and **S. K. Sharma**, "Wide-Bandwidth Dielectric Resonator Antenna with Omni-directional Radiation Patterns for Beam Focusing Properties in a Circular Array", **International Journal of RF and Microwave Computer-Aided Engineering**, John Wiley & Sons, USA (Article first published online: 8 APR 2013, DOI: 10.1002/mmce.20717).

J28. **S. K. Sharma** and M. Brar, "'Aperture-Coupled Wideband and Multiband Pentagon Shape Dielectric Resonator Antennas (DRAs) and Phased Array Performance", **Microwave and Optical Technology Letters (MOTL),** Wiley Publications, USA, Volume 55, Issue 2, February 2013, Pages: 395–400. DOI: 10.1002/mop.27338

J29. **S. K. Sharma**, M. Thyagarajan, A. Kulkarni and B. Shanmugam, "Investigations on a Frequency Reconfigurable Compact Spiral Loaded Planar Dipole Antenna", **Microwave and Optical Technology Letters (MOTL),** Wiley Publications, USA, Volume 55, Issue 2, February 2013, Pages: 313–316, DOI: 10.1002/mop.27282.

J30. A. Kulkarni, and **S. K. Sharma**, "Frequency Reconfigurable Microstrip Loop Antenna Covering LTE Bands with MIMO Implementation and Wideband Microstrip Slot Antenna all for Portable Wireless DTV Media Player", **IEEE Transactions on Antennas & Propagation, USA** vol. 61, no. 2 pp. 964–968, February 2013

Year 2012

J31. J. Rayno, and **S. K. Sharma**, "Spirograph Planar Monopole Antenna (SPMA) Providing Uni-Directional Invariant Radiation Patterns by Employing a Broadband Ground Plane" **IEEE Antennas and Wireless Propagation Letters, USA**, Volume 11, 2012, Page(s): 1588 – 1591.

J32. J. Rayno, and **S. K. Sharma**, "Wideband Frequency Reconfigurable Spirograph Planar Monopole Antenna (SPMA) Operating in the UHF Band" **IEEE Antennas and Wireless Propagation Letters**, USA, Volume 11, 2012, Page(s):1537 - 1540

J33. J. Rayno and **S. K. Sharma**, "Compact Spirograph Planar Monopole Antenna (SPMA) Covering C-/X-Band with Invariant Radiation Pattern Characteristics", **IEEE Transactions on Antennas & Propagation**, USA, USA, Vol. 60, No. 7, December 2012, Page(s): 6002 - 6007 Digital Object Identifier: 10.1109/TAP.2012.2214117

J34. N. Labadie, **S. K. Sharma**, and G. M. Rebeiz, "Investigations on a Novel Folded Ring Resonator Antenna with Multiband Characteristics", **IEEE Transactions on Antennas & Propagation**, USA, Vol. 60, No. 7, July 2012, pp. 3083-3090.

J35. **S. K. Sharma** and M. Thyagarajan, **"**Performance Comparison of Symmetric and Offset Reflector Antennas Adaptively Illuminated by Novel Triple Mode Feedhorn**", International Journal of Antennas and Propagation** *International Journal of Antennas and Propagation*, Volume 2012 (2012), Article ID 870318, 10 pages, doi:10.1155/2012/870318

J36. A. Kulkarni and **S. K. Sharma**, "A Multiband Antenna with MIMO Implementation for USB Dongle Size Wireless Devices", **Microwave and Optical Technology Letters (MOTL)**, Wiley Publications, USA, Volume 54, Issue 8, August 2012, Pages: 1990–1994

J37. E. Mireles and **S. K. Sharma**, "A Novel Wideband Circularly Polarized Antenna Fed Using Vias Through Ground Plane Holes Connected to 3dB Branch Line Coupler for Worldwide UHF Band RFID Reader Applications", **Progress In Electromagnetics Research B (PIER B)**, *Vol. 42, 23-44, 2012*

J38. B. Shanmugam, and **S. K. Sharma, "**Investigations on a Novel Without Balun Modified Archimedean Spiral Antenna with Circularly Polarized Radiation Patterns**", Applied Computational Electromagnetic Society (ACES) Journal**, ACES JOURNAL, VOL. 27, NO. 8, AUGUST 2012, pp. 676-684.

J39. J. Patin and **S. K. Sharma**, "Single Feed Aperture-Coupled Wideband Dielectric Resonator Antenna (DRA) with Circular Polarization for Ku-Band Applications", **International Journal of Antennas and Propagation**, *Hindawi Publications*, Volume 2012, Article ID 378798, 8 pages, doi:10.1155/2012/378798.

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STUDENT RESEARCH SYMPOSIUM (SDSU)

- My students are participating in SRS since its inception.
- Have made 56 presentations.
- Three times my students have received the Dean's Award
- In SRS 2015, I introduced **new SRS** award for the **WOMEN IN ENGINEERING (WIE)** with First prize $150 and Second prize $100.