

Animesh Biswas

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1. (a) **Present Designation** : Professor
(b) **Date of Birth** : April 04th, 1960
(c) **Permanent Address** : Qr. No. 4089, IIT Campus,
Indian Institute of Technology Kanpur,
Kanpur – 208016, India

2. Academic Qualifications:

<i>Degree</i>	<i>Institution/University</i>	<i>Year of Completion</i>	<i>Specialization</i>
Ph.D.	Indian Institute of Technology, New Delhi.	1989	Microwave and Millimeter Wave Technique.
M.Tech.	Indian Institute of Technology, Kharagpur.	1982	Microwave and Radar Engineering.
B.E.	Calcutta University	1980	Electronics and Tele Communications

3.(a) Post Doctoral Research Experience:

Duration : May 1989 - July 1990
Institution : Oregon State University, USA
Area : Millimeter Wave Technique.

3.(b) Teaching Experience:

(i) Oregon State University, USA:

Duration : May 1989 - July 1990
Area : Microwave Technique.
Courses Taught : 1) Electromagnetic Theory; 2) Microwave Circuits & Measure.

(ii) Indian Institute of Technology, Kanpur:

Position & Duration : a) **Assistant Professor**, from **March, 1993** to **May, 1997**
b) **Associate Professor**, from **May, 1997** to **Dec., 2003**
c) **Professor**, from **Dec., 2003** to **till date**.

Area : Electromagnetic & Microwave Technique.

Course Taught : 1) Introduction to Electronics (UG, Compulsory), 2) Electromagnetic Theory (UG); 3) UHF & Microwave Tech. (PG); 4) Antennas & Propagation (UG); 5) Microwave Circuits (PG); 6) Microwave Measurement and Design (PG); 7) Computational Electromagnetic (PG); 8) Advance Engineering Electromagnetic (PG).

Course Developed and offered : Monolithic Microwave Integrated Ckts (PG)

3. (c) Industrial Experience

<i>Period</i>	<i>Organization</i>	<i>Nature of Work</i>	<i>Position</i>
Aug. 1982 to Dec. 1987	Indian Telephone Industries Ltd., Bangalore, India.	Research & Development of Microwave Circuits like filter, amplifier, coupler, Up-Down Converter in MIC environment	Asst. Executive Engineer
Jan. 1988 to April 1992	-do-	-do-	Executive Engineer

4. (a) Sponsored Project

<i>Period</i>	<i>Sponsoring Agency</i>	<i>Title of Project</i>	<i>Amount of Grant in Lakhs (Rs.)</i>	<i>Authority</i>	<i>Status of work</i>
3 Years	Defence Lab. DRDO, India	Studies on Dielectric Resonator at Millimeter Wave Frequency and Development of Filter.	7.36	Principal Investigator	Completed

2 Years	C. S. I. R, New Delhi	Development of Microstrip line based impedance matching and filters on GaAs substrates and characterization at (1 - 10GHz) for Photo Detectors and Optical receiver.	6.75	Co- Investigator (PI : Dr. Utpal Das)	Completed
3 Years	Defence Lab DRDO, India	Design and development of down converter at millimeter wave frequency	35.40	Principal Investigator	Completed
2 Years	C.S.I.R, New Delhi	Development of microstrip line based dielectric resonator oscillator at GSM and PCS band for mobile communication,	7.14	Principal Investigator	Completed
3 Years	DST, New Delhi	Development of anisotropic ceramic dielectric resonator for miniature microwave circuit application.	17.75	Principal Investigator	Completed
3 Years	Defence Lab DRDO, India	Design and development of wide band band pass filter using multiconductor lines for high speed integrated applications	14.36	Principal Investigator	Completed
3 Years	UKIERI, British Council, UK	Transreceiver Chip for the next generation of network in Telecommunication	19.88	Principal Investigator	Completed
2 Years	SAC, ISRO	Development of Dielectric Resonators for Applications to Microwave Systems	33.27	Co- Investigator	Completed
2 Years	DST, New Delhi	Multilayer multi-permittivity dielectric resonator antenna for wide band application	41.26	Co- Investigator	Ongoing
3 Years	Indo- Australia Strategic Research Fund.	Planar high gain antennas based on electromagnetic band gap concept	24.04	Principal Investigator	Ongoing

2 Years	UGC-UKIERI	Adaptive and Reconfigurable multiband, multimode and multifunction monolithic millimeterwave integrated circuits	21.02	Principle Investigator	Ongoing
2 years	ISRO	Application of metamaterial mushroom structure for realisation of planar single/triple passband filter for significant size reduction.	26.5	Principle Investigator	Ongoing

4. (b) Consultancy Projects

- Served as a *Technical Consultant* to the *Phase Device Ltd., U.K.* from *Jan. 1996 to May. 1998* for development of microwave filters and couplers for wireless applications also developed code for transmission structures in layered media.

4. (c) High Level Summer Industrial Assignment

- From *June, 2003 to July, 2003*, I served as a *Technical Consultant* for *M/s. Cypress Semiconductor Inc., Bangalore.* *Designed intra_chip wireless interconnects including Tx/Rx antennas for clock transmission.*

5. Laboratory Development

- Developed Microwave Circuit Lab in Electrical Engineering Dept., IIT Kanpur for research and development in the area of Microwave Circuits with the partial financial support from Phase Device Ltd., U.K and sponsored projects. Presently, this Lab. is actively involved in development of CAD for transmission structures for layered medium, Dielectric resonators and its Q-factor measurements and prototype filter developments. This Laboratory provides extensive microwave measurement facilities up to 40 GHz and has state of the art high frequency design tools like ADS and HFSS software.

6. International/National Assignments

1. Visited *M/s. COMDEV Wireless Group, U.K.* for one year (June 1998 to July 1999) as a **Technical Adviser** to work on diplexer and multiplexers using dielectric combline resonator at GSM and PCS band. Dual mode and triple mode dielectric resonators filters are first time implemented and demonstrated by me at COMDEV Europe. I was also involved in development of algorithm for generalized filter theory.
2. Visited *M/s. Ashvattha Semiconductors, USA* from December, 2000 to December, 2001 to conduct research and development on RF IC design for wireless applications. I worked there on design, develop and tested LNA, Mixer and Power Amplifier using SiGe technology for wireless applications. I was also involved in isolation and integration technique for GSM, PCS and GPS band Trans/receive circuits in a single chip, which was awarded a US patent for the company.

3. Visited *Chung-Ang University, Seoul, Korea* as a **distinguished visiting Professor** from July, 2005 to December, 2005. I was involved in research and teaching on RFIC applied to wireless W-CDMA applications.
4. Visited *Indian Institute of Space Science and Technology, Trivandrum, Kerala* as a **Visiting Professor** from December, 2011 to December, 2012. I was involved in research and teaching on RF and Microwaves and helped in developing M.Tech programme on RF and Microwaves.

7. Award/Honor

1. Recipient of National Merit Certificate from Govt. of India in school leaving Examination.
2. Serving as a paper reviewer in the area of Microwave Theory and Technique, IEEE and Microwave and Electromagnetic for IETE, India.
3. Recipient of UKERI research award from British Council, UK.
4. **Best Student Paper Bronze Award** in *IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2010), 9 - 11 November 2010, Port Dickson, Malaysia* for paper entitled "An Investigation on Three Element Multilayer Cylindrical Dielectric Resonator Antenna Excited by a Coaxial Probe for Wideband Applications.", authored by Raghvendra Kumar Chaudhary, Kumar Vaibhav Srivastava and **Animesh Biswas**.
5. **Best Paper Award** in Session for paper entitled "Design of a Wide-Band Dual Segment Half-split Cylindrical Dielectric Resonator Antenna ", authored by Raghvendra Kumar Chaudhary, S. Bhattacharyya, K. V. Srivastava and **Animesh Biswas**, in *5th Antenna Test & Measurement Society (ATMS) Conference, 01 - 03 Feb., 2012, Mumbai, India*.

