

CURRICULUM VITAE



Name : Asok De
Permanent Address : 407-C, Plot No-17,
Management Apartments,
Sec-5, Dwarka, Delhi-110075
Mobile No : +91 9320697037; +91 9818181068
Email : asok.de@gmail.com,
Communication Address : D1102 Purva Seasons, C V Raman Nagar,
Kaggadasapura Main Road.
Bengaluru-560093. Karnataka.
Date of Birth : 16th Day of November, 1955

University Education

Examination	Year of Passing	Board/University	Specialisation	Division/Class
Higher Secondary	1972	W.B Board of Secondary Education	Science Stream	Ist.
B.E.Tel.E	1978	Jadavpur University	Electronics & Communication Engineering	Ist. With Honours
M.E.Tel.E	1980	Jadavpur University	Communication Engineering	Ist
Ph.D	1986	IIT Kharagpur	Microstrip Antenna	

Professional Experience

Name of the Employer	Designation	Nature of the Duty	From	To
Indian Institute of Technology Kharagpur	Senior Research Assistant	Research	7.8.1980	30.4.1981
Indian Institute of Technology Kharagpur	Senior Research Fellow (CSIR)	Research	4.5.1981	28.7.1984
Department of Electronics Science University of Delhi	Research Associate	Teaching & Research	30.7.1984	31.3.1985

Department of Electronics Science University of Delhi	Lecturer	Teaching & Research	1.4.1985	25.11.1987
University of Delhi Department of Electronics Science	Reader	Teaching & Research	25.11.1987	3.10.1991
University of Kolkata Department of Electronics Science	Reader	Teaching & Research	4.10.1991	27.2.1997
Dept. of Electronics & Communication Engineering Delhi College of Engineering	Professor	Teaching & Research	28.2.1997	31.05.1998
Department of Computer Engineering, Delhi College of Engineering, Delhi – 110042.	Professor and Head of the Department	Administration Teaching and Research	01.06.1998	01.06.2002
Department of Information Technology, Delhi College of Engineering, Delhi – 110042.	Professor and Head of the Department	Administration Teaching and Research	01.06.2002	31.07.2005
Ambedkar Institute of Technology, Govt. of Delhi Delhi – 110092.	Principal	Administration	01.08.2005	23.07.2012
National Institute of Technology, Patna	Director	Administration	24.07.2012	23.07.2017
National Institute Of Technology Durgapur	Director (Addl. Charge)	Administration	03.12.2015	23.07.2017
Dept. of ECE Delhi Technological University	Professor	Teaching & Research	24.07.2017	30.11.2020 (superannuated)
Dept. of ECE Delhi Technological University	Distinguished Professor	Teaching & Research	01.12.2020	30.11.2023
Dept. Of ECE, Mata Vaishno Devi University	Bharti Ariaan Chair Professor	Research & Teaching	23.01.25	Till Date

Fields of Interest

Electromagnetics, Microwave circuits, Microstrip Antenna, Numerical techniques in Electromagnetics

Research Statement

- i. Design & Development of dual band dual polarized frequency agile patch radiator and work on analytical and experimental studies of rectangular, Circular, triangular, elliptical Microstrip patch radiator.
- ii. Worked with Professor A.P. Anderson, Dept. of Electronics & Electrical Engineering, University of Sheffield, U.K. on Microwave holographic metrology of large reflector antenna.

PhD thesis supervised:

1. "[Some studies on tunable and high bandwidth microstrip antenna](#)" awarded to Mr. Tapas Chakravarty in the year 2004.
2. "Study of discontinuities in open waveguide" awarded to Mr. Girish Attimarad in the year 2005.
3. "Real Time Embedded Application in Image Processing", awarded to Mr. Avichal Raj Kapur in the year 2007.
4. "Finline PIN Diode Switches and Modulators for Millimeter wave Applications" awarded to Ashok Mittal in the year 2007.
5. "Algorithms for mining frequent patterns from the data," awarded to Mrs. Rajni Jindal in the year 2011
6. "Studies on Open waveguide and components" awarded to Mrs Jigyasa Sharma in the year 2012.
7. "Studies of Broadband MIMO-OFDM Wireless Communications" awarded to Mr Madan Lal in the year 2011.
8. "Planar Filter Design using Fractal Geometry and EBG structure" awarded to Dharendra Kumar in the year 2013.
9. "Development of Conceptualization based indexing scheme for semantic web search engine" awarded to Mr. Suresh Punia, to YMCA University. Awarded in 2013.
10. "Dynamic Priority Scheduler for a Market based Grid" awarded to Mr. Ravin Ahuja **Faculty of Technology, Delhi University, 2014.**
11. "Design and Analysis of Wide band Efficient Microstrip Antenna using Electronic Band Gap Structures" awarded to N. S. Raghava **to FOT Delhi University, 2014**
12. "Cryptographic Technique for Security Engineering" awarded to Ms. Kakoli Chatterjee **FOT, Delhi University, 2014.**
13. Analysis and Design of Microstrip Antenna Using Artificial Neural Network" awarded to Mr Taimur Khan to **NIT Patna, 1014**
14. Design and Analysis of Protocol for Secure Quantum Communication Having Practical Applications" awarded to Rishi Dutt Sharma to **NIT Patna 2017.**
15. "Design and Analysis of Microstrip Antenna Using Metamaterials and Active Devices" awarded to Ms Preet Kaur to **YMCA University 2017.**
16. "Design And Analysis of Planar Antennas Using Meta-materials at High Frequencies Including THz." Awarded to Ms. Parul Dewar to **DTU 2017**
17. "Investigation on Implementation of Conformal Patch Antenna for Airborne Applications" awarded to Mr Sandeep Kohar by Sant Longowal Institute of Engineering and Technology in 2022.
18. 'Design And Analysis of SIW Filter and Antenna' awarded to Mr. Sudarshan Kumar by Delhi Technological University, 2023.

19. Study and Design of Antenna for Bio-Medical and Wearable Applications' Awarded to Mr.Navneet Sharma by Shobhit University, 2023.
20. 'Study and Design of Antenna for 5G Communication System' awarded to Mr. Pankaj Jha by Shobhit University 2023.
21. Study and Design of Compact Antenna for Wireless Communication Applications' awarded to Mr. Anubhav Kumar by Shobhit University, 2023.
22. "Design of Compact Band Pass Filter for UWB Application With Multiple Notches' awarded to Md. Shazid By Delhi Technological University, 2023.

II-No. of M.E. project guided – more than 80

Award

- Received best technical paper award from SAMEER, Govt. of India, Life Time Achievement Award DTU-DCE Alumni Association.

Membership of Professional bodies: Member of IEEE, Fellow of IETE, Fellow of IE, Life Member CSI, Life Member Society for EMI and EMC

Administrative Experience

1. Member of Central Counselling Board, Ministry of HRD, Govt. of India.
2. Programme Director, Central Counselling Board, Ministry of HRD, Govt. of India, 2004-05, 2005-06, 2006-07.
3. Member of the Technical Committee for introduction of Smart Card in Ministry of Transport, Govt, of Delhi.
4. Member of Accreditation team of AICTE
5. Head, Deptt. Computer Engineering, Delhi College of Engineering, 1998-2002
6. Head, Deptt. of Information Technology, Delhi College of Engineering, 2003 -2005
7. Chairman of Different Administrative Committee of Delhi College of Engineering
8. Member of the committee for affiliating engineering colleges under Govt. of NCT of Delhi
9. Chief Warden, Delhi College of Engineering, 1998-2002.
10. Member of the MHRD expert committee on Community Polytechnic.
11. Member of court, University of Delhi, 2006.
12. Chairman and member of different committees of Board of Technical Education, Govt. of NCT of Delhi.
13. Principal, Ambedkar Institute of Technology, Geeta Colony, Delhi-110 031.
14. Expert Member for the automation of weight and measure department of Govt. of Delhi.
15. Co-Chairman, Assessment board of Electronics, RAC, DRDO, Govt. of India.
16. Member, Academic Council, GGSIP University.
17. Member, Board of Management, GGSIP University
18. Member, Academic Council, Delhi Technological University.
19. Member, Board of Management, DTU Delhi.
20. Member Court, CUB, Bihar
21. Chairman CSAB (Central Seat Allocation Board) For the admission to all NITs, IEST and other centrally funded institutes except IITs, constituted by MHRD, Govt of India for 2015-16,2016-17.
22. Co-Chairperson JOSAA(Joint Seat Allocation Authority) MHRD, for 2015-16 and

INTERNATIONAL JOURNAL PUBLICATIONS

1984-2000

1. Asok De and B.N. Das, "Input impedance of probe excited rectangular microstrip patch radiator", IEE Proc. On Microwaves Optics and Antennas. Pt. H, vol. 131, No: 1, pp 31-34, Feb.1984.
2. Ranjit Singh, Asok De and R S Yadava, "Effect of coaxially loaded variable stub on the resonant frequency of circular microstrip antenna" International Conference TENCON'89, Fourth IEEE Region 10, pp. 224-225, 1989.
3. Chakravarty. T., and Asok De, "[Investigation of modes tunable circular patch radiator with arbitrarily located shorting posts](#)", IETE Tech, Review, vol. 16, no.1, pp-109-111, January 1999.
4. Ranjit Singh, Asok De and R.S. Yadava, "Resonant frequency of elliptical microstrip patch radiator"International Journal of Electronics, vol. 69, no.3, pp 385-388, 1990.
5. Ranjit Singh, Asok De and R. S. Yadava, "Comments on an improved formula for the resonant frequency of triangular microstrip patch antenna" IEEE Trans. on Antennas and Propagation. Vol.-39, No.9, pp-1443-1444, Sept. 91.
6. T. Chakravarty, and Asok De, "Design of tunable modes and dual-band circular patch antenna using shorting posts", IEE Proc-Microwave and Antennas Propagation, Vol. 146, No.3, pp 224-228, June, 1999.
7. Asok De, and T. Chakravarty, "Theoretical Investigation of resonant modes of shorting post loaded circular microstrip antenna on sphere", Journal of Electromagnetic Waves and Applications, Vol. 14, pp 1087-1102, 2000.

