Curriculum Vitae

Satish K. Sharma, *Ph. D., Senior Member IEEE, Member USNC/URSI Commission B, ACES Member*

Professor and Director, *Antenna and Microwave Laboratory (AML)*
Associate Editor, *IEEE Transactions on Antennas and Propagation*
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	1993-1997	Ph. D.	Electronics Engineering
Kamla Nehru Institute of Technology Avadh University	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

- *2009* *National Science Foundation's Faculty Early Career Development (CAREER) Award*
- 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
- 1995 Qualified National Eligibility Test-1995 conducted by CSIR, INDIA

- 1984 - 1991 National Scholarship, Government of INDIA & U. P. State Government
- 1982 - 1984 Integrated Scholarship (U.P. State Government, INDIA)

• PROFESSIONAL MEMBERSHIPS and RECOGNIGITIONS

- 2013 *Nominated for IEEE Fellow by Peers in the IEEE Antenna Community*
- 2010 Associate Editor IEEE Trans Antennas and Propagation (Aug 2010—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
- 1997 formerly Member, Institution of Electronics and Telecommunication Engineers (IETE), INDIA

• INDUSTRIAL, RESEARCH AND TEACHING EXPERIENCES

- **June 2012---Continue:** Adjunct faculty with the Computational Science Research Center at San Diego State University
- **June 2010 – August 2010 (***Summer Work***):** Visiting Professor, Space Systems Loral, Palo Alto, California, USA
- **July 2009 – August 2009 (***Summer Work***):** Principal Electrical Engineer, Space Systems Loral, Palo Alto, California, USA
- **September 2010-Present**: Associate Professor, Department of Electrical & Computer Engineering, *San Diego State University*, San Diego, CA, USA (www.sdsu.edu)
- **August 2006-August 2010**: Assistant Professor, 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

• FUNDED RESEARCH GRANTS

P1. SpaceMicro Inc. ($75,000.00), **SPAWAR, SBIR Phase II program, as PI:** *High Performance UHF Antenna for Nanosatellites***,** August 2012 to July 2013 ***(COMPLETED)***

P2. NextGen Aeronautics ($195,000.00)**, DARPA SBIR, Phase II program, as PI**: *Platform Independent Omni-Directional Antennas (IODA "YODA")*, April 2011 to Sept 2013 ***(COMPLETED)***

P3. NextGen Aeronautics ($32,000.00)**, Navy STTR, Phase I program, as PI**: *Wideband Metamaterial Antennas Integrated into Composite Structures*, from August 2010 to March 2011 ***(COMPLETED)***

P4. SpaceMicro Inc. ($21,000.00), **SPAWAR, SBIR Phase I program, as PI:** *High Performance UHF Antenna for Nano-Satellites***,** Sept 2010 to Jan 2011 ***(COMPLETED)***

P5. National Science Foundation (NSF) ($400,000.00), **CAREER Award, as PI:** *Novel Reconfigurable Aperture Antennas and Arrays for Compact Multifunctional Antenna Solutions*, from August 2009 to July 2014 (*Continued*)

P6. NextGen Aeronautics ($28,000.00)**, DARPA SBIR, Phase I program, as PI**: *Platform Independent Omni-Directional Antennas (IODA "YODA")*, from February 2009 to October 2009 ***(COMPLETED)***

- **FUND TO SUPPORT STUDENT TRAVEL**

P7. National Science Foundation (NSF) ($10,000.00), To support travel for the Student Paper Contest (SPC) Finalists from the US Institutions, International Microwave Symposium, 2010, Anaheim, CA ***(COMPLETED)***

- **EDUCATIONAL GRANT COMPLETED**

P8. Statement of Work (SOW) ($136,844.00) to Carnegie Mellon University's PI (Prof. D. Stancil through Prof M. Gupta, SDSU) for the *Remote Education Antenna Laboratory (REAL)* project to complete "*Antenna Starter Kit Development*" and experiment manual preparation. *The project was completed from December 2006 to March 2009 duration*. ***(COMPLETED)***