8. Publications

(a) Refereed Journals Publications:

1. B.N.Das and A. Biswas," Excitation of multimode guide by stripline fed slot", *Electronic Letts.*, Vol. 18, pp. 801-802, Sept. 1982.
2. A. Biswas and B. Bhat," Accurate characterization of inductive strip in finline", *IEEE Trans. Microwave Theory and Tech.*, Vol. MTT-36, pp. 1233-1238, Aug. 1988.
3. A. Biswas and B. Bhat," Theoretical investigations of periodic structures in unilateral and bilateral finline", *Journal IETE*, Vol. 37, No. 4, pp.344-348, July-Aug. 1991.
4. A. Biswas and V. K. Tripathi," Modeling of asymmetric and offset gaps in shielded microstrip and slotline", *IEEE Trans. Microwave Theory and Tech.*, Vol.38, No. 6, pp. 818-822, June 1990

5. M. Thorburn, A. Biswas and V. K. Tripathi, "Application of method of lines to cylindrical inhomogeneous propagation structures", *Electronic Letters*, Vol.26, No. 3, pp 170-171, Feb. 1990.
6. M. Thorburn, A. Biswas and V. K. Tripathi," The application of the method of lines to planar transmission line in wave guide with composite cross-sectional geometry", *IEE Proceedings- H*, Vol.- 139, No.6,pp. 542-544, Dec. 1992.
7. S. Lou, A. Biswas and V. K. Tripathi," Finline Multiport Coupler", *IEEE Trans. Microwave Theory and Tech.*, No.12, pp.2207-2215, December, 1994.
8. A. K. Gupta and A. Biswas," Characterization of off-slot discontinuity in unilateral finline", *IEEE Trans. Microwave Theory and Tech.*, Vol.34, No.6, pp.1398-1400, June, 1995.
9. L. K. Pradhan and A. Biswas," Rigorous hybrid mode analysis of asymmetric coupled shielded dielectric image guide", *Microwave and Optical Technology Lett.*, Vol.9, No.1, pp.57-62, May 1995.
10. R. K. Shukla and A. Biswas," Coupling between offset layered dielectric resonators in suspended substrate", *Microwave and Optical Technology Lett.*, Vol.11, No.1, pp.51-53, Jan. 1996.
11. R. K. Shukla and A. Biswas," Coupling between a dielectric resonator and strip conductor with finite thickness on suspended substrate", *Microwave and Optical Technology Lett.*, Vol. 11, No. 4, pp. 210-212, March, 1996.
12. P. Kumar, R.K. Shukla and A. Biswas, "An accurate determination of Q-factor of a dielectric resonator in suspended substrate environment", *Microwave and Optical Technology Lett.* Vol.14, No.2, pp.128-130, February, 1997.
13. S. Palanichami and A. Biswas," Frequency dependent analysis of microstrip-slot coupled line for phase shifting and impedance transforming network applications", *Microwave and Optical Technology Lett.*, vol.19, no.4, pp.262-267, November, 1998.
14. S. Dhingra, R. K. Shukla and A. Biswas," Inter resonator coupling between two TM_{018} mode cylindrical dielectric resonator", *Microwave and Optical Technology Letter*, vol.19, no. 3, pp. 210-213, October, 1998.
15. S. Palanichami, A. Biswas and R. K. Shukla," Full wave analysis of dominant and higher order modes in microstrip-slot coupled line with uniaxial anisotropic dielectric substrate", *Microwave and Optical Technology Letter*, vol.25, no.6, pp. 400-406, June, 2000.
16. U. Das, R. K. Joshi, D. Biswas and A. Biswas, " Suspended substrate Bias-T at 2.5 – 10 GHz", *Microwave and Optical Technology Letter*, Vol.27, No.6, pp.444-447, December, 2000.
17. R. K. Shukla and A. Biswas, " Application of Genetic Algorithm for computer aided design and optimization of microwave circuits", *IETE Journal of Research*, Vol.47, Nos.3&4, pp. 1-4, May-August, 2001
18. R. K. Shukla and A. Biswas, " Full wave modeling of offset overlap and gap discontinuity for asymmetric strip conductors in multi-layered MIC environment",

- Microwave and Optical Technology Letter*, Vol. 35, No. 3, pp. 247-251, November, 2002.
19. K. V. Srivastava, V. V. Mishra and A. Biswas, "A modified Ring Dielectric Resonator with Improved Mode Separation and its Tunability Characteristics in MIC Environment", *IEEE Trans. on Microwave Theory and Technique*, Vol.53, No. 6, pp. 1960-1967. June 2005.
 20. P. Chandra and A. Biswas, "A CAD model of generalized high pass filter using Chebyshev polynomial for RF application", *International Journal of RF And Computer-Aided Engineering, John Wiley*, Vol.6, No.2, pp-155-163, March 2006.
 21. A. Mohan, G. Boech and A. Biswas, "Modeling of On-chip inductors and transformers for GaAs MMICs", *Microwave and Optical Technology Letter*, John Wiley, USA, Volume 47, No. 3, 5, pp. 270-274, November 2005.
 22. K. V. Srivastava, S. Awasthi and A. Biswas, "Dispersion and Attenuation Characteristics of Asymmetric Multiconductor Lines in Suspended Substrate Structure using Full wave Modal Analysis", *Microwave and Optical Technology Letters*, Vol-48, No. 7, pp.1305-1310, July 2006.
 23. Alok Kumar Gupta, Akhilesh Mohan, Animesh Biswas, "Full-wave analysis of single and coupled striplines in multilayered cylindrical dielectrics using the 3D TLM method," *Microwave and Optical Technology Letters*, Vol. 48, No.2, pp. 298-302, February 2006.
 24. Kumar Vaibhav Srivastava, Vishwa V. Mishra and Animesh Biswas, "An Accurate Analysis of Numerical Dispersion for 3-D ADI-FDTD with Artificial Anisotropy," *Microwave and Optical Technology Letters*, vol. 49, no. 12, pp. 3109-3112, December 2007.
 25. Kumar Vaibhav Srivastava, Vishwa V. Mishra and Animesh Biswas," Bandpass Filter with Improved Spurious Performance using Modified Ring Dielectric Resonator in MIC Environment," *Microwave and Optical Technology Letters*, Vol.50, No.5, pp. 1426-1431, May 2008.
 26. Akhilesh Mohan and Animesh Biswas,"Dual-Band Bandpass filter using Defected Ground Structure," *Microwave and Optical Technology Letters*, Vol. 51, No.2, pp.475-479, February 2009.
 27. Akhilesh Mohan, Surinder Singh and Animesh Biswas," Generalized Synthesis and Design of Symmetrical Multiple Passband Filters" *Progress In Electromagnetic Research (PIER) B*, Vol.42, pp.115-139, 2012.
 28. G. Naga Satish, K. V. Srivastava, A. Biswas, "Compact Bandpass filter using zeroth order resonance of via free left-handed line," *International Journal Microwave and Optical Technology (IJMOT)*, November, 2010.
 29. Raghvendra Kumar Chaudhary, V. V. Mishra, K. V. Srivastava and A. Biswas, "Improved Spurious Free Performance of Multi-Layer Multi-Permittivity Dielectric Resonator In Mic Environment", *Progress In Electromagnetics Research (PIER) B*, Vol. 30, pp. 135-156, May 2011.