2001-2005

9. T. Chakravarty, S.K. Sanyal and Asok De, "[Compact and tunable circular microstrip patch using post-varactor loading](#)", IETE Tech. Review, Vol. 18, No.2&3, pp. 153-157, March-June 2001.
10. Asok De, and T. Chakravarty, "A new slant polarized dual band microstrip antenna," Journal of Electromagnetic Waves and Applications, July, 2001.
11. T. Chakravarty, and Asok De, "Resonant frequency of a shorted circular patch with the use of a modified impedance expression for a metallic Post", Microwave and Optical Technology Letters, Vol.33, no.4, pp-252-256, May 2002.
12. Mukesh Chopra, Manish Bhardwaj, M.Kulkarni, Asok De and R.K. Sinha "Design of a Hybrid Fibre-Optic Network Using 3-D Optical Code Sequences" published in the Journal of Fibre and Integrated Optics (Taylor and Francis USA), Volume 21, Number 4, pp. 263-268, July 01, 2002.
13. Chakravarty. T., and Asok De, "Using cavity model analysis for design of dual-band dualslant-polarized microstrip antenna", Microwave and Optical Technology Letters, vol. 37, no. 5, pp. 331-337, June 2003.
14. Asok De, G.V. Attimarad and J. Sharma, "[Numerical Analysis of the Single Step Discontinuity in the two Dimensional Dielectric Waveguide](#)" Journal of Electromagnetic Waves and Applications Volume 17, No.6, pp. 885-900, 2003.

15. Asok De and G. V. Attimarad, "[Numerical Analysis of Two Dimensional Tapered Dielectric Waveguide-Abstract](#)" Journal of Electromagnetic Waves and Applications vol. 18, no.3, pp. 375-376, 2004.
16. T. Chakravarty, S. M.Roy, S. K. Sanyal and Asok De, "Loaded Microstrip Disk Resonator Exhibits ULTRA-Low frequency resonance" Journal of Progress in Electromagnetic Research, PIER 50, 1-12, 2005.
17. T. Chakravarty, S. M. Roy, S. K. Sanyal and Asok De, "A novel microstrip patch antenna with large impedance bandwidth in VHF/UHF range", Progress in Electro Magnetics Research, vol. 54, pp. 83-93, 2005.

2006-2010

18. T. Chakravarty, S. Biswas, A. Majumdar and Asok De, "Computation of resonant frequency of annular-ring-loaded circular patch using cavity model analysis", Microwave and Opt. Tech. Lett., vol. 48, no. 3, pp. 622-626, 2006.
19. N.S.Raghava and Asok De, "Photonic Band Gap Stacked Rectangular Microstrip Antenna for Road Vehicle Communication," IEEE Antennas and Wireless Propagation Letters, vol 5, pp. 421-423, 2006.
20. Rajni Jindal, P. C. Saxena and Asok De "Constraint based dataset filtering for mining access patterns from web logs", Journal of Computer society of India, Vol. 36, No. 4, Oct-Dec 2006.
21. T. Chakarvarty, S. K. Sanyal and Asok De, "Resonant modes of circular microstrip radiator loaded with varactor diode", Radio Science, 42, RS4024, doi.10.1029/2006RS003577, 2007.
22. P. Kumar, T. Chakravarty, G. Singh, S. Bhooshan and S. K. Khah and Asok De, "Numerical Computation of Resonant Frequency of Gap Coupled Circular Microstrip Antennas" Journal of Progress in Electromagnetic Waves and Applications, vol 21, No. 10, pp. 1303-1311, 2007.
23. Ashok Mittal and Asok De, "Finline tapers using closed form expressions for millimeter wave integrated systems", Microwave and Optical Technology Letters, vol. 49, no. 9, pp. 2254-2257, Sept., 2007.
24. Ashok Mittal and Asok De, "Balanced BPSK Modulator for Ka-Band Communication Systems", Microwave and Optical Technology Letters, Vol. 49, no.12, pp. 3046-3049, December 2007.
25. Ashok Mittal and Asok De, "Integrated Balanced BPSK modulator for millimetre wave systems" Active and Passive Electronic Components, Article DOI:10.1155/2007/69515, PP. 1-4, 2007
26. P.C. Saxena, Asok De and Rajni Jindal, "Mining Frequent Phrase Patterns of Keywords from Text Data" Asian Journal of Information Technology vol. 7 no. 11, pp. 494-497, 2008.
27. P. C. Saxena, Asok De and Rajni Jindal, "A Novel scheme for candidate generation for mining frequent patterns", International journal of soft computing, vol. 3 no. 3, pp. 205 – 211, 2008.
28. M. Mahajan, T. Chakarvarty, S. K. Khah and Asok De, "Extended cavity model for input impedance of annular microstrip antenna loaded with multiple shorting post," Journal of electromagnetic waves and applications, vol. 22 no. 10, pp. 1333- 1340, 2008.
29. T. Chakarvarty, Sunil K. Khah and Asok De, "Closed form expressions for computation of mutual admittance of a class of Gap-Coupled circular microstrip antennas," Microwave and Optical Technology Letters, Vol. 50 no.4, pp. 924-27, April 2008.

30. N. S. Raghava and Asok De, "A Novel High Performance Patch Radiator," International Journal in Microwave Science and Technology, Hindawi Publication Corporation, Article ID 562193, pp. 1-4 DOI:10.1155/2008/562193, 2008.
31. Madhurika Mahajan, Sunil Kumar Khah, T. Chakarvarty, Asok De, "Resonant frequency of asymmetrically loaded annular microstrip antenna," Microwave and Optical Technology Letters, VOL. 50 NO. 9, pp 2351-2353) September 2008.
32. S. Jigyasa and Asok De, "Modal Solutions for junction parameters of discontinuity problems in dielectric rectangular waveguides," Journal of Progress in Electromagnetic Research, PIER 87, 233-244, 2008.
33. M. Mahajan, S. K. Khah, T. Chakravarty and Asok De, "Computation of resonant frequency of annular microstrip antennas loaded with multiple shorting posts", IET Microwave Antenna Propagation, vol. 2 no. 1, pp. 1-5, 2008.
34. N.S. Raghava, Dilraj Singh and Asok De, "Study of different pattern of EBG structures for Dual frequency Rectangular Notch Square Microstrip antenna," CIIT International Journal of Wireless Communication, Print: ISSN 0974-9748 & Online: ISSN 0974-9632, May 2009.
35. Dharendra Kumar, N S Raghava and Asok De, "The Application Of Microstrip Discontinuities to design Microstrip Lowpass Filters" Journal of Multidisciplinary Engineering and Technologies, Vol. 3, No. 2, Jan-Jun 2009.
36. N. S. Raghava and Asok De, "Effect of Air Gap width on the Performance of a Stacked Square EBG Antenna," International Journal of Microwave and Optical Technology, Volume 4, No. 5, pages:315-317, September 2009.
37. Ravin Ahuja, G Gabrani and Asok De" A Dynamic Priority Scheduler for Advance Reservation in Grid Computing " International Journal of soft computing, vol.4, no-2, pp 60-67, 2009.
38. Asok De, N S Raghava, Sagar Malhotra, Pushkar Arora, Rishik Bajaj "Effect of different substrates on compact stacked square Microstrip Antenna" Journal of Telecommunications, Volume1 Issue 1, pp. 63-65, February 2010.
39. J Sharma and Asok De, "Full Wave Analysis of Dielectric Rectangular Waveguide" Progress in Electromagnetics Research M, Volume 13, pp. 121-131, 2010
40. Madan Lal and Asok De "Hybridization of ANN and GA with Adaptive Mutation: A Proficient technique for Optimal Transit Antenna Subset Selection for MIMO-OFDM System" International Journal of Computer Theory and Engineering, Vol.2, No.6, pp. 842-850, December 2010.
41. Taimoor Khan and Asok De,"Computation of different Parameters of Triangular Patch Microstrip Antennas using a common Neural Model" International Journal of Microwave and Optical Technology, Vol.5, No.4, pp-219-224, July 2010.
42. Ravin Ahuja, Asok De and Goldie Gabrani "A Scheduler for Economy based Grid with Negotiation and Penal Clause for Execution Failures Assuring Enhanced Service Commitments" International Journal of Computer Science and Software Technology, Vol.3, No.1, Jan-June 2010, pp 13-20.
43. Prateek Juyal, Ashok Mittal and Asok De "Wideband Compact Rectangular Patch Antenna Using Artificial Dielectrics" International Journal of Microwave and Optical Technology, Vol.5, no.5, pp.292-297, Sept-2010.
44. P. K Hazra and Asok De, "Quality of Service (QOS) Enhancement of IEEE 802.11e EDCA Through Frame-bursting and Block-Acknowledgement" International Journal of Microwaves and Optical Technology Vol.5, no.6, pp. 435-444, November, 2010.
45. Swait Sharma, Asok De and S N Kulkarni "Quantum Teleportation circuit using MATLAB and Mathematica" International Journal on Computer Science and Engineering Vol.2, no.5, pp.1597-1600, 2010.
46. Suresh Kumar, R K Prajapati, Manjeet Singh and Asok De,"Realization of threats and countermeasure in semantic Web Services" International journal of Computer