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

P1. ($5,000.00): *Antennas for Breast Cancer Detection*, from January, 2011 to Dec 2011 ***(COMPLETED)***

P2. $6,500.00): *Investigations on concentric dielectric resonator antennas (DRAs) and arrays with wide bandwidth for Wireless Communications* from January, 2008 to June 2009 ***(COMPLETED)***

P3. $7,645.00): *Investigations on Compact Microstrip Slot Antenna Configurations for Ultra-wideband (UWB) Wireless Communications* from January 2007 to June 2008 ***(COMPLETED)***

- **Local Industry Gifts Secured ($26,000.00)**

P4. TaoGlas Antenna Ltd. ($1,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, April 2013

P5. EMSS, FEKO, USA ($1,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, April 2013

P6. Southwest Antennas Inc. ($1,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, Feb 2012

P7. NextGen Aeronautics Inc, ($10,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, June 2011

P8. Public Wireless Inc, ($2,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, October 2010

P9. SpaceMicro Inc, ($1,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, November 2010

P10. Nextwave Wireless Inc, ($10,000.00): To support the development of Antenna and Microwave Laboratory (AML) and antenna research activity, November 2008

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 (Spring, 2009) to 3rd Edition, Montezuma Publications, Fall 2013.
3. **S. K. Sharma,** "*Course Material for EE596/EE455: Antenna Theory and Design*", with the support of NSF CAREER funding support. To be published by Montezuma Publication in coming offering of the course when offered as EE455 elective course.

STUDENT/VISITING RESEARCHERS ADVISING at SDSU

- **Director, Antenna and Microwave Laboratory (AML):** Developed antenna analysis, design, fabrication and measurement facility since joining in Fall, 2006. The lab includes an **Anechoic Chamber** with combined far-field and spherical near-field radiation pattern measurement system (800MHz to 18GHz), Orbit F/R spectrum analysis program, Vector Network Analyzers (low MHz to 3GHz, low MHz to 6GHz, 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 Designer, HFSS, and FEKO**). After initial major support from the College of Engineering, rest of the equipments were acquired through the local industries support and NSF grant.

Current Graduate Students

- **Ph.D. Students**
  - Nathan R. Labadie
  - Behrouz Babakhani
- **M.S. Students**
  - Bhakti Joshi
  - Daria Lane
  - David R. West
  - Peter Srisc
  - Phil Tran
  - Samer Hamade (M. Eng.)
  - Tavis Hall
  - Treasa Hlaing
- **Undergraduate Students**
  - Alejandro "Allen" Castro
  - Jack Powell

- **Past/Graduated Students**

  - **MS(EE) Students**
    - Abhishek Singh
    - Alex R. Moody
    - Anup N. Kulkarni
    - Anubhava Jain
    - Ashish Tuteja
    - Balamurugan Shanmugam
    - Christopher Meagher
    - Eleonora Tryosi (Exchange Student, Univ of Pavia, Italy)
    - Elias Mireles
    - Henk Visser
    - Jennifer Taylor Rayno
    - Joshua Patin
    - Justin Church
    - Kirthika Nahalingam
    - Manveer Kaur Brar
    - Mehak Garg
    - Mukund Thyagarajan
    - Nathan R. Labadie
    - Pankaj Dagar
    - Rahul Bakshi
    - Shiv K. Varanasi
    - Sunil Rajgopal
    - Tuan Q. Tran

  - **MEng. Students**
    - Amar Lingineni
    - Anusha Kalikonda
    - Jason Thomas
    - Kiran Thota

  - **Undergraduate Students:**
    - Arturo Morales
    - Margie Ramos
    - Michael Hlavaty
    - Treasa Hlaing
    - Rafid Damman
    - Sean Fernandez
    - Felipe Fideles
    - Christian Rempel