30. Raghvendra Kumar Chaudhary, H. B. Baskey, K. V. Srivastava and Animesh Biswas, "Synthesis and Microwave Characterization of $(Zr_{0.8}Sn_{0.2})TiO_4$ -Epoxy Composite and its Application in Wideband Stacked Rectangular Dielectric Resonator Antenna", *IET (formerly IEE Proceedings) Microwave, Antenna and Propagation*, Vol. 6, Issue 7, pp. 740-746, May 2012.
31. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "Three-element Multi-layer Multi-permittivity Cylindrical Dielectric Resonator Antenna for Wideband Applications with Omnidirectional Radiation Pattern and Low Cross-polarization", *Microwave and Optical Technology Letters (MOTL), Wiley Journals*, Vol. 54, Issue 9, pp. 2011-2016, Sept. 2012.
32. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "Wideband Multi-layer Multi-permittivity Half-split Cylindrical Dielectric Resonator Antenna ", *Microwave and Optical Technology Letters (MOTL), Wiley Journals*, Vol. 54, No. 11, pp. 2587-2590, Nov. 2012.
33. Akhilesh Mohan and Animesh Biswas, "High Q defected ground structure having spurious free wide passband", *International Journal of Microwave and Optical Technology (IJMOT)*, Vol.7, No.5, Sept. 2012.
34. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "Broadband Four-element Multi-layer Multi-permittivity Cylindrical Dielectric Resonator Antenna", *Microwave and Optical Technology Letters (MOTL), Wiley Journals*, Vol. 55 (4), pp. 932-937, April. 2013.
35. T. Gupta, M. J. Akhtar and A. Biswas, "A unit cell approach to model and characterize the metal powders and metal-dielectric composites at microwave frequencies, "*Journal of Progress in Electromagnetic Research, PIER-B*, Vol. 49, 2013, pp. 363-387.
36. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "A Practical Approach: Design of Wideband Cylindrical Dielectric Resonator Antenna with Permittivity Variation in Axial Direction and its Fabrication using Microwave Laminates", *Microwave and Optical Technology Letters (MOTL), Wiley Journals, Vol. 55, Issue. 10, pp. 2282-2188, Oct. 2013*
37. Seema Awasthi, Animesh Biswas and Jaleel Akhtar, "A CAD Model of Triple-bandpass Filter Implemented with Metamaterial Mushroom Structure", *International Journal of RF and Computer-Aided Engineering, John Wiley, USA, 2013*, vol: 24, no.: 4, 2013, pp- 421-428.
38. Seema Awasthi, Animesh Biswas and M.J.Akhtar," Dual Stopband Filters using Metamaterial Hexagonal Mushroom Resonator," *Microwave Optical Technology Letters*, vol: 56, no.: 2 2014, pp- 326-329.
39. Seema Awasthi, Raghvendra Kumar Chaudhary, Animesh Biswas and M. Jaleel Akhtar, "Hybrid Mode Splitting in Elliptical Dielectric Resonator," *International Journal of Electronics Letters*, vol: 1, iss.: 4, 2013, pp- 225-232.

40. Prashant Kishor Dwivedi, Seema Awasthi, Animesh Biswas and Kumar Vaibhav Srivastava, "Design of Dual Passband Filter using Dual Mode Semicircular Dielectric Resonators", *Microwave Optical Technology Letters*, vol: 56, no: 4, 2014, pp- 542-547.
41. Prasun Chongder, Kumar Vaibhav Srivastava, Animesh Biswas, "Realization of Controllable Transmission Zeros by Perturbation Technique for Designing Dual-Mode Filter using Substrate Integrated Hexagonal Cavity (SIHC)," *IET (formerly IEE Proceedings) Microwave, Antenna and Propagation (MAP)*, vol: 8, issue: 6, 2013 pp- 451-457.
42. Akhilesh Jain, P. R. Hannurkar, S. K. Pathak, Animesh Biswas, Mrigank Srivastva, "Improved Performance of Two-Way Power Divider using Dielectric Resonator", *Microwave Optical Technology Letters*, vol: 56, no: 4, 2014 pp- 858-861.
43. Soumava Mukherjee, Animesh Biswas, Kumar Vaibhav Srivastava, "Broadband Substrate Integrated Waveguide Cavity Backed Bow-Tie Slot Antenna," in *IEEE Antennas and Wireless Propag. Letters*, 2014, vol: 13, pp- 1152-1155.
44. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "A Broadband Dumbbell-Shaped Dielectric Resonator Antenna", *Microwave Optical Technology Letters*, vol: 56, iss: 12, pp - 2944-2947, 2014.
45. Seema Awasthi, Animesh Biswas and Mohammed Jaleel Akhtar, "Dual-Band Dielectric Resonator Bandstop Filters", *International Journal of RF and Computer-Aided Engineering, John Wiley*, vol: 25 iss. 4, pp- 282-288, 2015.
46. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "Variation of permittivity in radial direction in concentric half-split cylindrical dielectric resonator antenna for wideband application", *International Journal of RF and Computer-Aided Engineering, John Wiley*, vol: 25, iss: 4, pp- 321-329, 2015.
47. Soumava Mukherjee, Animesh Biswas, Kumar Vaibhav Srivastava, "Substrate Integrated Waveguide Cavity Backed Dumbbell Shaped Slot Antenna for dual frequency applications," in *IEEE Antennas and Wireless Propag. Letters*, 2015 vol.: 14, pp. - 1314-1317.
48. Vaishali Rathore, Seema Awasthi and Animesh Biswas, "Compact triple-band bandpass filter using split ring resonator", *Microwave Optical Technology Letters*, Vol: 57, Iss. 5, pp- 1222-1225, 2015.
49. Ashok Kumar Jyani, Seema Awasthi and Animesh Biswas, "Multi-layer multi-permittivity ring dielectric resonator antenna filter", *Microwave Optical Technology Letters*, Vol: 57, Iss. 5, pp- 1147-1152, 2015.