2011-2015

47. Dharendra Kumar, Asok De, "Compact Low Pass Filter Design for L-Band Application" Journal of Electromagnetic Analysis and Applications, Vol. 3, pp. 115-117, 2011.
48. Dharendra Kumar, Asok De, "Low Pass Filter Design by using the Ladder Network of DGS" Journal of Communication and Computer, vol. 8, pp. 276-278, 2011.
49. Dharendra Kumar and Asok De, "Design of Compact Low Pass Microstrip Filter for Wireless Communication System" published in FREQUENZ, Volume 65, pp 127-130, 2011.
50. Kakali Chatterjee, Daya Gupta and Asok De, "A Framework for Security Design Engineering Process" 2011 18th IEEE International Conference on Image Processing (ICIP 2011), pp. 287-293, 2011.
51. R.S.Yadvanshi, H. Parthasarathy and Asok De "Magneto-Hydrodynamics Antenna Design and Development, Analysis with Prototype" International Journal of Advanced Computer Science and Applications Vol.2, no2, pp-97-104, Feb.2011.
52. Taimoor Khan and Asok De, "A Common Neural Approach for Computing Different Parameters of Circular Patch Microstrip Antennas" International Journal of Microwave and Optical Technology, Vol.6, no.5, pp. 259-262, September 2011.
53. Dharendra Kumar and Asok De, "Parallel coupled microstrip filter design using Electromagnetic band gap Structure", International Journal of Contemporary Research in Engg. and Tech. vol.1, No. 1, 2011.
54. Kakali Chatterjee Asok De and Daya Gupta, "Timestamp Based Authentication Protocol for Smart Card Using ECC" International Conference on Web Information Systems and Mining (WISM 2011), China, pp. 368-375, 2011.
55. P. K Hazra and Asok De, "Performance analysis of IEEE 802.11 e enhanced distributed channel access (EDCA)" International Journal of Advancements in Technology, Vol. 2 no. 4, pp. 507-529, ISSN 0976-4860, October 2011.
56. Kakali Chatterjee, Asok De and Daya Gupta, "Software Implementation of Curve based Cryptography for Constrained Devices" International Journal of Computer Applications, Vol. 24, no. 5, pp. 18-23, June 2011.
57. Kakali Chatterjee Asok De and Daya Gupta "Timestamp based Digital Envelope for secure communication using HECC", Information Security Journal: A Global Perspective Vol. 21 no. 2, pp.79-87, 2012.
58. Daya Gupta, Asok De, Kakali Chatterjee, "Performance Study of genus 3 Hyperelliptic Curve Cryptosystem" Journal of Information Processing Systems (JIPS), Vol. 8 no.1 pp. 145-158, 2012.
59. Kakali Chatterjee, Asok De, Daya Gupta, "An Improved ID-Based Key Management Scheme in Wireless Sensor Network" ICSI, Part 2, pp. 351-359, 2012.
60. Dharendra Kumar and Asok De, "Daul band filter design using perturbed square patch resonator, YMCAUST International Journal of Research, Volume 1, no.1, pp. 25-28, January 2013.
61. Kakali Chatterjee, Daya Gupta and Asok De, "A framework for development of secure software", CSI Transitions on ICT, Volume 1, no. 2, pp. 143-157 June 2013.
62. Dharendra Kumar and Asok De, "Effective size reduction technique for microstrip filters", Journal of Electromagnetic Analysis and Applications, Volume 5, pp 166-174, 2013.
63. Taimoor Khan, Asok De and Moin Uddin, "Prediction of slot-size and inserted air-gap for improving the performance of rectangular microstrip antennas using

- artificial Neural networks” IEEE Antennas and wireless propagation Letters, Volume 12 pp. 1367-1371, October 2013.
64. Taimoor Khan and Asok De, “A Generalized ANN model for Analyzing and Synthesizing Rectangular, Circular and Triangular Microstrip Antennas”, Chinese Journal of Engineering, Hindawi Publishing Co. USA, Vol. 2013, pp. 1-9, Article ID 647191, <http://dx.doi.org/10.1155/2013/647191>, 2013.
 65. Taimoor Khan and Asok De, “Prediction of Resonant Frequencies of Rectangular, Circular and Triangular Microstrip Antennas using a Generalized RBF Neural Model,” International Journal of Scientific & Engineering Research, Volume 4, Issue 8, pp. 182-187, August 2013.
 66. Suresh Kumar, Naresh Kumar, Manjeet Singh and Asok De, “A Rule-Based Approach for Extraction of Link-Context from Anchor-Text Structure” Proceedings of the International Symposium on Intelligent Informatics ISI (2012), Vol. 128, pp. 261-271, 2013.
 67. Dhirendra Kumar and Asok De, “Single pole compact narrow band pass filter using periodic ground defects”, Radio-electronics and Communications Systems, Volume 56, Issue 9, pp 456-459, September 2013.
 68. Kakali Chatterjee, Asok De, Daya Gupta, “Mutual Authentication Protocol Using Hyperelliptic Curve Cryptosystem in Constrained Devices” International Journal of Network Security, Vol. 15, no. 1, pp. 9-15, January 2013.
 69. Parul Dawar and Asok De, “Bandwidth enhancement of RMPA using 2 segment Labyrinth Metamaterial at THz”, Material Science and Applications(SCIRP), Vol-4, No-10, pp.579-588, October 2013, DOI:10.4236/msa.2013.41007169.
 70. Preet Kaur, Rajiv Nehra Manjeet Kadian Asok De and S K Aggarwal, “Design of Improved Performance Rectangular Microstrip Patch Antenna Using Peacock and Star Shaped DGS” International Journal of Electronics Signals and Systems, Vol. 3, no. 2 pp.33-37, 2013.
 71. Parul Dawar and Asok De, “Effect of Splits in Resonance Permeability of ESRR Metamaterial at THz.” Procedia Material Science, Vol. 6, pp. 1936-1941, March 2014.
 72. Parul Dawar and Asok De, “Tunability of Triangular SRR and Wire Strip (TSRR-WS) Metamaterial at THz.” Advances in Optical Technologies, pp. 1-10. 2014.
 73. Taimoor Khan and Asok De, “Hardware Neural Networks Modelling for Computing of different Performance Parameters of Rectangular, Circular and Triangular Microstrip Antennas” , Chinese Journal of Engineering, pp. 1-11, 2014.
 74. Preet Kaur, Asok De and S K Aggarwal, “Design of A Novel Reconfigurable Fractal Antenna for Multi-Band Application.” International Journal of Advanced Science and Technology, Vol.62, pp.103-112, 2014.
 75. Preet Kaur, Rajiv Nehra, S K Aggarwal and Asok De, “Design of Novel DGS Integrated MBPF for Bluetooth Application”, YMCAUST International Journal of Research, Vol. 2, no. 1, pp19-24, 2014.
 76. N.S. Raghava, Asok De, Rishik Bazaz, Pushkar Arora, Aman Samaiyar and Deepender Dabas, “High Gain Patch Antenna for WBAN Applications”, SOP Transactions on Wireless Communications, Vol. 1, no. 2, July 2014.
 77. Preet Kaur, S. K. Aggarwal and Asok De, “Reconfigurable Inverted Circular Patch Antenna for Wireless Applications”, International Journal of Advanced Science and Technology Vol.70, pp.55-64, 2014.
 78. Taimoor Khan and Asok De, “Estimation of Radiation Characteristics of Different Slotted Microstrip Antennas Using a Knowledge-Based Neural Networks Model” International Journal of RF and Microwave Computer-Aided Engineering, Vol. 24, no. 6, pp. 673-680, May 2014, ISSN No. 1099-047X, DOI: 10.1002/mmce. 20811.