- **VISITING RESEARCHERS:**

  - Dr. Meng Fanji, School of Astronautics and Aeronautics, University of Electronic Science and Technology of China, China (June 20, 2013—1 Year)
  - Dr. Kumud Ranjan Jha, School of Electronics & Communication Engineering, Shri Mata Vaishno Devi University (September 25, 2013—1 Year)
  - Dr. H.-G. Cho, Kookmin University, South Korea, Aug 2008 to July 2009

- Ph D Scholars: Yogesh Choukiker and Runa Kumari from National Institute of Technology (NIT), Rourkela, India

• GRADUATE STUDENT AWARDS

- **Student Paper Finalist and Young Scientist Travel Grant**, IEEE International Symposium on Antennas and Propagation, 2012 Nagoya, Japan: **Nathan Labadie**
- **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**
- College of Engineering, The **Dean's Award** in SDSU Student Research Symposium 2011, San Diego State University: **Nathan Labadie**
- CLASTECH 2010: **K. Nahalingam, A. Kulkarni, and E. Mireles (jointly 1st prize)**
- College of Engineering, The **Dean's Award** in Student Research Symposium 2009, San Diego State University: **Alex R. Moody**
- CLASTECH 2009, **Nathan Labadie**, 1st Prize
- CLASTECH 2008, **Christopher Meagher**, 2nd Prize
- College of Engineering, The **Dean's Award** in Student Research Symposium 2008, San Diego State University: **Christopher Meagher**

• COURSES TAUGHT at SDSU (since Fall 2006)

- EE740: Advanced Topics in Physical Electronics (antennas)
- EE645: Antennas & Propagation
- EE596/EE455: Antenna Theory and Design
- EE540: Microwave Devices and Systems
- EE540L: Microwave Devices and systems Laboratory
- EE499: Special Topics (Antenna Theory and Design)
- EE440: Electromagnetic Waves & Transmission Lines/Electromagnetic Waves
- EE340: Electric & Magnetic Field

• SERVICE FOR THE UNIVERSITY (SDSU) AND THE COMMUNITY

SERVICE TO THE SAN DIEGO STATE UNIVERSITY (SDSU)

- **Voting Member**, University Research Council and Graduate and Research Affairs, **Student Research Committee** (August 1, 2013—Continue)
- **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)
- **Member,** ECE Department RTP Committee**,** 2012-2013
- Electromagnetic Systems **subject area coordinator** for the comprehensive examination for Fall, 2012.
- **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 Science, 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 (August 2013-July 2013: 2nd Term Continuing)
- 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*
- *IEE/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*

- *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

- **Chair, Special/Focused Sessions**, IEEE APPLIED ELECTROMAGNETICS CONFERENCE 2013, 18 – 20 Dec 2013, Bhubaneswar, India
- **Chair**, **Student Paper Contest**, 29th International Review of Progress in Applied Computational Electromagnetics, Monterey, CA, March 2013
- **Member**, **Advisory Board Committee**, The 2012 International Symposium on Antennas and Propagation (ISAP2012), Nagoya, Japan, October 29 through November 2, 2012
- **Co-Chair**, **Student Paper Contest**, IEEE AEMC/IAW 2012, Kolkata, India
- **Co-Chair**, **Student Paper Contest**, IEEE MTT-society's International Microwave Symposium (IMS-2010), May 23-28, 2010, Anaheim
- **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.
- ***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. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2012** (Toulouse, France)
2. IEEE Applied Electromagnetics Conference (AEMC) in year **2011, Kolkata, India** served on Scientific Committee
3. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2011** (Spoken, Washington, USA)
4. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2010** (Toronto, Canada),
5. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2008** (San Diego, CA, USA)
6. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2007** (Honolulu, Hawaii, USA)
7. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2006** (Montreal, Canada)
8. 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 **2013, Orlando, Florida, USA**
2. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2012, Chicago, Illinois, USA**
3. The 2012 International Symposium on Antennas and Propagation **(ISAP2012), Nagoya**, Japan, October 29 through November 2, 2012
4. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2011, Spoken, Washington, USA**
5. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2010, Totonto, Canada**
6. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2009, Charleston, South Carolina, USA**
7. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2008, San Diego, CA, USA**
8. URSI CNC/USNC North America Radio Science Meeting (**URSI 2007**), **Ottawa, Canada**
9. International Electromagnetic and Theory Symposia (**EMTS 2007**), **Ottawa, Canada**
1. IEEE International Antennas & Propagation Society Symposium in **year 2007, Honolulu, Hawaii, USA**
10. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2006, Albuquerque, NM, USA**
11. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2006, Montreal, Canada**
12. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2005, Washington, DC., USA**
13. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2005, Saint-Malo, France**
14. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2004, Montreal, Canada**