50. R. K. Chaudhary, K. V. Srivastava and A. Biswas, "Multi-band Cylindrical Dielectric Resonator Antenna using Permittivity Variation in Azimuth Direction", Accepted for publication in Progress In Electromagnetics Research (PIER) C, 2015.
51. Soumava Mukherjee, Animesh Biswas," Design of Self-diplexing Substrate Integrated Waveguide Cavity Backed Slot Antenna," in *IEEE Antennas and Wireless Propag. Letters*, 2016
52. Soumava Mukherjee, Animesh Biswas," Design of Dual band and Dual-Polarized Dual band SIW Cavity Backed Bow-Tie Slot Antennas," in *IET (formerly IEE Proceedings) Microwave, Antenna and Propagation (MAP)*, 2016.
53. Abhishek Sharma and Animesh Biswas, "A Wideband Stacked Maltese Cross Shaped Dielectric Resonator Antenna for WiMAX and WLAN Applications" in *IET (formerly IEE Proceedings) Microwave, Antenna and Propagation (MAP) (Provisionally accepted)*

(b) Conference Publications:

54. A. Biswas and B. Bhat," Accurate characterization of coupled stub in asymmetric finline and realization of band stop filter", *18th European Microwave Conference digest*, pp. 974-978, Stockholm, 1988.
55. A. Biswas and B. Bhat," An accurate design of band pass filter using inductive strip coupling for mm-wave applications", *ISELOECS digest, pp. 596-597, vol.2, Indian Institute of Technology*, Kharagpur, 1987.
56. A. Biswas and B. Bhat," Theoretical investigation of periodic structure in unilateral finline", *2nd Asia Pacific Microwave Conference digest*, pp.257-258, China, Oct., 1988.
57. V. K. Tripathi and A. Biswas," Properties and applications of asymmetric and multiple coupled finline", *International Conference on Millimeter wave and Microwave Digest*, pp.188-191, Dehradun, India, 1990.
58. A. Biswas and V. K. Tripathi, " Modeling of general microstrip gap discontinuities on layered medium for hybrid and monolithic microwave and millimeter wave circuits", *International Conference on Millimeter wave and Microwave Digest*, pp. 94-97, Dehradun, India, 1990.
59. A. Biswas and V.K. Tripathi," Analysis and design of asymmetric and multiple coupled finline coupler and filter", *IEEE MTT-S International Microwave Symposium digest*, pp. 403-406, vol.1, Dallas, 1990.
60. M. Thorburn, A. Biswas and V. K. Tripathi," The analysis of finline in circular wave guide housing by the method of line", *National Radio Science Meeting, Colorado*, Boulder, USA, 1990.

61. V. K. Tripathi and A. Biswas," Coplanar and broadside coupled finline six port hybrid", *20th European Microwave Conference Digest*, pp. 1033-1038, vol. 2, Budapest, 1990.
62. M. Schoenberger, A. Biswas, V. K. Tripathi and A. Mortazabi," Coupled slot-strip coupler in finline", *IEEE MTT-S, International Microwave Symposium digest*, pp.751-753, vol.2, Boston, 1991.
63. A. Jain and A. Biswas, "An improved design procedure for a dielectric resonator band pass filter in MIC environment", *International Conference on Communication System*, Singapore, 1994.
64. A. Jain, A. Biswas, P.R. Hannurkar and S.S. Ramamurthi," Computer aided dielectric resonator and oscillator design in MIC environment", *IETE mid term symposium on Microwave and Millimeter waves*, pp. 87-91, DEAL, Dehradun, 1995.
65. R. K. Shukla and A. Biswas, "Determination of coupling between curved strip conductor and dielectric resonator in MIC and suspended substrate environment." *1996 Asia Pacific microwave Conference Digest*, Vol.2, pp. 501-504, India, 1996.
66. R. K. Joshi, A. Biswas and Utpal Das, "Suspended substrate radial line stub", *International Conference on Communication, Computer & Device Digest (ICCCD)*, Vol.1, pp.309-311, IIT Kharagpur, 2000.
67. V. V. Mishra and A. Biswas, "Suppression of interfering spurious modes in dielectric resonator – study", *International Conference on Communication, Computer & Device Digest (ICCCD)*, Vol.1, pp.283-287, IIT Kharagpur, 2000.
68. V. V. Mishra, D. C. Agrawal and A. Biswas, "A temperature stable alumina based ceramic material for dielectric resonators", *International Conference on Communication, Computer & Device (ICCCD)*, IIT Kharagpur, 2000.
69. S. Valibabu and A. Biswas, "Characterization of coupled line in semicircular housing by 3-D TLM technique for high directivity coupler application", *Progress in Electromagnetic Research Symposium (PIERS-2001) digest*, Japan, 2001.
70. Anshul Agarwal, Gawrah S. Chandal and A. Biswas, " A 1.575 GHz BiCMOS GPS low noise amplifier for low power application" *IEEE topical meeting on silicon monolithic integrated circuits in RF system digest*, pp. 179-182, Georgia Tech, Atlanta, USA, 2004.
71. K.V. Srivastava, V.V.Mishra and A. Biswas, "A Modified Ring Dielectric Resonator with Improved Mode Separation in MIC Environment", *34th European Microwave Conference digest*, pp.609-612, Amsterdam, 2004.
72. S. Awasthi, A. Biswas and K.V.Srivastava, "Realization of broadband bandpass filter structure in suspended substrate using multiconductor line", *Asia Pacific Microwave Conference Abstract*, pp.136, New Delhi, 2004.
73. A. Mohan, V. Dykyy, G. Boeck and A. Biswas, "Analysis and design of on-chip spiral inductors for GaAs RF Ics", *Asia Pacific Microwave Conference Abstract*, pp.612, New Delhi, 2004.

74. A. Mohan, A. Biswas, D. Pienkowski and G. Boeck, "Closed Form Expression for On-Chip GaAs MMICs Transformers", *International Microwave and Optoelectronic Conference*, Brazil, pp. 25-28, July 2005, Brasilia.
75. A. K. Gupta, A. Mohan and A. Biswas, " Dispersion characteristics of dominant and higher order modes for single and coupled strip in multilayered cylindrical dielectrics using TLM method", Proc. in *XXVIIIth General Assembly of International Union of Radio Science (URSI)*, Oct-2005, New Delhi.
76. S. Awasthi, K.V. Srivastava and A. Biswas, "Dispersion properties of multiconductor microstripline in suspended substrate and inverted microstrip lines by using modal analysis", Proc. in XXVIIIth General Assembly of *International Union of Radio Science (URSI)*, Oct-2005, New Delhi.
77. A. K. Gupta, A. Mohan and A. Biswas, "Dispersion and impedance characteristics of single and coupled strip in multilayered cylindrical dielectrics using 3D-TLM method", *Asia Pacific Microwave Conference'05*, China, Dec. 2005, Volume 2, Dec. 2005.
78. S. Mukherjee, A. Mohan and A. Biswas, "Dispersion characteristics of an off-layered coupled Non Radiative (NRD) guide", *Asia Pacific Microwave Conference'05*, China, Volume 2, Dec. 2005.
79. S. Awasthi, K. V. Srivastava and A. Biswas, " Dispersion properties of four and five coupled microstrip line in suspended substrate using hybrid mode formulation", *Asia Pacific Microwave Conference'05*, China, Dec. 2005, Volume 2, Dec. 2005.
80. Kumar Vaibhav Srivastava, Seema Awasthi and Animesh Biswas, "Effect of Anisotropy on Effective Dielectric Constant and Characteristic Impedance of Multi-port Fin-lines", *European Microwave Conference'06, Manchester*, September 2006.
81. A. Mohan and A. Biswas "A novel compact defected ground structure (DGS) low pass filter", *Asia Pacific Microwave Conference 2006, Japan*, December 2006.
82. Kumar Vaibhav Srivastava, Vishwa V. Mishra and Animesh Biswas, "An efficient FDTD algorithm for computation of resonance frequency of an inhomogenous cylindrical structure", *Asia Pacific Microwave Conference2006, Japan*, December 2006.
83. Akhilesh Mohan, Animesh Biswas, "A Novel Defected Ground Structure (DGS) Resonator for Bandpass Filter Applications," in Proceedings *Asia Pacific Microwave Conference 2007*, Bangkok, Thailand, December 2007.
84. Srinivas Rao Zinka, Akhilesh Mohan, Animesh Biswas, "Bandpass Filter Realization Using Degenerate Dual-Modes of a New Type of Patch resonator for Significant Size Reduction," in Proceedings *Asia Pacific Microwave Conference 2007*, Bangkok, Thailand, December 2007.
85. Kumar Vaibhav Srivastava, Vishwa V. Mishra and Animesh Biswas, " An Accurate Analysis of Numerical Dispersion for 3-D ADI-FDTD with Artificial Anisotropy," in

Proceedings *Asia Pacific Microwave Conference 2007*, Bangkok, Thailand, December 2007.