79. Taimoor Khan and Asok De, "Estimation of Different Performance Parameters of Slotted Microstrip Antennas with Air-Gap using Neural Networks", *ISRN Electronics*, Vol. 2014, pp. 1-6, 2014, Article ID 296105, ISSN No: 2356-7872, DOI: 10.1155/2020.
80. Taimoor Khan and Asok De, "Estimation of Radiation Characteristics of Different Slotted Microstrip Antennas Using a Knowledge-Based Neural Networks Model", *International Journal of RF and Microwave Computer-Aided Engineering*, Wiley Interscience, Vol. 24, No. 6, May 2014, pp. 673-680.
81. Anurag Mishra, Kanchan Sharma, and Asok De, "A Design of FIS Based Adaptive OFDM System for Optimized Transmission of Grayscale Images", *International Journal of Scientific & Engineering Research*, Volume 5, no. 3, pp. 42-49, March-2014, ISSN 2229-5518
82. Anurag Mishra, Kanchan Sharma, and Asok De, "Quality Image Transmission through AWGN Channel using Polar Codes", *International Journal of Computer Science and Telecommunications*, Volume 5, no.1, pp. 8-16, January 2014, ISSN 2047-3338.
83. Parul Dawar and Asok De, "Comparison between FEM and transmission line based analysis of novel metamaterials at high frequency", *Research Journal of Engineering and Technology*, Volume 5, no. 4, pp. 184-189, October-December 2014.
84. Taimoor Khan and Asok De, "Prediction of Slot-Shape and Slot-Size for Improving the Performance of Microstrip Antennas Using Knowledge-Based Neural Networks", *International Scholarly Research Notices*, Vol. 2014, pp. 1-9, 2014.
85. Kakali Chatterjee, Asok De, and Daya Gupta, "A Secure and Efficient Authentication Protocol in Wireless Sensor Network", *Wireless Personal Communications*, Vol. 81, no.1, pp 17-37, March 2015.
86. Parul Dawar, N.S. Raghava and Asok De, "A novel metamaterial for miniaturization and multi-resonance in antenna", *Cogent OA Physics*, Vol 2, pp. 1-13, 2015.
87. Parul Dawar, N.S. Raghava and Asok De, "FEM and transmission line based analysis of 'Closed Ring Pair 'metamaterial'", *International Journal of Signal Processing, Image Processing and Pattern Recognition*, Vol 8, No. 12, pp. 351-356, 2015.
88. Parul Dawar and Asok De, "Bandwidth and gain enhancement of RMPA using 'C' shaped metamaterial at THz", *International Journal of Scientific World*, Vol 3 no.1, pp 59-68, 2015.
89. Parul Dawar, N.S. Raghava and Asok De, "Tuneable and directive metamaterial-inspired antennas for 'C' Band Applications," *International Journal of Microwave and Optical Technology*, Vol 10, no. 3, pp 168-175, May 2015.
90. Preet Kaur, S. K. Aggarwal and Asok De, "A survey of techniques for performance enhancement of patch antenna using metamaterial," *IOSR Journal of Electronics and Communication Engineering*, Vol.10, issue 6, pp.98-109, November-December, 2015.
91. Taimoor Khan and Asok De, "Modeling of Microstrip Antennas Using Neural Networks Techniques: A Review", *International Journal of RF and Microwave Computer Aided Engineering*, Vol. 25, no. 9, pp. 447-457, November 2015.
92. Shivam Gautam, Komalbir Kaur, N.S. Raghava and Asok De, "Design and Analysis of Uniplanar Compact Electromagnetic Bandgap Structures", *Progress In Electromagnetics Research Symposium Proceedings*, pp. 2092-2094, July 6-9, 2015.
93. Dharendra Kumar, and Asok De, "Compact ultra wide band filter using triangular patch Resonators", *Radio Electronics and Communications Systems*, Vol. 58, no. 4, pp 151-156, 2015.

2016-2021


94. Parul Dawar, N.S. Raghav, Asok De, "Ultra-Wide Band, multi-resonance antenna using swastika metamaterial" *International Journal of Microwave and Optical Technology*, Vol. 11, Issue 6, pp 413-420, October 2016.
95. Taimoor Khan and Asok De, "Prediction of Slot-Shap, Slot-Size and Inserted Air-Gap of a Microstrip Antenna Using Knowledge-Based Neural Network", *Progress in Electromagnetics Research C*, Vol. 65, pp. 23-32, 2016.
96. Parul Dawar, Asok De and N.S. Raghava, "UWB and Directive E-shaped metamaterial patch antenna", *Materials Research Innovations*, Vol. 20, no. 3, pp. 240-246, April, 2016.
97. Kakali Chatterjee and Asok De, "A Novel multi-server authentication scheme for e-commerce applications using smart card" *Wireless Personal Communications*, November 2016, Vol. 91, Issue 1, pp. 293-312.
98. Parul Dawar, N.S. Raghav, Asok De, "Miniaturized UWB multi-resonance patch antenna loaded with novel modified H-shape SRR metamaterial for microspacecraft applications", *Frontiers of Information Technology & Electronic Engineering*, pp. 1-9, 2016.
99. Peddakrishna Samineni, Taimoor Khan and Asok De, "Modeling of electromagnetic band gap structures: a review" *International Journal of RF and Microwave Computer-Aided Engineering*, pp. 1-19, September, 2016.
100. Sounik Kiran Kumar Das, Taimoor Khan and Asok De, "Dielectric resonator antennas: an application oriented survey", *International Journal of RF and Microwave Computer-Aided Engineering*, pp. 1-22, October, 2016.
101. Sounik Kiran Kumar Dash, **Taimoor Khan** and Asok De, "Modeling of Dielectric Resonator Antennas using Numerical Methods: A Review", *Journal of Microwave Power and Electromagnetic Energy*, Taylor and Francis, Vol. 50, No. 4, pp. 269-293, November 2016.
102. **Taimoor Khan** and Asok De, "Prediction of Slot-Shape, Slot-Size and Inserted Air-Gap of a Microstrip Antenna using Knowledge-Based Neural Network", *Progress In Electromagnetic Research (PIER) C*, Vol. 65, pp.23-32, June 2016.
103. Rishi Dutt Sharma, Kishore Thapliyal, Anirban Pathak, Alok Kumar Pan and Asok De, "Which verification qubits perform best for secure communication in noisy channel? *Quantum Information Processing*, pp. 1203-1218 (2016), DOI 10.1007/s11128-015-1207-6, Springer publication.
104. Preet Kaur, S.K. Aggarwal and Asok De, "Design and investigation of circularly polarized RMPA with chiral metamaterial cover" *International Journal of Wireless and Microwave Technologies*, Vol. 3, pp 61-70, 2016.
105. Parul Dawar, Asok De and N.S. Raghava, "Directive and Broadband 4-seg SRR Metamaterial Antennas" *International Journal of Advanced Science and Technology*, Vol. 97, pp 1-12, 2016.
106. Parul Dawar, N.S. Raghava and Asok De., "High gain, directive and miniaturized metamaterial C-band antenna" *Materials Science*, Vol. 3, pp. 1-12, 2016.
107. Preet Kaur, S.K. Aggarwal and Asok De, "Performance enhancement of rectangular microstrip patch antenna using double H shaped metamaterial" *Radioelectronics and Communications Systems*, Vol. 59, pp 496-501, 2016.
108. Sounik Kiran Kumar Das, Taimoor Khan and Asok De, "Modelling of dielectric resonator antennas using numerical methods: a review" *Journal of Microwave Power and Electromagnetic Energy*, Vol. 50, No. 4, pp 269-293, January, 2017.
109. Peddakrishna Samineni, Taimoor Khan and Asok De, "Electromagnetic band-gap