REVIEWED PAPERS for INTERNATIONAL CONFERENCES/SYMPOSIA

1. 29th International Review of Progress in Applied Computational Electromagnetics (ACES), **2013**
2. IEEE International Conference on Wireless Information Technology and Systems (ICWITS) **2012**
3. IEEE International Symposium On Personal, Indoor and Mobile Radio Communications in year **2011**
4. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2011, Spoken, Washington, USA**
5. IEEE Applied Electromagnetics Conference (AEMC) in year **2011, Kolkata, India**
6. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2010, Toronto, Canada**
7. IEEE International Symposium On Personal, Indoor and Mobile Radio Communications in year **2010**
8. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2009, Charleston, South Carolina, USA**
9. IEEE Applied Electromagnetics Conference (AEMC) in year **2009, Kolkata, India**
10. IEEE International Symposium On Personal, Indoor and Mobile Radio Communications in year **2009**

11. IEEE International Antennas & Propagation Society Symposium and USNC/URSI National Radio Science Meeting in year **2008, San Diego, CA, USA**
12. XXIX URSI General Assembly in year **2008, Chicago, Illinois, USA**
13. IEEE International Antennas & Propagation Society Symposium in year **2007, Honolulu, Hawaii, USA**
14. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2006, Montreal, Canada**
15. International Symposium on Antenna Technology and Applied Electromagnetics (ANTEM) in year **2005, Saint-Malo, France**

LIST OF JOURNAL/CONFERENCE RESEARCH PUBLICATIONS

- ## 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

2. **S. K. Sharma,** L. Shafai and S. Rao, "*Handbook on Modern Reflector Antennas and Feed Systems for Space and Ground Applications*, **Volume I: Theory and Design of Reflectors**", Published by Artech House, USA, June, 2013
3. L. Shafai, **S. K. Sharma** and S. Rao, "*Handbook on Modern Reflector Antennas and Feed Systems for Space and Ground Applications*, **Volume II: Feed Systems**", Published by Artech House, USA, June, 2013
4. S. Rao, L. Shafai and **S. K. Sharma**, "*Handbook on Modern Reflector Antennas and Feed Systems for Space and Ground Applications*, **Volume III: Applications of Reflectors"**, Published by 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 Modern Reflector Antennas and Feed Systems for Space and Ground Applications"*, **Volume I: Theory and Design of Reflectors**", EDITED by S. K. Sharma, S. Rao and L. Shafai, Published by Artech House, USA, June, 2013
5. S. K. Sharma, Z. Pour and L. Shafai, "Chapter 4: Reflector Antennas with Adaptive Apertures", in "*Handbook on Modern Reflector Antennas and Feed Systems for Space and Ground Applications"*, **Volume I: Theory and Design of Reflectors**", EDITED by S. K. Sharma, S. Rao and L. Shafai, Published by Artech House, USA, June, 2013
6. L. Shafai, S. K. Sharma and Z. Pour, "Chapter 1: Introduction", in "*Handbook on Modern Reflector Antennas and Feed Systems for Space and Ground Applications*, **Volume II: Feed Systems**", EDITED by L. Shafai, S. K. Sharma and S. Rao, Published by Artech House, USA, June, 2013