86. Akhilesh Mohan, Surinder Singh and Animesh Biswas, " Design Procedure for Quadruple Band BandPass Microwave Filters", Proceedings of *Asia Pacific Microwave Conference 2008*, Hong-Kong, December, 2008.
87. V. Madhusudana Rao, Akhilesh Mohan and Animesh Biswas, "Realization of Dual Bandpass Filters with Metamaterials in Three Coupled Finline" Proceedings of *Asia Pacific Microwave Conference 2008*, Hong-Kong, December, 2008.
88. Akhilesh Mohan, Animesh Biswas, D. Kettle and A. Gibson, "Bandstop Filter Using Hybrid EBG Structure" *39th European Microwave Conference*, Rome, Italy, Sept.2009.
89. G. Naga Satish, K. V. Srivastava, A. Biswas and D. Kettle, "A Via-Free Left Handed Transmission Line with Radial Stubs," Proceedings of *Asia Pacific Microwave Conference-2009*, Singapore, December 2009.
90. G. Naga Satish, K. V. Srivastava, A. Biswas and D. Kettle, "Band-pass Filter using Symmetrical Left-Handed Transmission Line Zeroth-Order Resonators" Proceedings of *5th German Microwave Conference (GeMiC) 2010*, Berlin, Germany in March 2010.
91. Raghvendra Kumar Chaudhary, K. V. Srivastava, Vishwa V. Mishra and Animesh Biswas, "Multilayer Multi-Permittivity Dielectric Resonator: A new approach for improved spurious free window," *40th European Microwave Conference 2010 Paris*, pp. 1194-1197, Sept 2010.
92. Raghvendra Kumar Chaudhary, Kumar Vaibhav Srivastava and Animesh Biswas "An Investigation on Three Element Multilayer Cylindrical Dielectric Resonator Antenna Excited by a Coaxial Probe for Wideband Applications", in *IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2010)*, Port Dickson, Malaysia. Nov. 2010. [**Best Student Paper Bronze Award**]
93. Viveka Nand Mishra, Raghvendra Kumar Chaudhary, Kumar Vaibhav Srivastava and Animesh Biswas "Compact Two Pole Bandpass Filter Using Symmetrical Composite Right/Left Handed Transmission Line with Vias" in *IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2010)*, Port Dickson, Malaysia. Nov. 2010.
94. Saumen Mondal, **Kumar Vaibhav Srivastava** and Animesh Biswas "A 600MHz, 6th Order, Highly Linear Gm-C Bandpass Filter Design" has been accepted for publication in *IEEE Asia Pacific Conference on Circuits and Systems (APCCS 2010)*, 6 - 9 December 2010, Hilton Kuala Lumpur and Le Meridien Kuala Lumpur, Malaysia.
95. Raghvendra Kumar Chaudhary, Kumar Vaibhav Srivastava and Animesh Biswas "Four Element Multilayer Cylindrical Dielectric Resonator Antenna Excited by a Coaxial Probe for Wideband Applications" has been accepted for publication in *National Conference on Communications (NCC 2011)*, 28 - 30 January 2010, IISc Bangalore, India.

96. Varish Diddi, Kumar Vaibhav Srivastava and Animesh Biswas "A 6 mW Low Noise Amplifier for 3.1-10.6 GHz UWB Application" has been accepted for publication in *National Conference on Communications (NCC 2011)*, 28 - 30 January 2010, IISc Bangalore, India.
97. Ankur Prasad, Mausumi Roy, Animesh Biswas and Danielle George, "Application of Genetic Algorithm to Multi-objective Optimization in LNA Design", Accepted in *Asia Pasific Microwave Conference*, Yokohame, Japan, 7-10 December 2010.
98. Varish Diddi, Kumar Vaibhav Srivastava and Animesh Biswas, "Design of Low Power LNA for GPS Application" Accepted for publication in *2011 International Conference on Circuits, System and Simulation (ICCSS 2011)* May 28-29, 2011 in Bangkok, Thailand
99. Raghvendra Kumar Chaudhary, G. K. Singh, K. V. Srivastava and A. Biswas "Coaxial Fed Half-Split Multilayer Cylindrical Dielectric Resonator Antenna for Wideband Applications" Accepted for presentation in *41th European Microwave Conference (EuMC)*, 9 Oct. -14 Oct., 2011, in Manchester Central, Manchester, United Kingdom (UK).
100. V. N. Mishra, Raghvendra Kumar Chaudhary, K. V. Srivastava and A. Biswas, "Compact Two Pole Bandpass Filter Implemented Using Via-free Composite Right/Left Handed Transmission Line with Radial Stubs" accepted for presentation in *41th European Microwave Conference (EuMC)*, 9 Oct. -14 Oct., 2011, in Manchester Central, Manchester, United Kingdom (UK).
101. Seema Awasthi, Animesh Biswas "Compact filter using coupled metamaterial mushroom resonators with corner vias," **Applied Electromagnetics Conference (AEMC)**, Kolkata, Dec. 2011.
102. Raghvendra Kumar Chaudhary, S. Bhattacharyya, K. V. Srivastava and Animesh Biswas, "Design of a Wide-Band Dual Segment Half-split Cylindrical Dielectric Resonator Antenna ", *5th Antenna Test & Measurement Society (ATMS) Conference*, pp. 58-61, 01 - 03 Feb., 2012, Mumbai, India. [**Best Paper Award of the Session**]
103. Raghvendra Kumar Chaudhary, H. B. Baskey, K. V. Srivastava, A. Biswas, "Wideband Two-layer Rectangular Dielectric Resonator Antenna with $(\text{Zr}_{0.8}\text{Sn}_{0.2})\text{TiO}_4$ -Epoxy Composite System, "*IEEE Applied Electromagnetics conference (AEMC) and Indian Antenna Week (IAW)*, Dec. 18 - 22, 2011, Kolkata, India.
104. Raghvendra Kumar Chaudhary, K. V. Srivastava and A. Biswas "Two-layer Embedded Half-split Cylindrical Dielectric Resonator Antenna for Wideband Applications" accepted in *42th European Microwave Conference (EuMC)*, 28 Oct. – 2 Nov., 2012 in Amsterdam, Netherlands.
105. Raghvendra Kumar Chaudhary, K. V. Srivastava and A. Biswas "A Novel Triple-Band Cylindrical Dielectric Resonator Antenna Using Varying Permittivity in ϕ -direction" *IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 8-14, 2012, Chicago, IL, USA.