- structured printed antennas: a feature-oriented survey” *International Journal of RF and Microwave Computer-Aided Engineering*, pp. 1-16, March, 2017.
110. Sameneni Peddakrishna, **Taimoor Khan** and Asok De, “Modeling of Electromagnetic Band Gap Structures: A Review”, *International Journal of RF and Microwave Computer-Aided Engineering*, Wiley Interscience, Vol. 27, No. 2, 2017.
 111. Sounik Kiran Kumar Dash, **Taimoor Khan**, and Asok De, “Dielectric Resonator Antennas: An Application Oriented Survey”, *International Journal of RF and Microwave Computer-Aided Engineering*, Wiley Interscience, Vol. 27, No. 3, March 2017.
 112. Parul Dawar, N.S. Raghava, Asok De, “UWB metamaterial loaded antenna for C- band applications,” *International Journal of Antenna and Propagation*, HINDAWI,(SCI-E indexed), Volume 2019, Article ID 6087039, 13 pages.
 113. Parul Dawar, N.S. Raghava, Asok De, " S-shaped metamaterial ultra-wideband and Directive patch antenna”, *Radioelectronics and Communications Systems*, SPRINGER (SCOPUS indexed), Vol 61, No 9 (2018)..
 114. Parul Dawar, N.S. Raghava, Asok De, “UWB , miniaturized and directive metamaterial loaded antenna for satellite applications,” *International Journal of Networked and Distributed Computing* ,(ESCI indexed) , Atlantis Press, Vol. 6, Issue 1, pp 24-34, 2018.
 115. Parul Dawar, N.S. Raghava, Asok De, “UWB and miniaturized meandered stripline fed metamaterial loaded antenna for satellite applications,” *IOP conference series: Material Science and Engineering Journal*, (Web of Science, CPCIS, indexed) , Dec 2018.
 116. Parul Dawar, N.S. Raghava, Asok De , “A study on the effect of metamaterial’s positioning and stacking on antenna’s parameters, “*International journal of Electronics*, Taylor and Francis Group (SCI Indexed), May 2017.
 117. Parul Dawar, N.S. Raghava, Asok De , “Miniaturized UWB multi-resonance patch antenna loaded with novel modified H-shape SRR metamaterial for microspacecraft applications,” *Frontiers of Information Technology and Electronic Engineering*, vol. 18, no. 11, pp. 1883–1891, 2017, Springer (SCI Indexed)
 118. Surender, D., Khan, T., Talukdar, F. A., De, A., Antar, Y. M. M., & Freundorfer, Al. P. (2020). Key Components of Rectenna System: A Comprehensive Survey. *IETE Journal of Research*, 68(5), 3379–3405. <https://doi.org/10.1080/03772063.2020.1761268>
 119. Anubhav Kumar, Asok De and R K Jain ‘Gain Enhancement Using Modified Circular Loop FSS Loaded with Slot Antenna for Sub-6 MHz 5G Applications’ *Progress in Electromagnetics Research Letters*, Vol. 98, 41-48, 2021.
 120. Sandeep Kohar, Surinder Singh and Asok De ‘ Design of Low Profile Cylindrical Conformed Microstrip Patch Antenna for Wideband Operation’ *IETE Journal of Research*. Taylor & Francis, pp. 1-28, 27 July, 2021
 121. Novel H-shaped EBG in E-plane for isolation Enhancement of Compact CPW-fed Two-Port UW MIMO Antenna.’ Anubhav Kumar, Asok De & R.K. Jain *IETE Journal of Research* Taylor & Francis. pp. 1-7 (Published online 20 Oct 2021).
 122. ‘Circularly polarized CPW fed MIMO/ Diversity antenna for Wi-Fi and WLAN applications ‘, Anubhav Kumar, Asok De & R.K. Jain *Frequenz - Journal of RF-Engineering and Telecommunications*. Walter de Gruyter vol. 76, no. 1-2, 2022, pp. 37-44 (Published online October 22, 2021)
 123. Kumar, A., De, A., & Jain, R. K. (2021). Size Miniaturization and Isolation Enhancement of Two-Element Antenna for Sub-6 GHz Applications. *IETE Journal of Research*, 69(9), 6006–6013. <https://doi.org/10.1080/03772063.2021.1987994>
 124. ‘Gain Enhancement Using Modified Circular Loop FSS Loaded with Slot

- Antenna for Sub-6 GHz 5G Application'. Anubhav Kumar, Asok De & R.K. Jain. Progress In Electromagnetics Research Letters. EMW Publishing. Vol. 98, 41–48, 2021.
125. Sharma, J., Kumar, D., & De, A. (2018). A compact dual-band bandpass SIW filter using uniplanar combination of the CRLH and resonant type metamaterials. Australian Journal of Electrical and Electronics Engineering, 15(4), 147–151. <https://doi.org/10.1080/1448837X.2018.1528731>

2022-till date

126. Kumar, Anubhav & De, Asok & Jain, Rakesh. (2022). CSRR and open-stub based circular polarized and double band eight-ports MIMO antenna for 5G and ISM band applications. Microsystem Technologies. 28. 10.1007/s00542-022-05316-6.
127. Sharma, N., Kumar, A., De, A. & Jain, R. (2022). Compact circular polarized CPW antenna for WLAN and biomedical applications. *Frequenz*, 76(3-4), 229-237. <https://doi.org/10.1515/freq-2021-0129>
128. Navneet Sharma, Anubhav Kumar, Asok De, and Rakesh Kumar Jain, "Design of Compact Hexagonal Shaped Multiband Antenna for Wearable and Tumor Detection Applications," Progress In Electromagnetics Research M, Vol. 105, 205-217, 2021. [doi:10.2528/PIERM21081701](https://doi.org/10.2528/PIERM21081701)
129. 'Modified CSRR Based Dual-Band Four-Element MIMO Antenna for 5G Smartphone Communication'. Pankaj Jha, Anubhav Kumar, Asok De, and Rakesh K. Jain, Progress In Electromagnetics Research Letters. EMW Publishing. Vol. 101, 35–43, 2021
130. '[CPW-fed Metamaterial Inspired Compact Multiband Antenna for LTE/5G/WLAN Communication](#)'. Pankaj Jha, Anubhav Kumar, Asok De, and Rakesh K. Jain, *Frequenz - Journal of RF-Engineering and Telecommunications*. Walter de Gruyter, pp 1-7 (Published online Feb.07,2021)
131. '[Circular Polarized two-element textile antenna with high isolation and polarization diversity for wearable applications](#)' Anubhav Kumar, Asok De and R K Jain. International Journal of Microwave and Wireless Technologies, Cambridge University Press.UK. pp 1-9 (Accepted on Feb. 04, 2022) <https://doi.org/10.1017/S1759078722000332.Feb.2022>.
132. Kohar, S., Singh, S., & De, A. (2023). Investigations on the Wideband Characteristics of a Cylindrical Conformal U-slot Loaded Microstrip Patch Antenna for X-Band Airborne Applications. IETE Journal of Research, 1–12. <https://doi.org/10.1080/03772063.2022.2150699>
133. Sharma, R., Raghava, N. S., & De, A. (2022). Design of Inverted Stacked Parasitic Patch Antenna for Communication in White Space TV Band. IETE Journal of Research, 70(1), 173–184. <https://doi.org/10.1080/03772063.2022.2127942>
134. Kumar, S., & De, A. (2023). Design and Mode Matching Analysis of Stepped Substrate Integrated Waveguide and Filters. IETE Journal of Research, 1–9. <https://doi.org/10.1080/03772063.2023.2171917>
135. Sharma, R., Raghava, N S. & De, A 'Circular RFID Antenna for White Space TV Band' Wireless Personal Communication, Vol-139 pp-1103-1118, 2024. <https://doi.org/10.1007/s11277-024-11657-4>.
136. Richa Sharma, Asok De & N. S Raghava, 'Multi band multi polarized fractal

- antenna for white space TV band.’ International Journal of Electronics,
DOI:10.1080/00207217.2024.2302342.
137. Sharma R.,Raghava, N.S. & A De ‘Design and Analysis of Circular Microstrip Patch Antenna for White space TV Band Applications.’ Wireless Personal Communications Vol.126,June. 2022, pp-3333-3344.
doi:10.1007/s11277-022-09867-9
138. Rakesh Kumar,Asok De & Priyanka Jain ‘High isolation dual band circularly polarized CPW based MIMO antenna with improved diversity performance for WLAN and C band wireless applications,’,Pages 91-111 | Received 24 Aug 2024, Accepted 05 Nov 2024, Published online: 07 Dec 2024.
139. ‘Two-Port Antenna Based on Shorting Pins and open Ended slots with T-Shaped Stub for Isolation Enhancement’ A Kumar, A De, RK Jain - IETE Journal of Research, 2024 - Taylor & Francis,
doi.org/10.1080/03772063.2023.2208554.
140. ‘Asymmetrical CPW-Fed Circularly Polarized Two-Port MIMO Antenna for Satellite and Wi-Fi 6E Communication’ Pankaj Jha ,Anubhav Kumar &Asok De,Pages 5540-5549 | Published online: 10 Nov 2023
- .