7. 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 Modern Reflector Antennas and Feed Systems for Space and Ground Applications*, **Volume II: Feed Systems**", EDITED by L. Shafai, S. K. Sharma and S. Rao, Published by Artech House, USA, June, 2013

• REFEREED JOURNAL PUBLICATIONS (Under Review)

J1. B. Babakhani and S. K. Sharma, "Frequency Agile Circular Microstrip Patch Antenna Capable of Polarization Reconfiguration for L-Band Communications", *IEEE Trans Antennas and Propagation, USA* (*Under Review*)

• REFEREED JOURNAL PUBLICATIONS (Accepted/Published)

Year 2013 (*Published/Accepted for publications*)

J2. 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* (*Accepted for publication*)

J3. 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** (*Accepted for Publication*)

J4. 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** (*Accepted for Publication*).

J5. 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).

J6. S. K. Sharma, F. Fideles, and A. Kalikonda, "Planar Yagi-Uda Antenna with Reconfigurable Radiation Patterns", **Microwave and Optical Technology Letters** (Accepted for publication).

J7. 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).

J8. **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

J9. **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.

J10. 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

J11. 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.

J12. 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

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C67 **S. K. Sharma**, and L. Shafai, "Investigations of Far-Field Phase Shift of Wideband Rectangular Microstrip Antenna for Phased Array Applications", Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2004**), Ottawa, Canada, July 20-23, 2004, pp. 259-263.

C68 **S. K. Sharma**, and L. Shafai, "Investigations on Beam focusing Properties of Circular Monopole Arrays on Finite Ground Plane", IEEE International Symposium on Antenna and Propagation, **IEEE APS-2004**, Monterey, USA, June 20-25, 2004, Vol. I, pp. 1046-1049.

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C70 S. I. Latif, **S. K. Sharma**, and L. Shafai, "Wideband Microstrip L-Slot Antenna for Wireless Communications", 2004 URSI International Symposium on Electromagnetic Theory, **URSI-2004**, Pisa, Italy, May 23-27, 2004, Vol. 2, pp. 1158-1160.

C71 **S. K. Sharma**, and L. Shafai, "A Height Reduction Technique for Log-Periodic Zigzag Antenna Using A Quasi-Fractal Concept", 2004 URSI International Symposium on Electromagnetic Theory, **URSI-2004**, Pisa, Italy, May 23-27, 2004, Vol. 1, pp. 667-669.

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C73 D. Chrusch, C. Shafai, L. Shafai, and **S. Sharma**, "Micromachined Microstrip Phase Shifter", Third Canadian Workshop on MEMS, **CWMEMS 2003** Poster Presentation, Ottawa, Canada, August 18-22, 2003. ***(Abstract only)***

C74 **S. K. Sharma**, and L. Shafai, "Investigations of a Compact Vertically Polarized Backfire High Frequency Traveling Wave Antenna", IEEE International Symposium on Antenna and Propagation, **IEEE APS-2003**, Columbus, USA, June 22-27, 2003, vol. 1, pp. 253-256.

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Year 2002

C77 **S. K. Sharma**, N. Jacob, and L. Shafai, "Investigations on Low Profile Wide Band Slot Antenna For Wireless Communications", XXVIIth General Assembly URSI 2002 (**URSI 2002**), MECC, Maastricht, The Netherlands, August 17-August 24, 2002.

C78 C. Shafai, **S. K. Sharma**, and L. Shafai, "Microstrip Phase Shifter Using Actuating Ground Plane Membrane", Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2002**), Montreal, Quebec, Canada, July 31-August 2, 2002, pp. 592-595.

C79 L. Shafai, C. Shafai, Leili Shafai, **S. K. Sharma**, and G. Seguin, "Planar Array Implementation Using Ground Plane Reconfiguration", Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2002**), Montreal, Canada, July 31-August 2, 2002, pp. 368-371.