106. Seema Awasthi, Animesh Biswas and Jaleel Akhtar, "Compact bandstop filter using triangular metamaterial mushroom resonators" *Asia Pasific Microwave Conference*, Kaohsiung, Taiwan, 4-7 December 2012.
107. Akhilesh Mohan and Animesh Biswas, "Synthesis of asymmetrical Quadruple-band Bandpass Filters" *Asia Pasific Microwave Conference*, Kaohsiung, Taiwan, 4-7 December 2012.
108. A Sudha Madhury, M Jaleel Akhtar and Animesh Biswas, "Microwave Modeling and Characterization of Metamaterials and Uniaxial Composites", *IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2012)*, Melaka, Malaysia.
109. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas "Dual-Band Cylindrical Dielectric Resonator Antenna with Varying Permittivity in ϕ -direction" *IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting*, July 7-12, 2013, Lake Buena Vista, Florida, USA.
110. Raghvendra Kumar Chaudhary, K. V. Srivastava and Animesh Biswas, "A Concentric Three-layer Half-split Cylindrical Dielectric Resonator Antenna for Wideband Applications," *URSI International Symposium on Electromagnetic Theory (EMTS)*, May 20-24, 2013, Hiroshima, Japan.
111. Seema Awasthi, Animesh Biswas, and M. J. Akhtar, "Synthesis of Symmetric and Asymmetric Triple-Stopband Microwave Filter using Frequency Transformation," *URSI International Symposium on Electromagnetic Theory (EMTS)*, May 20-24, 2013, Hiroshima, Japan.
112. Soumava Mukherjee, Kumar Vaibhav Srivastava and Animesh Biswas, "Implementation of Dual frequency Longitudinal Slot Array Antenna on Substrate Integrated Waveguide at X-band", *IEEE European Microwave Conference (EuMC) 2013*, Oct. 6-11, 2013, Nuremberg, Germany.
113. Seema Awasthi, Animesh Biswas and M.J.Akhtar, "Direct Coupled Quad-band Bandstop Filter Synthesis using Frequency Transformation", *Accepted in 27th IEEE Asia Pacific Microwave Conference (APMC)*, Nov. 05-08, 2013.
114. Soumava Mukherjee, Prasun Chongder, Kumar Vaibhav Srivastava and Animesh Biswas, "Design of a Broadband Coaxial to Substrate Integrated Waveguide (SIW) Transition", *in 27th IEEE Asia Pacific Microwave Conference (APMC)*, Nov. 05-08, 2013.
115. Prasun Chongder, Soumava Mukherjee, KumarVaibhav Srivastava, and Animesh Biswas, "Design of Dual-Mode Substrate Integrated Hexagonal Cavity (SIHC) Filter for X-Band Application ", *in 27th IEEE Asia Pacific Microwave Conference (APMC)*, Nov. 05-08, 2013.

116. Seema Awasthi, Animesh Biswas and M.J.Akhtar, "Synthesis of Direct Coupled Pentaband Bandstop Filters using Frequency Transformation", *International Microwave and RF Conference (IMaRC)*, NewDelhi, Dec. 2013.
117. Ashutosh Srivastava, Raghvendra Kumar Chaudhary, A. Biswas, and M. J. Akhtar, "Dual-band L-shaped SIW Slot Antenna", "*International Conference on Microwaves and Photonics (ICMAP)*", Dec. 13 - 15, 2013, ISM Dhanbad, India.
118. Seema Awasthi, Animesh Biswas and M.J.Akhtar, "Coupling Matrix Design of Asymmetric Dual Bandstop Filter," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
119. Ashok Kumar Jyani, Seema Awasthi and Animesh Biswas," Design of Dielectric Resonator Antenna and Filter for X band Applications," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
120. Prince Baluni, Seema Awasthi and Animesh Biswas,"Dual Mode Dual Bandpass Filter using Semicircular Dielectric Resonator in Mushroom Configuration," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
121. Vaishali Rathore, Seema Awasthi and Animesh Biswas," Coupling Properties of Split Ring Resonator for Filter Applications," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
122. Soumava Mukherjee, Animesh Biswas, Kumar Vaibhav Srivastava, "Bandwidth Enhancement of Substrate Integrated Waveguide Cavity Backed Slot Antenna by Offset feeding Technique," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
123. Prasun Chongder, Soumava Mukherjee, Animesh Biswas, Kumar Vaibhav Srivastava, "Assymmetric Dual-Mode bandpass filter design using Substrate Integrated Hexagonal Cavity," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
124. Sohumi Dutta, Soumava Mukherjee, Animesh Biswas, "Design of Broadband Power Divider based on Substrate Integrated Waveguide Technology," *Applied Electromagnetics Conference (AEMC)*, Bhubaneswar, Dec. 2013.
125. Soumava Mukherjee, Animesh Biswas, Kumar Vaibhav Srivastava,"Substrate Integrated Waveguide Cavity Backed Slot Antenna for Dual-Frequency Application," in **Proc. 44th European Microwave Conf.**, 2014, Rome, Italy.
126. Vaishali Rathore, Seema Awasthi and Animesh Biswas," Design of Compact Dual-Band Bandpass Filter using Frequency Transformation and its Implementation with Split Ring Resonator," in **Proc. 44th European Microwave Conf.**, Rome, Italy, Oct. 2014.

127. Soumava Mukherjee, A. Biswas, K. V. Srivastava, " Substrate Integrated Waveguide Cavity Backed Slot Antenna with parasitic slots for Dual-frequency and Broadband Application", *in* IEEE Eur. Conf. on Antenna and Prop. (EuCAP) 2015, April 12-17, 2015, Lisbon, Portugal.
128. R. Tiwari, Soumava Mukherjee, A. Biswas, " Design and Characterization of Multi-Layer Substrate Integrated Waveguide (SIW) Slot Coupler", *in* IEEE Eur. Conf. on Antenna and Prop. (EuCAP) 2015, April 12-17, 2015, Lisbon, Portugal.
129. C. Prasad, Soumava Mukherjee, A. Biswas, " Efficient Probe Excitation of Dielectric Image Line Using Substrate Integrated Waveguide Based Matching Network", *in* IEEE Eur. Conf. on Antenna and Prop. (EuCAP) 2015, April 12-17, 2015, Lisbon, Portugal.
130. C. Prasad, A. Biswas, " Efficient tapered dielectric image line antenna in planar environment", *in* European Microwave Conf. 2015, 2015, Paris, France.
131. Soumava Mukherjee, A. Biswas," Design of Dual-frequency Substrate Integrated Waveguide (SIW) Cavity Backed Slot Array Antenna", *in* IEEE Int. Symp. on Antennas and Propag. and North American Radio Science Meeting (APS/URSI) 2015, July 19-25, 2015, Vancouver, Canada.
132. A. Sharma, Soumava Mukherjee, A. Biswas," Dielectric Resonator loaded Substrate Integrated Waveguide Cavity Backed Slot Antenna for Bandwidth Enhancement", *in* IEEE Int. Symp. on Antennas and Propag. and North American Radio Science Meeting (APS/URSI) 2015, July 19-25, 2015, Vancouver, Canada.
133. R. Srivastava, Soumava Mukherjee, A. Biswas," Design of Broadband Planar Substrate Integrated Waveguide (SIW) Transvar Coupler", *in* IEEE Int. Symp. on Antennas and Propag. and North American Radio Science Meeting (APS/URSI) 2015, July 19-25, 2015, Vancouver, Canada.
134. Anirban Sarkar, Soumava Mukherjee, A. Biswas," Periodic leaky wave array antenna on Substrate Integrated Waveguide for gain enhancement", *in* IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP) 2015, June 30- July 3, 2015, Bali, Indonesia.
135. Makwana M., Sharma S., Biswas A., Shinghal P., Sloan R., Zhirun Hu," Millimeter-wave bias dependent model for GaAs pHEMT based on S-parameters", *in* IEEE Asia-Pacific Conference on Antennas and Propagation (APCAP) 2015, June 30- July 3, 2015, Bali, Indonesia.
136. Afzal M.U., Esselle K.P. ; Biswas A.," A method to enhance radiation characteristics by improving aperture phase distribution of electromagnetic bandgap resonators antennas", *in* 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), , Turin, Italy, pp- 561 - 564.
137. Soumava Mukherjee, A. Biswas," Implementation of Broadband Unequal Power Divider using Substrate Integrated Waveguide (SIW) Technology", *IEEE Int. Microw. & RF Conf. (IMaRC) 2015, Dec 10-12, 2015, Hyderabad, India, pp- 177-179.*
138. Soumava Mukherjee, A. Biswas," Substrate Integrated Waveguide (SIW) Cavity Backed Slot Antenna for Polarization Diversity Application", Presented in IEEE

- Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India.
139. Preeti Yadav, Soumava Mukherjee, A. Biswas," Design of Planar Substrate Integrated Waveguide (SIW) Phase Shifter Using Air Holes", Presented in IEEE Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India.
 140. G. V. K. Reddy, Soumava Mukherjee, A. Biswas," Design of Microstrip Patch Antenna using Half-Mode Substrate Integrated Waveguide Feeding Technique", Presented in IEEE Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India.
 141. C. Prasad, A. Biswas," Dual-Beam Dielectric Image Line Tapered Antenna in Planar Environment ", Presented in IEEE Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India.
 142. C. Prasad, A. Biswas," Effects of Coaxial Probe Dimensions on Broadband Transition to Substrate Integrate Waveguide ", Presented in IEEE Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India
 143. Abhishek Sharma, Animesh Biswas, "Dual-Frequency Half Split Cylindrical Dielectric Resonator Antenna", in 5th IEEE Applied Electromagnetics Conference (AEMC-2015), Dec. 18-21, 2015, IIT Guwahati, Guwahati, India
 144. Abhishek Sharma, Animesh Biswas, "Wideband Omnidirectional Perforated Minkowski Fractal Dielectric Resonator Antenna", in 5th IEEE Applied Electromagnetics Conference (AEMC-2015), Dec. 18-21, 2015, IIT Guwahati, Guwahati, India.
 145. Kranti K Katare, Animesh Biswas, Karu Esselle," High Gain Multiple Beam / Beam-switching Antenna Using Reconfigurable Frequency Selective Reflector ", Presented in IEEE Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India.
 146. Anirban Sarkar, Animesh Biswas," Bidirectional Periodic Leaky-Wave Antenna On SIW With Reduced Side Lobe Level", Presented in IEEE Applied Electromagnetics Conference (AEMC) 2015, Dec. 18-21, 2015, Guwahati, India.
 147. G. V. K. Reddy, Soumava Mukherjee, A. Biswas," Design of HMSIW Fed Dual Frequency Microstrip Patch Antenna for X-band Applications ", Accepted for Presentation in IEEE Int. Symp. on Antennas and Propag. and North American Radio Science Meeting (APS/URSI) 2016, USA.
 148. Preeti Yadav, Soumava Mukherjee, A. Biswas," Design of SIW Variable Phase Shifter for Beam Steering Antenna Application", Accepted for Presentation in IEEE Int. Symp. on Antennas and Propag. and North American Radio Science Meeting (APS/URSI) 2016, USA.
 149. M. Warad, Abhishek Sharma, C. S. Prasad, Animesh Biswas, " A High Gain Aperture Coupled Cylindrical Dielectric Resonator Antenna with Metamaterial Superstrate", accepted for presentation in 2016 IEEE International Symposium on Antennas and

Propagation/ USNC-URSI National Radio Science Meeting, 26 June - 10 July, 2016,
Fajardo, Puerto. Rico,

(e) Contribution to published paper:

131. R. J. Cameron, “ General coupling matrix synthesis methods for chebyshev filtering functions”, IEEE Trans. on Microwave Theory and Tech., vol. 47, No. 4, pp. 433-442, April 1999.

(d) Patent:

(i) Indian Patent:

- (a) Dielectric Resonator
Application No. : 1972/DEL/2004 dated on Oct 11, 2004
Complete Filed on Oct 10, 2005
Inventor: Kumar Vaibhav Srivastava, Vishwa V. Mishra and Animesh Biswas
Indian Institute of Technology, Kanpur.

- (b) Functionally graded wide-band polymeric composites for microwave absorbers and method of manufacturing same
Application No.:- 737/DEL/2007
Patent No. : 255975
Dated : 30th March 2007, India (2007)
Inventor: Kamal K. Kar, Ahankari Sandeep Sureshrao and Animesh Biswas

(ii) US patent: Dielectric Resonator

- Publication No. : US2006/0097826 A1
Publication Date: May 11, 2006
Appeared in : <http://www.uspto.gov/patft/>
Inventor: Kumar Vaibhav Srivastava, Vishwa V. Mishra and Animesh Biswas
Indian Institute of Technology, Kanpur

9. Thesis Supervision:

(a) Ph.D Thesis:

- 1. Kumar Vaibhav Srivastava:** “Studies on Inhomogeneous Dielectric Resonators for Improved Mode Separation in MIC Environment using Efficient FDTD Algorithm and its Application to Bandpass Filter”, 2008.
(Completed in 2008)
- 2. Akhilesh Mohan:** “Studies on advanced planar filter using multi-band filter theory inconjunction with Genetic Algorithm and further using EBG/DGS structures”, 2009.
(Completed in 2009)

3. **Raghendra Kumar Chaudhary:** “Studies on Dielectric Resonator antenna for Wide/Multiband Application using permittivity Variation along three orthogonal Directions” Jointly with Prof. Kumar Vaibhav Srivastava.
(Completed in 2013)
4. **Seema Awasthi:** Studies of Multiple band-Limited Filters and their Realization using Metamaterial and Dielectric Resonators.
(Completed in 2015)
5. **Prasun Chongder:** Working on Substrate Integrated Waveguide (SIW) Filter and Self Oscillating Mixer. (open seminar delivered and expected to submit within 6 months)
6. **Soumava Mukherjee:** Working on SIW based Antenna and Array Antenna. (open seminar delivered and expected to submit within 6 months)
7. **Chandra Kumar Prashad:** Working on Dielectric Image line and its Antenna Application (On-going)
8. **Tannu Gupta:** Working on Microstrip Filters
9. **Anirban Sarkar:** Working on Leaky wave Antenna
10. **Abhishek Sharma:** Working on Dielectric Resonator Antenna
11. **Kranti Kumar Katare:** Working on Multibeam Antenna
12. **Moitreyia Adhikari:** joined in August, 2015
13. **Sunil kumar Sahoo:** joined in August, 2015

(b) M.Tech Thesis:

<i>Serial No.</i>	<i>Name of Student</i>	<i>Year</i>	<i>Title of the Thesis</i>
1.	Alok Kr. Gupta	1993	Characterization of Two new Types of Fin Line Discontinuities
2.	Akhilesh Jain	1993	Studies on Dielectric Resonator and design of a Bandpass Filter in MIC environment.
3.	Lalat K. Pradhan	1994	Full wave analysis of single and coupled shielded image guide for millimeter wave applications
4.	Rajiv K. Shukla	1995	Studies on Dielectric Resonators in Suspended Substrate environment for millimeter wave Applications.
5.	Maj. Pradip Arora	1995	Design and Development of C band mixer using Dielectric Resonators.
6.	J. Kumar	1996	Identification of higher order modes in Dielectric Resonator using Hybrid mode analysis.