CONFERENCE PUBLICATIONS

International

1983-2000

1. Asok De and B. N. Das, "Wall Admittance of Rectangular Microstrip Patch Radiator". Conf .Publication No: 219 3rd International Conference on Antennas and Propagation. ICAP 83.Norwich U.K.University of East Anglia. April 1983.
2. Asok De and B. N. Das, "Resonant frequency of passive post loaded circular patch radiator".IEEE conf. on antennas and Communication (MONOTECH) held in Montreal, Canada. Sept.-29-Oct.1, 1986.
3. Asok De and B. N. Das, "Analysis of impedance loading on rectangular waveguide due to aperture coupled microstrip patch radiator". Conf. publication No. 301, 6th. Int. conf. on Antennas and Propagation. ICAP-89, U.K. pp-378-382, 1989.
4. Ranjit Singh, Asok De and R. S. Yadav, "Effect of co-axially loaded variable stub on the resonant frequency of circular microstrip patch antenna" 4th IEEE Region-X, Int. conf.TENCON 89. Conf. Publication No: CH 2766, pp. 224-225, 1989.
5. Ranjit Singh and Asok De, "A simple method of measuring dielectric constant at microwave frequencies", IEEE Conference on Antennas and Propagation. CH-2822-5, 1990.
6. Ranjit Singh and Asok De, "A simple approach to calculate resonant frequency of hexagonal microstrip patch radiator", International conference on millimeter wave and microwaves. ICOMM-90, Dec.19-20, 1990.
7. Ranjit Singh and Asok De, "On the resonant frequencies of triangular microstrip patch radiator" 3rd Asia Pacific Microwave Conference, APMC-90 Sept. 19-21, Tokyo, Japan, 1990.
8. S.Pal and Asok De, "Excitation of rectangular patch radiator by open ended waveguide" International conference on Electromagnetic interference and compatibility. Dec. 2-4, Calcutta, India, Conf. proc. pp-357-360, 1992.
9. G. Sen, Asok De and P. K. Saha, "Analysis of a symmetrical rectangular coaxial waveguide using Ritz-Galerkin technique", Proc. Of Asia Pacific Microwave Conference. Conf. vol. no.4, pp. 1411-1416. New Delhi, India, 1996.
10. T. Chakravarty and Asok De, "A unique case of electromagnetically coupled rectangular patch array", Proc. Of Int. on computers and Devices for Communication. CODEC-1998.Conf. Proc. Published by Academic Press. Calcutta, India, pp. 69-71, 1998.
11. Asok De and T. Chakravarty, "Frequency Tunable circular patch antenna: An extended performance", Proc. Of APSYM-98, Dept. of Electronics, Kochin, pp. 114-117, Dec.1998.
12. Chakravarty. T., and Asok De, "Extending bandwidth of circular microstrip antenna with single shorting post", Proc. International Symposium Recent Advances in Microwave Technology (ISRAMT), Spain, July, 1999.
13. Asok De and T. Chakravarty, "Theoretical evaluation of resonant frequencies of a Hemispherical-circular microstrip antenna", Proc. International conference Electromagnetic Interference and Compatibility (INCEMIC), India, December, pp. 435-438, 1999.

2001-2005

14. Asok De and T. Chakravarty, "A new slant polarized dual band microstrip antenna",

- International Symposium, Progress In Electromagnetic Research (PIERS), Japan, July, 2001.
15. Chakravarty. T., and Asok De, "A novel method of extending frequency tenability of circular patch using two shorting pins", IEEE-APS International Symposium, Ohio, USA, 2003.
 16. Asok De and Girish V. Attimarad, "Numerical Analysis of Tapered Dielectric Waveguide", Asia Pacific Microwave Conference, 2003, Nov 4-7, Seoul, Korea, 2003.
 17. Asok De and G. V. Attimarad, "Numerical Analysis of Two Dimensional Tapered Dielectric Waveguide" published in Progress in Electromagnetics Research, PIER 44, pp. 131-142, 2004.
 18. Asok De and Girish V. Attimarad, "Design of Beam Expander; A Matching Section between Two Open Waveguides" published in Proceedings of International Conference on Communications, Devices and Intelligent Systems, (CODIS 2004, 8-10 Jan, Kolkata), pp. 224-227, 2004.
 19. Asok De, Aditya Pyasi and Vipin Bansal, "Prevention of Electricity Theft and Fault Detection on L. T. lines through transient detection" APMC-2004, New Delhi 15-18 December, 2004.
 20. Sushamay Biswas, T. Chakravarty and Asok De, "Effect of centre post on the compactness of shorting post loaded circular patch", IEEE-APS International Symposium, USA, July 3-8, 2005.
 21. S. Biswas, T. Chakravarty and Asok De "A comparative study on the compactness between annular patch and loaded circular patch", URSI General Assembly, New Delhi, 2005.
 22. Rajni Jindal, P. C. Saxena and Asok De, "An Algorithm For Frequent Pattern Mining Using Digital search Tree", Proceedings of International Conference On Information Management in a knowledge society (ICIM 2005), vol. II, pp. 796 – 808 , Mumbai, 21 –25 Feb., 2005.

2006-2010

23. Rajni Jindal, P. C. Saxena and Asok De, "Web Usage Mining: Discovering frequent access patterns from the web logs" Proceedings of International conference on Multidisciplinary Information sciences and Technologies (InSciT2006), Spain, 25-28 October 2006.
24. Sparsh Gupta, Himanshu and Asok De, "Detection of forgery in Digital Video", 10th World multiconference on Systemics, Cybernetics and Informatics held in Orlando, USA, July 16-19, 2006.
25. T. Chakravarty, S. Mahapatra and Asok De, "An Extremely Broadband Planar Active Receiving Antenna", IWAT conference on Small Antennas and Novel Meta-materials, 6-7, March 2006.
26. M. Nath, T. Chakravarty and Asok De, "An experimental study on resonant frequency of shorted elliptical patch", Proceedings of IEEE AP-S /URSI Symposium, 2006.
27. Ashok Mittal and Asok De, "Finline Tapers Using Closed Form Expressions for Millimeter Wave Integrated Systems", IEEE ISM-2006, IEEE International Symposium on Microwaves, Bangalore, pp. 618-625, Dec 2006.
28. P.C. Saxena , Asok De, Rajni Jindal "Web Usage Mining : Discovering frequent access patterns from the web logs" in the proceedings of the International conference on Multidisciplinary Information sciences and Technologies (InSciT2006) held at Spain, 25-28, October 2006.

29. Kshitij Sudan, Nipun Saagar and Asok De, "A Parallel algorithm for discrete Gabor transforms", World Congress in Computer Science, WORLDCOMP-07.
30. Amit Mendriratta, Anil Dahiya, Asok De and Navin Rajpal, "Chaos based audio watermarking" IEEE International Conference on Computational Intelligence and Multimedia Applications (ICCIMA), 2007 Volume 4, pp. 64-69.
31. N.S.Raghava and Asok De, "A Novel High Efficiency and High Gain Microstrip Patch Antenna", International Conference ICMO-2007, held at Aurangabad, Maharashtra, India from 13th - 17th Dec, 2007.
32. N. S. Raghava and Asok De, "A High Bandwidth Microstrip Antenna with EBG Structure" International Conference ICMO-2007, held at Aurangabad, Maharashtra, India from 13th - 17th Dec, 2007.
33. Dharendra Kumar and Asok De, "A Novel Dual Band Microstrip Filter Using Rectangular Patch Resonators for Wireless Applications," International Conference ICMO-2007, held at Aurangabad, Maharashtra, India from 13th - 17th Dec, 2007.
34. N. S. Raghava and Asok De, "A Study of Rectangular Patch antenna with slotted ground plane," International Conference held at ICRS, Jodhpur from 20th to 22th Feb, 2008.
35. Dharendra Kumar and Asok De, "A study on spurious band suppression techniques of Parallel coupled microstrip band pass filter," International Conference held at ICRS, Jodhpur from 20th to 22th Feb, 2008.
36. Aman Arora, Raghunandan KR, Dharendra Kumar and Asok De, "An application of fractal geometry to design the microstrip circuits" 2008 IEEE International Conference on Recent Advances in Microwave Theory and Applications, 2008 pp. 854-856.
37. Amol Choudhary, N. S. Raghava and Asok De, "A High Gain Rectangular Patch Radiator with Square Holes in the Ground Plane," International Conference EUROEM2008, to be held in Switzerland from 21st - 25th July, 2008.
38. Amol Choudhary, N. S. Raghava, Animesh Biswas and Asok De, "A Highly Efficient Rectangular Microstrip Antenna with Hexagonal Holes as an Electromagnetic Band Gap Structure in the Ground Plane" published in Microwave-2008 conference to be held in Nov. 21-24, 2008.
39. Raghunandan K.R., Aman Arora, Dharendra Kumar and Asok De, "An effective design of parallel coupled microstrip band pass filter without the spurious band" accepted for publication in Microwave-2008 conference to be held in Nov. 21-24, 2008.
40. Aman Arora, Raghunandan K.R., Dharendra Kumar and Asok De, "An application of fractal geometry to design the microstrip circuits," accepted for publication in the Microwave-2008 conference to be held on Nov. 21 – 24, 2008.
41. Dilraj Singh, N. S. Raghava, Animesh Biswas and Asok De, "Dual frequency rectangular notch square microstrip antenna with EBG," accepted to the International Symposium on Microwaves 2008 held in Bangalore from 3-6 December 2008.
42. N.S Raghava, Virender Kumar, Dilraj Singh, Asok De, "Dual Frequency Square Notch Rectangular Microstrip Radiator with EBG Ground," presented in the International Conference held at ICRS, Jodhpur from 19th to 21st Dec., 2009.
43. Taimoor Khan and Asok De "Calculation of Resonant Frequency of Rectangular Patch Microstrip Antennas using Levenberg-Marquardt Neural Networks", Proceedings of International Symposium on Microwave and Optical Technology (ISMOT-2009), Ashoka Hotel, New Delhi, India, Dec. 16-19, 2009.
44. J Sharma, D Kumar, Asok De, "Transmission characteristics of rectangular dielectric guide in the millimeter wave region with embedded metallic discontinuities", International Conference on Emerging Trends in Electronic and Photonic Devices & Systems, 2009. ELECTRO '09, pp. 343-345.

