Bio-Data of Professor R.S. Gupta

1. **Name** — **Prof. R.S. Gupta**

Designation — ***Professor***

Department Institute and Address

Department of Electronics and Communication
Maharaja Agrasen Institute of Technology
Sector-22, Rohini,
Delhi-110086

Mobile: 9810458959
E-mail: rsgupta1943@gmail.com

Date of Birth — January 10, 1943

2. *Educational Qualifications*

- B.Sc. (Physics, Chemistry, Maths) Agra University, 1963.
- M.Sc. Physics (Electronics) Agra University, 1966.
- Ph.D. (Electronics Engineering) Institute of Technology, Banaras Hindu University, 1970 on ***Study of the Amplifier Characteristics and Stability of Composite Transistors***.

***Courses on*:**

- Course on ***VLSI Technology and Design***, Sponsored by Ministry of Education, IIT, Delhi 1984.
- Course on ***Microelectronics Technology and Design Programme***, Sponsored by Ministry of Education, IIT, Delhi, 1984
- Course on ***Phased Array Radar Technology***, IIT, Delhi, February 9-11, 1995.

3. *Membership of professional organizations*

1.	**Life Senior Member IEEE –** SM 07132517.
2.	**Life Fellow (LF) –** The Institution of Electronics and Telecommunication Engineers – F-023099
3.	**Member –** India Chapter ICTP (Italy)
4	**Life Member –** Semiconductor Society (India).

5.	**Chairman –** Society for Microelectronics and VLSI
6.	**Chairman –** IEEE-EDS Delhi Chapter (2007-2011)
7.	Member IEEE EDS Delhi Chapter 2012- continued

4. Teaching & Research Experience

Name of Institution	Position	From	To	Total Experience
Maharaja Agrasen Institute of Technology	*Professor*	May 1, 2010	Till date	--
University of Delhi	*Emeritus Scientist (CSIR)*	May 2008	May 2009	1 year
University of Delhi	*Professor* *Reader*	Nov. 19, 1997 Nov. 19, 1987	Jan. 9, 2008 Nov. 18, 1997	12 years 10 years
Ramjas College	*Lecturer in Reader grade*	Jan. 1, 1986	Nov. 18, 1987	1 years 11 months
-do-	*Lecturer*	Aug. 27, 1971	Dec. 31, 1985	14 years 4 months
Institute of Technology Banaras Hindu University	*Part time lecturer & research fellow*	Dec. 1, 1967	Aug. 26, 1971	3 years 9 months
V.S.S.D. College, Kanpur	*Lecturer*	Aug. 1, 1967	Nov. 30, 1967	4 months
S.K.K. College, Etawah	*Lecturer*	August 1966	July 31, 1967	1 year

5. Research Specialization

Solid State Electronics Devices, VLSI Design and modeling of Microelectronic Devices (MOSFET, MESFET, HEMT)

6. Research work done in this or related area in the past

Engaged in the analytical modeling, design and characterization of micron and submicron MESFET, MOSFET and HEMT devices. The thrust of the work has been on the development of useful models with different profiles and their electrical characterization. The work has resulted in more than 650 publications in various international/national journals and International & National Conferences. The work is well recognized among the leading groups in the field and summarized below. Also 39 students have got their Ph.D. degrees uder his guidance. In addition he has supervised more than 16 students. At present he is supervision 6 students.

7. Conferences/Workshop organized Under IEEE activities

1. Professor Vijay K. Arora, from Division of Engineering, Wilkes University, Wilkes-Barre, PA 18766, USA gave a*n IEEE EDS Distinguished Lecture on* "Quantum Nano-Engineering-Quantum and High Field Nanoelectronics Transport" on February 20, 2009.

2. Professor Albert Wang, Fellow-IEEE, Department of Electrical and Computer Engineering, University of California, Riverside, CA 92521, USA, gave a*n IEEE EDS Distinguished Lecture on* "ESD Protection Design for RF/AMS ICs" on May 29, 2009 at Department of Electronic Science, University of Delhi South Campus, New Delhi, India

3. Mini-Colloquia on "Compact Modeling of advance MOSFET structures and mixed mode applications" at University of Delhi South Campus, New Delhi, India sponsored by the IEEE Electron Device Society under its Distinguished Lecturer Program on January 5-6, 2008.