7.	Pavan Kumar	1996	Experimental procedure for determination of Q_u , Q_{ext} and coupling of Dielectric Resonator and development of DR Oscillator.
8.	Maj. P. K. Choudhuri	1997	Experimental Characterization of image line discontinuities and realization of band pass filter.
9.	Maj. H. S. Jhally	1998	Characterization of open-end and gap discontinuities in single and coupled planar transmission lines.
10.	R. K. Joshi	1998	Broad band suspended substrate radial line stub – analysis and measurement. <i>Co-supervisor: Prof. U.Das</i>
11.	Maj. S. Dhingra	1998	Studies of cylindrical dielectric resonator in TM_{118} mode and it's applications to microwave filters.
12.	Sq. Lr. S. Palanichamy	1998	Full wave analysis of microstrip-slot coupled line on isotropic and anisotropic dielectric substrate.
13.	S. Vali Babu	1999	Characterization of complex planar structures for millimeter wave application using 3-D TLM technique.
14.	Amitabh Chowdhary	1999	Development of 3-D EM simulator for designing microwave circuits using material independent perfectly matched layers as ABC.
15.	Akhilesh Mohan	2004	Analysis and design of on-chip spiral inductor and transformers for GaAs RF integrated circuits.
16.	Kumar Vaibhav Srivastava	2004	Studies on resonance behavior of dielectric resonator in MIC environment using FDTD technique and Prony's algorithm.
17.	Alok K. Gupta	2005	Full wave analysis of a coaxial wave guide based power combining structure using 3D TLM method
18.	S.Mukhopadhyaya	2005	Full wave analysis of shielded single and off-layered coupled non radiative dielectric (NRD) guides for millimeter wave propagation
19.	Sandeep Garg	2005	Inductor based switching voltage regulator for system-on-chip (SoC) application. <i>Co-supervisor: Dr. P. Sensarma</i>
20.	Praveen K.	2005	Design of a third order cascaded (2-1) Σ - Δ modulator
21.	Seema Awasthi	2006	Dispersion and attenuation characteristics of multiconductor microstrip lines and finlines on anisotropic substrates and realization of broadband bandpass filter structure
22.	M.S. Zinka	2007	Bandpass filter realization using degenerate dual-modes of a new type of patch resonator for significant size reduction
23.	MadhusudanA. Rao	2008	Characterization of Fin-lines filter on Metamaterials Substrate
24.	Naga Satish	2009	Design of novel left handed transmission line metamaterial and their application in the realization of miniaturized band pass filter
25.	Ankur Prasad	2010	Low noise amplifier design in conjunction with genetic algorithm and MMIC measurement
26.	Kaniska Aman Singh	2010	A comparative study on some commonly used active inductor configuration in $0.35 \mu\text{m}$ CMOS technology with improved quality factors.

27.	Suman Mondal	2010	Design of high frequency continuous time filters.
28.	Varish Dighi	2010	Design of low power Low noise amplifiers for GPS and UWB applications.
29.	K. Satish Babu	2011	Design of High Frequency CDBA Filters
30.	Nishant Shukla	2012	Design and realization of dielectric resonator based single and dual mode band pass filter.
31.	Mrigank Srivastava	2012	A Novel Design Approach of Triple Band Wilkinson Power Divider using Dielectric Resonator
32.	Sayan Das	2012	A Novel Design Approach of Microstrip Based Radial Power Combiner/Divider
33.	Tannu Gupta	2012	Microwave Modelling of Mixed Dielectrics and Metal Dielectrics Composites
34.	Anagha Sudha Madhuri	2012	Microwave Modelling and Characterization of Meta Materials
35.	Ashutosh Srivastava	2013	Dual Band SIW Antenna
36.	Prashant Kishor Dwivedi	2013	Dual Mode Dual Bandpass Dielectric Resonator Filter
37.	Prince Baluni	2014	Dual Band Filter using semicircular Dielectric resonator
38.	Vaishali Rathore	2014	Dual Band Filter using Split Ring Resonator
39.	Ashok Kumar Jyani	2014	Dielectric Resonator Antenna with Filter
40.	Yogendra Arya	2014	Design of filter synthesis with non uniform Q-factor
41.	Ratnesh Tiwari	2015	Studies on Multilayer Substrate Integrated Waveguide Slot Coupler and its Application to Microwave Circuits
42.	Vivek Srivastava	2015	Design of X-band Low Phase-noise Oscillator and Comparative Analysis of the Two Topologies
43.	Milan Makhwana	2015	Design of X-Band Power Amplifier based on GaAs-pHEMT Technology
44.	Sonu Sharma	2015	Design of Power Amplifier
45.	Priyajit Kaur	2015	Dual and Triple Band Bandpass Filter Realization Using Split Ring and Spiral Resonator for efficient size reduction
46.	Preeti Yadav	2016	Studies on SIW Phase Shifter (Ongoing)
47.	Om Pandey	2016	SIW based Active Antenna Oscillator (Ongoing)
48.	Krishna Reddy	2016	SIW fed Microstrip Antenna at X band (Ongoing)
49.	Jyoti Roat	2016	SIW fed DRA Array (Ongoing)
50.	M Warad	2016	Dielectric Resonator Antenna (Ongoing)
51.	Ankit Gohel	2016	Design of Power Amplifier (Ongoing)

(c) DIIT Thesis

<i>Serial No.</i>	<i>Student Name</i>	<i>Year</i>	<i>Title of Thesis</i>
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i.	Suman Lata Shukla	1993	Design and Development of Parallel Coupled Line Filter
ii.	S. Vali Babu	1997	Design and development of microwave Amplifier.
iii.	D.K.Singh	2000	Design and analysis of 3 DB broadband branch line coupler using microstrip.
iv.	S. Singh	2000	Development of broad band microwave coupler using microstrip-slot lines in MIC environment.

10. Membership to Professional Bodies:

1. **Senior Member:** IEEE, USA. Member of reviewer committee for IEEE Trans. On Microwave Theory and Technique.
2. **Fellow:** IETE, India. Member of reviewer committee for IETE in the area of Microwaves.
3. **Fellow:** Institute of Engineers India (IEI).

11. Corporate Activities:

1. **Warden:** Hall of Residence IV, IIT Kanpur; 1993-1994, and again from August, 2002 to 2005.
2. **IIT/K Representative:** Represented most of the years for JEE and GATE exams.
3. **Faculty Counselor:** For Electrical Engineering Departmental Students from 2002 - 2005.
4. **Transport User Service Committee:** Member, Institute committee from August, 2002 to August 2004.
5. **Convocation 2003:** Convener, Public Address System.
6. **Member:** DUGC from 1994 – 1996 and again from 2002 to 2004.
7. **Member:** DPGC from 1999 to 2000 and from 2004 to 2005.
8. **Convener:** DUGC from 2006 to 2008.
9. **Vice Chairman COW:** from 2008 to 2009.
10. **Member of Expert Committee:** National Board of Accreditation (AICTE) for Engineering College in India
11. **Chairman, Senate Scholarship & Prize Committee:** From October, 2009 to September, 2010.
12. **Chairperson,** IEEE UP Section, India, 2015.
13. **President Nominee** for the Selection Committee of ten New National Institute of Technology.
14. **Chairman,** House Allotment Committee, 2014-2016
15. **Vice Chairman,** GATE examination, 2015-2016