C80 **S. K. Sharma**, N. Jacob, and L. Shafai, "Beam Focusing Properties of a Circular Monopole Array on Finite Ground Plane", Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2002**), Montreal, Canada, July 31-August 2, 2002, pp. 164-167.

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Year 2001

C82 **S. K. Sharma**, and L. Shafai, "Performance of Ka-band Microstrip Planar Array Antenna", 8th International Symposium Microwave and Optical Technology (**ISMOT-01**), Montreal, Quebec, Canada, June 19-23, 2001, pp. 105-108.

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C85 **S. K. Sharma**, and L. Shafai, "Performance of a Microstrip Planar Array Antenna at Millimeter Wave Frequencies using a Series-Parallel Feed Network", IEEE International Symposium on Antenna and Propagation, **IEEE APS-2001**, Boston, Massachusetts, USA, July 8-13, 2001, vol. 3, pp. 594-597.

Year 2000

C86 **S. K. Sharma**, and L. Shafai, "Aperture Coupled Dual Band Dual Circularly Polarized Stacked Microstrip Antenna", International Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2000**), Winnipeg, MB, Canada, July 30-August 2, 2000, pp. 41-44.

C87 **S. K. Sharma**, A. Sebak, and L. Shafai, "Scan Range Enhancement using WAIM sheets for Infinite Planar Waveguide Phased Array Antennas", International Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2000**), Winnipeg, Manitoba, Canada, July 30-August 2, 2000, pp. 213-216.

C88 **S. K. Sharma**, M. Clenet, and L. Shafai, "Effect of Shorting Posts or Vias on Stacked U-slot Microstrip Antenna Performance", International Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2000**), Winnipeg, Manitoba, Canada, July 30-August 2, 2000, pp. 235-238.

C89 **S. K. Sharma**, A. Sebak, and L. Shafai, "Parametric Studies of WAIM Sheets for Waveguide Phased Array Antennas", International Symposium on Antenna Technology and Applied Electromagnetics (**ANTEM 2000**), Winnipeg, Manitoba, Canada, July 30-August 2, 2000, pp. 459-462.

Before Year 1999

C90 **S. K. Sharma**, and B. R. Vishvakarma, "MOS Capacitor loaded Frequency Agile Microstrip Antenna", International Wireless and Telecommunication Symposium/Exhibition'98 (**IWTS**), Kualalumpur, Malaysia, May 13-15, 1998.

C91 **S. K. Sharma**, and B. R. Vishvakarma, "Theoretical Investigations on Microstrip Active Antenna", Fourth International Symposium on Antennas and EM Theory'97 (**ISAE**), Xian, P. R. China, August 19-22, 1997, pp. 549-552.

C92 **S. K. Sharma**, and B. R. Vishvakarma, "Multi-element Frequency Independent Microstrip Stacked Antenna", Fourth International Symposium on Antennas and EM Theory'97 (**ISAE**), Xian, P. R. China, August 19-22, 1997, pp. 288-291.

C93 **S. K. Sharma**, and B. R. Vishvakarma, "Fringing Field Capacitance Approach for the Analysis of Microstrip Patches of Various Shapes", International Wireless and Telecommunication Symposium/Exhibition'97 (**IWTS**), Shah Alam, Selangor, Malaysia, May 14-16, 1997.

C94 **S. K. Sharma**, and B. R. Vishvakarma, "Theoretical Investigations on Frequency Agile Microstrip Patch Antenna", International Wireless and Telecommunication Symposium/Exhibition'97 (**IWTS**), Shah Alam, Selangor, Malaysia, May 14-16, 1997.

C95 **S. K. Sharma**, and B. R. Vishvakarma, "Frequency Scanning Microstrip Array Antenna", VIII Asia Pacific Microwave Conference (**APMC'96**), New Delhi, Dec 17-20, 1996, pp. 307-311.