45. Asok De and Taimoor Khan, "Neural Design of Equilateral Triangular Patch Microstrip Antennas", Proceedings of International Conference on VLSI and Communication (ICVcom- 2009), Saintgits College of Engineering, Kottayam, Kerala, India, April 16-18, 2009.
46. Asok De and Taimoor Khan, "Neural Computation of Resonant Frequency of Equilateral Triangular Patch Microstrip Antennas", Proceedings of International Conference on Computer, Communication, Control & Information Technology (C3IT-2009), Academy of Technology, Kolkata, India, February 6-7, 2009.
47. Ravin Ahuja, Asok De and G. Gabrani, "A dynamic priority metascheduler for an SLA-Based storage GRID" 2009 Second International Conference on the Applications of Digital Information and Web Technologies (ICADIWT), August 4-6, 2009, pp. 116-123.
48. Ravin Ahuja, Asok De and G. Gabrani, "Negotiation based advance reservation priority GRID scheduler with a penal clause for execution failures" 2009 24th International Symposium on Computer and Information Science, September 14-16, 2009, pp. 522-529.
49. Ravin Ahuja, Asok De and G. Gabrani, "An economy based storage grid federation with a decentralized scheduling technique" 2010 International Conference on Computational Science and Its Applications (ICCSA), March 23-26, 2010, pp. 255-260.
50. Suresh Kumar, R K Prajapati, Manjeet Singh and Asok De, "Security enforcement using PKI in semantic web" 2010 International Conference on Computer Information Systems and Industrial Management Applications (CISIM), October 8-10, 2010, pp. 392-397.

2011-till date

51. Deepak Gangwar, Prateek Juyal, Ashok Mittal, Asok De, "Enhancement of front to back ratio and directivity with wire medium E-near zero metamaterial as superstrate in microstrip patch radiators" 2011 IEEE Conference Publication Indian Antenna Week (IAW), 2011, pp. 1-4.
52. Ravin Ahuja, Asok De and Goldie Gabrani, "SLA Based scheduler for cloud for storage & computational services" 2011 International Conference on Computational Science and Its Applications, June 2011, pp. 258-262.
53. Mahender Singh and Asok De, "Analysis and design of rectangular perturbed corner microstrip patch antenna" 2011 International workshop on Electromagnetic Applications and Students Innovations (IWEM), August 8-10, 2011, pp. 38-42.
54. Kakali Chatterjee, Asok De and Daya Gupta, "A Framework for Security Design Engineering Process", in proceedings of Fifth International Conference on Information Processing (ICIP 2011), Springer -Verlag Berlin Heidelberg 2011, CCIS 157, pp. 287-293 to be held from 5-7 August 2011, in Bangalore, India.
55. Kakali Chatterjee, Asok De and Daya Gupta, "Timestamp based Authentication Protocol for Smart Card using ECC", in proceedings of International Conference on Web Information System and Mining (WISM 2011), Springer -Verlag Berlin Heidelberg 2011, Lecture Notes in Computer Science (LNCS) to be held from 24-25 September 2011, in Taiyuan, China.
56. Rishi Dutt Sharma and Asok De, "A New Secure Model for Quantum Key Distribution Protocol", Proceeding of 6th International Conference on Industrial and Information Systems, 16-19 August 2011, Sri Lanka.
57. J. Sharma and Asok De, "Double Step Analysis of Dielectric Rectangular

- Waveguides Using Modal Expansions Technique”, International Conference on Computational Intelligence and Communication Networks (CICN), pp. 302-306, 2011
58. Taimoor Khan and Asok De, “Design of Circular/Triangular Patch Microstrip Antennas using a Single Neural Model”, Proceedings of IEEE Applied Electromagnetic Conference (AEMC-2011), Hyatt Regency, Kolkata, India, Dec. 18-22, 2011.
 59. Kakali Chatterjee, Asok De, Daya Gupta: Timestamp Based Authentication Protocol for Smart Card Using ECC. WISM (1) 2011: 368-375
 60. N S Raghava, Asok De, P Arora, S Malhotra, R Bazaz, S Kapur, R Manocha, “A novel patch antenna for ultra-wideband applications” International Conference on Communications and Signal Processing (ICCSP), 2011.
 61. Kanchan Sharma, Anurag Mishra and Asok De, “Robust watermarked image transmission on OFDM wireless network” 2012 25th IEEE Canadian Conference on electrical and Computer Engineering (CCECE), 2012.
 62. Suresh Kumar, Manjeet Singh, Asok De, “OWL-Based ontology indexing and retrieving algorithms for semantic search engine” 2012 7th International Conference on Computing and Convergence Technology (ICCCT), pp. 1135-1140, 2012.
 63. Rajveer Singh Yaduvanshi, Harish Parthasarathy, Asok De, Richa Gupta, “Fluid frame magneto-hydrodynamic antenna” 2012 International conference on Communication Systems and Network Technologies (CSNT), pp. 5-9, May 11-13, 2012.
 64. Taimoor Khan and Asok De, “A Generalized Neural Simulator for Computing Different Parameters of Circular/Triangular Microstrip Antennas Simultaneously” 2012 IEEE AsiaPacific Conference on Applied Electromagnetics (APACE-2012) Melaka, Malaysia, pp. 350-354, Dec. 11-13, 2012.
 65. Dharendra Kumar, Asok De, “Band pass filter design using microstrip line loaded with open stepped impedance structure” IEEE MTT-S International Conference on Microwave and RF, pp. 1-4, 2013
 66. Taimoor Khan and Asok De, “A Generalized Neural Method for Simultaneous Computation of Resonant Frequencies of Rectangular, Circular and Triangular Microstrip Antennas”, 2013 International Conference on Global Innovation Technology and Science (ICGITS-2013), Saintgits College of Engineering, Kottayam, Kerala, India, April 4-6, 2013.
 67. Preet Kaur, S. K. Aggarwal and Asok De, “ Design of compact rectangular patch antenna using square grid and I shaped metamaterial” , IEEE International conference on signal processing and communication(ICSC), March 2015.
 68. Preet Kaur, S. K. Aggarwal and Asok De, “Double H Shaped Metamaterial Embedded Compact RMPA”, IEEE International conference on advances in computing, communication and informatics (ICACCI), pp. 483-486, September 2014.
 69. Parul Dawar, Asok De, “Bandwidth Enhancement of RMPA using ENG metamaterials at THz,” IEEE Xplore, ISBN No. 978-1-4799-1569-9, Page No. 11-16, International Conference on Computer Advances in Engineering and Technology (ICCCT-2013) held at MotiLal Nehru National Institute of Technology, Allahabad during 20-22 September 2013.
 70. Parul Dawar, Asok De, “Planar Antenna Design Using Metamaterials at high frequencies:A Review”, in Fourth Elsevier proceedings of International Joint Conference on Advances in Engineering and Technology, AET 2013, pp 591-598, jointly organised by the ACEEE, AMAE and ACEE and sponsored by the ISTE during Dec 13-14, 2013, in NCR, India.
 71. Parul Dawar, Asok De, “Optimizing RMPA Using Different Orientations Of

- Modified SRR Metamaterial At THz”, published in Souvenir of 9th International Conference on Microwaves, Antenna, Propagation & Remote Sensing (ICMARS 2013), pp 78, Jodhpur, 11-14th Dec 2013.
72. Parul Dawar, Asok De, “Performance Enhancement of RMPA Using ESRR Metamaterial at THz”, session: THz Metamaterials and Applications, PIERS 2014, pp 721-724, in Guangzhou, China, 25-28 August, 2014
 73. Parul Dawar, N.S. Raghava and Asok De, “Broadband and Directive metamaterial antenna”, 2nd URSI Regional conference proceedings on Radio Science, November 16-19, 2015, at Jawaharlal Nehru University (JNU), New Delhi.
 74. Preet Kaur, S.K. Aggarwal and Asok De, “[Design and analysis of subwavelength RMPA using double folded I shaped ENG Metamaterial](#)”, 1st IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES-2016)