4. IEEE-Distinguished Lecturer talks by Dr. M.K. Radhakrishanan (EDS Chapter Partner & Point of Contact for EDS Chapters in South-Asia), Title of the talk - "Nanoelectronic Devices – Analysis Challenges"**,** on 9th February 2008.

5. IEEE-Distinguished Lecturer talks on 5th & 6th January 2008.

6. IEEE-Distinguished Lecturer talks by Prof. Vijay K. Arora from Division of Engineering, Wilkes University, Wilkes-Barre, USA, The title of talk is "Failure of Ohm's Law: Its Implications on the Design of Nanoelectronic Devices and Circuits", November 5, 2007.

7. IEEE-Distinguished Lecturer talks by Dr. Ashok K. Kapoor, TSMC, Title of the Talk "Growth of Semiconductor Technology driven by the needs of information Technology", July 9, 2007

8. Robotics tutorial programmes by apple satellite 1983 organised.

9. Annual conversion and exhibition – 1981 organised.

10. Workshop on magnetic materials – 1981 organised.

11. Workshop on advances in microwave circuit design on 1980 applications organised.

12. Workshop on remote setting techniques organised and applications – 1979 (IEEE-ED).

13. Workshop on design measurement & evaluation of microwave atoms systems – 1978 organised (IEEE-ED).

14. Measurement and evaluation of microwave system in 1977 organised (The Institute of Electrical and Electronics Engineers Inc., USA).

8. Workshops, Seminars and Conference Organised

INTERNATIONAL

1.	**Chairman**	***12th International Symposium on Microwave and Optical Technology (ISMOT-2009***) to be held in Ashoka Hotel from December 16 – 19, 2009.
2.	**Chairman**	***16th Asia-Pacific Microwave Conference (APMC '04)***, University of Delhi, to be organized in Dec. 15-18, New Delhi, 2004.
3.(i)	**Secretary**	***8th Asia-Pacific Microwave Conference (APMC '96)***, University of Delhi, Dec. 17- 20, Hotel Ashok, New Delhi, 1996.
(ii)	**Chairman: Technical Program**	***8th Asia-Pacific Microwave Conference (APMC'96)***, University of Delhi, December 17 - 20, Hotel Ashok, New Delhi, 1996.
4	**International Steering Committee member**	***Asia-Pacific Microwave Conference (APMC-2005),*** Suzhou, China, December 4-7, 2005.
5.	**Secretary**	***International Symposium on Recent Advances in Microwave Technology (ISRAMT'93)***, New Delhi, Agra, Dec. 1993.
6.	**Member**	***Photonics' 98***, An International Conference held in December, New Delhi, 1998.

NATIONAL

1.	**Coordinator**	Short course on ***Electrical modeling and simulation of inter connects and packaging for digital and microwave modules*** (at UDSC) December 15, 1996.
2.	**Coordinator**	Short course on ***Active Integrated Antennas***, (at UDSC) December 16, 1996.
3.	**Coordinator**	Short course on ***CAD of Microstrip Circuits and Antennas*** (at UDSC) December 10-14, 1993.
4.	**Coordinator**	Short course on ***Microwave Hyperthermia and Cancer***, (at UDSC) December 13-14, 1993.
5.	**Member, Organising Committee**	National Symposium on ***Recent advances in microwaves and light waves (NSAML'95)***, University of Delhi South Campus, New Delhi, December 1995.
6.	**Member**	National symposium on ***Advances in Microwaves (NSAM'93)*** University of Delhi South Campus, New Delhi, March 1993.
7.	**Member**	National Symposium on ***Recent advances in microwaves and light waves (NSAML'97)*** University of Delhi South Campus, New Delhi, December 1997.
8.	**Chairman Technical Committee**	National Symposium on ***Recent advances in microwaves and light waves (NSAML'2000),*** University of Delhi South Campus, New Delhi, March 2000.

9.	**Coordinator**	Intensive short course on ***Modeling and Characterization of Microelectronics Devices***, March 27, 28, 2000.
10.	**Vice-Chairman**	National Symposium on ***Recent advances in microwaves and light waves (NSAML'2003)***, University of Delhi South Campus, New Delhi, October 2003.
11.	**Member**	Short course on ***Application of artificial neural networks to RF and microwave design***, December 13 – 14, 2004, New Delhi, India.
12.	**Member**	Short course on ***Phased array antenna and adaptive beam forming arrays for radar and communication systems***, December 13 – 14, 2004, New Delhi, India.
13.	**Coordinator**	Short course on ***Spice Models for Advanced VLSI Circuit Simulation*** **(**SMAVCS), 11-12 December, 2005.