• SDSU *STUDENT RESEARCH SYMPOSIUM (SRS)* PRESENTATIONS (Abstracts)

1. S. Rajgopal and S. K. Sharma, "Investigations on Ultra-wide Bandwidth Planar Microstrip Slot Antennas", *Student Research Symposium 2008*
2. C. Meagher and S. K. Sharma, "Fabrication Techniques for Aperture-Coupled Microstrip Patch Antennas", *Student Research Symposium 2008* **(The Dean's Award)**
3. B. Thummala and S. K. Sharma, "Design of Dual Band Circular Waveguide Horn Antennas", *Student Research Symposium 2008*
4. N. Labadie and S. K. Sharma, "Novel Volumetric Metamaterial Structures for Microwave Device and Antenna Applications", *Student Research Symposium 2009*
5. P. Dagar and S. K. Sharma, "Investigations on the Design of a Wideband Microstrip Bandpass Filter with the Help of Defected Ground Structures (DGS)", *Student Research Symposium 2009*
6. A. Singh and S. K. Sharma, "Investigations on Cylindrical Shape Dielectric Resonator Antenna (DRA) with Wide Impedance Bandwidth and Low Cross Polarization Gain using Anti-Probe Arrangements", *Student Research Symposium 2009*
7. J. Church and S. K. Sharma, "An Investigation on the Wideband Radiation Behavior of a Sierpinski Microstrip Fractal Antenna using a Novel Feed Network", *Student Research Symposium 2009*
8. R. Bakshi and S. K. Sharma, "Investigations on Ground Plane Reconfiguration based Frequency Agile Microstrip Patch Antennas", *Student Research Symposium 2010*
9. P. Dagar and S. K. Sharma, "Investigations on the Design of a Wideband Microstrip Bandpass Filter with Defected Ground Structures(DGS)", *Student Research Symposium 2010*
10. R. Moody and S. K. Sharma, "Investigations on Co-planar Waveguide Fed Pentagon Shaped Planar Monopole Ultra-Wide Bandwidth Antenna Providing Invariant Radiation Patterns", *Student Research Symposium 2010* **(The Dean's Award)**