National

1. Ranjit Singh, Asok De and R. S. Yadav, “Analysis of elliptical microstrip patch antenna” Proc. of the National Conference on Electronic Circuits and Systems, Tata-McGrawHill proc. NACONBCS 89. Roorkee. pp. 40-42, 1989.
2. Chakravarty. T., S.K. Sanyal and Asok De, “A Study on the Effect of Varactor Diode Parameters on the Performance of an Electronically Tunable Microstrip Antenna for Applications in Wireless LAN systems”, IEEE ACE-2002, 28th Annual Convention, Kolkata, December, 2002.
3. T. Chakravarty, S. K. Sanyal and Asok De, “A novel method of generation of ultra-low frequency resonance in a microstrip disk resonator”, National conference on Radioscience (INCURSI -03), New Delhi, Nov. 27-29, 2003.
4. Asok De and Girish V. Attimarad, “Reflection Coefficient of Tapered Open Waveguide with Exponential and Triangular Distribution” Abstracts, National Conference on Radio Science in India, NPL, New Delhi, Nov. 27-29, pp. 15, 2003.
5. Asok De and Girish V. Attimarad, “Scattering Parameters of Dielectric Waveguide” NCC 2003: 9th National Conference on Communications, IIT, Madras, and Jan 31-Feb 2, 2003.
6. Avichal Kapur, Asok De and A.G. Keskar, “Automated Machine Design Inspection through Image Processing Authors”, National Conference on Power Electronics and Intelligent Control-2007, held at MNIT,Jaipur, March 17-18, 2007.
7. Dipti Yadav and Asok De, “Emerging Technologies in the field of Electronics Telecommunications and Control Systems”, AICTE Sponsored National Seminar held at CITM Faridabad, Haryana (India), 31st March, 2007.
8. Ashok Mittal and Asok De, "Bi-Phase Modulator at Ka-Band for Radar Applications", IRSI Radar Symposium -2007, Bangalore, Dec 2007.
9. N. S. Raghava and Asok De, “A Broad Band Compact Micro strip Antenna with EBG structure”, Conference on Advances in Space Science and Technology”, Kalpana Chawla Space Technology Cell, IIT, Kharagpur, January 14-16, 2008.
10. Taimoor Khan and Asok De, “Neural Design of Circular Patch Microstrip Antennas”, Proceedings of IEEE National Conference on Electrical, Electronics and Computer Engineering-(CALCON-2011), Jadavpur University, Kolkata, India, pp. 207-209, Nov. 4-5, 2011.
11. S. Vinoth Kumar, Pragati Patel, Ashok Mittal and Asok De, “Design, analysis and fabrication of rectenna for wireless power transmission-virtual battery” 2012 National Conference on Communications (NCC), February 3-5, 2012, pp. 1-4.
12. Rishi Dutt Sharma and Asok De, “Quantum voting using single qubits” Indian

Patents:

1. “Steerable Drive Wheel Assembly and Personal Conveyance detachably equipped with the same” Patent No: 477242 Awarded on 14/12/2018 by the Patent Office, Government of India

Books:

1. Contributed one chapter entitled ‘EMC aspect for components & circuits’ in the book entitled ‘Electromagnetic Interference & Compatibility’ edited by Dr. G.K.Deb, IETE Book Series Vol.4 pp-11-26. Published by Tata-McGraw-Hill Ltd., 1995.
2. Contributed one chapter entitled “Architecture of Embedded Tunable Circular Microstrip Antenna” in the book entitled “Large Scale Computations, Embedded Systems and Computer Security” edited by Fedor Komarov and Maksim Bestuzhev, Published by Nova.

Research Projects

1. Analysis and Design of Wideband Compact Rectangular Patch Antenna embedded on cylindrical pin structure Sponsored by SAC Ahmedabad, Government of India (Completed as PI) (2011-2013) Rs.20.00 Lacs
2. Analysis and Design of A Novel Reconfigurable Stacked Microstrip Patch Radiator for wide band applications Sponsored by AICTE, Government of India (Completed as Co-PI)(2011-2013), Rs.19.00 Lacs
3. Analysis and design of loaded Microstrip Antenna Sponsored by SAC Ahmedabad, Government of India (Completed as PI) (2001-2003) Rs.11.24 Lacs

ACHIEVEMENTS AS PRINCIPAL OF AMBEDKAR INSTITUTE OF TECHNOLOGY:

- A new campus with air conditioned class rooms and labs of AIT have been completed within a record period of two years and inaugurated in the year June, 2007 by Hon’ble Chief Minister, Sheila Dixit, of Delhi
- Post for permanent Principal has been created.
- Post of Principal has been converted from Head of Office to Head of the Department.
- Created 107 positions which include 50 faculty positions and other technical and non-technical supporting staff.
- Eighteen faculty positions have been filled up through UPSC.
- Increased the undergraduate intake from 60 per year to 120 per year.
- Started M.Tech. Programs in Information Security and Digital Communication.
- Started PhD program.
- Arrangement has been made to invite renowned Professors from IIT Kharagpur, IIT Kanpur, IIT Delhi, Delhi University, Jamia Milia and other institutes of repute to take classes on part

time basis.

- Organized one day workshop on Microstrip Circuits in collaboration with industry.
- Organized two week faculty development in Signal Processing and Communication Engineering.
- External funded R&D projects have been taken up in the field of Microstrip Antenna and Analog Signal Processing from ISRO and AICTE respectively along with some MODROB projects from AICTE.
- Created ultra-modern class rooms with all teaching aids.
- Created very sophisticated research lab in Microwave Engineering and VLSI.
- Created sophisticated Mechanical Machines lab with CNC Machines for Master's Program in Mechatronics, which will be started from the academic year 2010-11.
- Undergraduate and post graduate labs have been established with sophisticated equipment.
- Creation of digital library along with RFID tag is in process.
- From academic session 2009-10, UG intake has been increased from existing 120 to 180 and two more MTech. Programs on RF and Microwave Engineering and Signal Processing have been started.
- All India Counselling Centre for AIEEE admission for the last three years.

ASSIGNMENTS AT DELHI COLLEGE OF ENGINEERING AND DELHI UNIVERSITY

- Head of the Department of Electronics and Communication Engineering of University of Delhi.
- Member of University of Delhi and also member of Academic Council.
- Initiated as Principal Coordinator of the project "Information Security and Educational Awareness" funded by DIT, Govt. of India with a sanctioned amount of Rs 1 Crore 25 Lakhs for a duration of 5 years.
- Principal investigator for the project "Development of Micro UAV" funded by ARDB, DRDO, Govt. of India with a sanctioned amount of Rs 9.5 Lakhs for a duration of one year.
- Principal investigator for the project "Development of Rotary Wing UAV" funded by ARDB, DRDO, Govt. of India with a sanctioned amount of Rs 9.0 Lakhs for the duration of one year.
- Principal Coordinator for the project "Analysis of cavity backed micro strip patch antenna for space borne phased array antenna" sponsored by SAC, ISRO. Ahmedabad in collaboration with IIT, Kharagpur.
- Principal Coordinator for the project "Analysis of multilayer planar array antenna using aperture coupled patch element" sponsored by SAC, ISRO, Ahmedabad in collaboration with IIT, Kharagpur.

Major Works Done in NIT Patna from August 2012

- Undergraduate curriculum has been revised and implemented from 2013-2014 academic sessions. It is a goal based curriculum with lots of flexibility offered to the students. A curriculum has been developed under the chairmanship of Prof. K L Chopra.
- First time in the history of NIT Patna CAS (Career Advancement Scheme) has been implemented for the Faculty.
- First time ACP/MACP has been implemented for non teaching staff of NIT Patna.
- New faculty recruitment drive has been initiated and 73 faculty have joined NIT Patna in Professor, Associate Professor and Assistant Professor Levels. All the new faculty are PhD.
- Research proposals worth more than 3 crores have been awarded to different faculty from different funding agencies like BRNS, DST etc.

- Three new M.Tech. programs and Integrated PhD (MTech +PhD, M.Phil. +PhD) have been started from 2013-2014 sessions, Integrated 5 years M.Sc. programs in Physics, chemistry and Mathematics have also started.
- Major laboratory infrastructure development drives have been initiated and more than ten crores have been spent for this.
- Renovations of all the existing buildings have been completed through CPWD and NBCC. The 90 numbers of staff and faculty quarters, 1000 capacity auditorium and extension of Computer Science Dept. are under construction through CPWD and NBCC. New building for Physics, chemistry, Student Activity Centre and a modern guesthouse have been made operational.
- The construction of a boundary wall of the 125 acres land allotted to NIT Patna by Bihar Govt. will start soon through the Govt. of Bihar. Concept paper for the planning of new campus of NIT Patna at is ready and the process of appointing the architect has been initiated.
- Five Undergraduate (U.G.) and five Post Graduate (P.G.) Programs have been accredited by NBA.