11. N. Labadie and S. K. Sharma, "Investigations on Novel Reconfigurable Aperture Antennas Employing Multimode Radiating Elements and Metamaterial Structures", *Student Research Symposium 2010*
12. A. Rodriguez and S. K. Sharma, "Novel Designs for Electrically Small Antennas (ESA)", *Student Research Symposium 2010*
13. J. Patin and S. K. Sharma, "Investigations of a Four Pole Dielectric Resonator Filter and Circularly-Polarized Dielectric Resonator Antenna for Ku band Satellite Communications Applications", *Student Research Symposium 2010*
14. A. Tuteja and S. K. Sharma. "Investigations on a Triple (TE11, TM01, TE21) Mode Feedhorn Capable of Providing Scanned Radiation Patterns", *Student Research Symposium 2010*
15. S. Varanasi and S. K. Sharma, "Improving Radiation Pattern Performance of Psi-shape Microstrip Patch Antennas by Employing Dielectric Sheet with Metallic Strips", *Student Research Symposium 2010*
16. D. West and S. K. Sharma, "Design of Frequency Reconfigurable Compact Multiband Quasi-Log Periodic Dipole Array (QLPDA) Antenna for Wireless Communications", *Student Research Symposium 2010*
17. T. Hlaing and S. K. Sharma, "Some Investigation on Breast Cancer Tumor Detection Using Wideband Psi-shaped Patch Antennas", *Student Research Symposium 2011*
18. K. Nahalingam and S. K. Sharma, "Microwave Breast Cancer Detection by Ultra-Wideband (UWB) Microstrip Slot Antennas", *Student Research Symposium 2011*
19. E. Mireles and S. K. Sharma, "Radio Frequency Identification (RFID) Reader Antenna for Ultra High Frequency (UHF) Worldwide Applications", *Student Research Symposium 2011*
20. B. Shanmugam and S. K. Sharma, "Design of a Balun-free UWB Modified Archimedean Spiral Antenna", *Student Research Symposium 2011*
21. A. Kulkarni and S. K. Sharma, "Very Compact Multiband Antenna System for 4G LTE USB Devices with MIMO Implementation", *Student Research Symposium 2011*
22. M. Brar and S. K. Sharma, "A Wideband Aperture-Coupled Pentagon Shape Dielectric Resonator Antenna", *Student Research Symposium 2011*
23. N. Labadie and S. K. Sharma, "Investigations on a Novel Folded Ring Resonator Antenna with Multiband Characteristics", *Student Research Symposium 2011* **(The Dean's Award)**
24. N. Labadie and S. K. Sharma, "Multimode Antenna Element with Hemispherical beam Peak and Null Steering", *Student Research Symposium 2012*
25. J. Rayno, and S. K. Sharma, "Compact Spirograph Planar Monopole Antenna (SPMA) Covering C-/X-Band with Invariant Radiation Pattern Characteristics", *Student Research Symposium 2012*
26. P. Srsic and S. K. Sharma, "Characterization of Improved Interdigital Capacitor Metamaterial Unit Cells for Microstrip Patch Antenna Applications", *Student Research Symposium 2012*
27. R. Damman, and S. K. Sharma, "Frequency Reconfigurable Microstrip Patch Antenna", *Student Research Symposium 2012*
28. R. Damman, S. K. Sharma, "Beam Steering Performance of a Wideband Modified E-Shape Microstrip Patch Antenna Array", *Student Research Symposium 2012*
29. M. Thyagarajan, and S. K. Sharma, "Performance of Symmetric and Offset Reflector Antenna Geometries by Employing Triple Mode Feedhorn with Displaced Phase Centers", *Student Research Symposium 2012*
30. H. Visser and S. K. Sharma, "Compact Microstrip Slot Multiband Antennas for Handheld Devices", *Student Research Symposium 2012*

31. M. Garg and S. K. Sharma, "Cylindrical Dielectric Resonator Antenna with Controllable Wide-Bandwidth and Monopole Like Omni-Directional Radiation Patterns", *Student Research Symposium 2012*
32. Phu Tran and S. K. Sharma, "The study of the effects of different loading armor materials on the spiral antenna", *Student Research Symposium 2013*
33. A. Kalikonda and S. K. Sharma, "Investigations of Wideband Microstrip E patch antenna array on Curved Surfaces", *Student Research Symposium 2013*
34. N. Labadie, and S. K. Sharma, "A Circularly Polarized Multimode Patch Antenna with Full Hemispherical Null Steering for GPS Applications", *Student Research Symposium 2013*
35. B. Babakhani and S. K. Sharma, "Frequency Agile Polarization Reconfigurable Varactor Loaded Microstrip Circular Patch Antenna", *Student Research Symposium 2013*

- **INVITED SPEAKER and PANEL DISCUSSION**

- Invited Speaker, "Reconfigurable and Tunable Planar Antennas: Design Considerations and Challenges", Power Amplifier Symposium, University of California, San Diego, September 4-5, 2013
- 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.
- Invited talk, "NOVEL RECONFIGURABLE ANTENNAS AND ARRAYS", in Computational Science Research Center (CSRC) at San Diego State University as a speaker, October 5th, 2012.
- 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".
- Served on Panel Discussion on "Reconfigurable antennas" on March 20, 2012 during IDGA's Military Antenna West Conference in San Diego
- Gave ***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
- ***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 lecture on Antenna Research Activity by my group and mainly discussing the progress of funded research through this grant
- ***Offered two day antenna course workshop*** to NextGen Aeronautics Inc., Torrance, CA, engineers on June 10-11, 2012 on their invitation.
- ***Gave invited talk of 30 minutes during 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