9. Personal publications ***Separate sheet attached***

10. **IEEE Award/Distinction**

- Best paper award on paper entitled"*A Comparative Analysis Using Modeling and Simulation to Study the Impact of Multilayered Gate Dielectric (MGD) Design on Device Performance of Surrounding Gate MOSFET"*, Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, XXIX General Assembly of the International Union of Radio Science, (Union Radio Scientifique Internationale – URSI), Illinois, USA, August 07-16, 2008.
- Name appeared for six consecutive years in the golden list published by IEEE Trans. Electron Devices (December 2002 – December 2007 in the history of the IEEE).
- Best paper award on paper entitled "*Design guidelines of vertical surrounding gate (VSG) MOSFETs for future ULSI circuit applications*" Abhinav Kranti, Rashmi, S. Haldar and R.S. Gupta, Topical Meeting (IEEE) on Silicon Monolithic Integrated circuits in RF systems, Ann Arbor, Michigan, U.S.A., September 2001.
- Name appeared in the golden list published by IEEE Trans. Electron Devices (December 1998 in the history of the IEEE).

11. Research support to the investigator from various sources

[1].	**UGC Sponsored**	Threshold voltage dependence on channel length and extraction of Averages doping density and junction depth in small geometry MOSFETs for VLSI. [Rs. 9.00 Lakhs] *Sanction Letter No.:* F.No. 9-2/88(SR-IV) Dt. 22.12.1989	*Completed*

[2].	**DRDO Sponsored**	Modeling simulation and characterization of Si/GaAs MOSFETs for high frequency applications. [Rs. 3.52 Lakhs] *Sanction Letter No.:* DTSR/70843/140/RD-82 Dt. 06.08.1991	*Completed*
[3].	**DRDO Sponsored**	A 2-Dimensional field dependent mobility model for ultra thin film fully depleted SOI (Silicon on Insulator) MOSFETs down to 0.1 μm gate length at microwave frequencies. [Rs. 3.05 Lakhs] *Sanction Letter No.:* DTSR/70843/197/RD-82 Dt. 22.06.1994	*Completed*
[4].	**UGC Sponsored**	Analytical two-dimensional model for deep sub micrometer MOSFETs for VLSI/ULSI applications. [Rs. 5.10 Lakhs] *Sanction Letter No.:* F.21-2/93(SR.I) Dt. 17.01.1994	*Completed*
[5].	**DST Sponsored**	Two dimensional analytical modeling and simulation of Si and GaAs low noise MOSFET/MESFET devices for microwave frequency. [Rs. 7.48 Lakhs] *Sanction Letter No.:* III5(40)/95-ET Dt. 15.03.1996	*Completed*
[6].	**CSIR Sponsored**	Modeling and Simulation of (Al GaAs-GaAs) Modulation Doped Field Effect Transistors for Millimeter Microwave Integrated Circuits. [Rs. 3.6 Lakhs] *Sanction Letter No.:* 3(754)94-EMR-II Dt. 25/28.11.1994	*Completed*
[7].	**UGC Sponsored**	Analytical Model for Short Channel MOSFETs for VLSI/ULSI Applications [Rs. 3.47 Lakhs] *Sanction Letter No.:* 14-21/96(SR-I) Dt. 25.06.1996	*Completed*
[8].	**DRDO Sponsored**	Analytical modeling of hot carrier effects in submicrometer MOSFETs for VLSI/ULSI applications. [Rs. 5.74 Lakhs] *Sanction Letter No.:* DTSR/70685/Proj-6/R&T/4347/D(R&D), Dt. 19.09.1996	*Completed*
[9].	**AICTE Sponsored**	Modeling and Simulation of Solid State Microelectronic MOSFET/MESFET/HEMT Devices [Rs. 6.9 Lakhs] *Sanction Letter No.:* 8017/RDII/R&D/TAPTEC(622)/98-99, Dt. 27.03.1999	*Completed*
[10].	**DRDO Sponsored**	2-Dimensional Analytical/ Empirical Modelling and Characterisation of Small Geometry MOSFET/MESFET for Very High Frequency Applications. [Rs. 5.71 Lakhs] *Sanction Letter No.:* DTSR/70685/Proj-10/R&T/4725/D(R&D), Dt. 19.11.1998	*Completed*

[11].	**DRDO Sponsored**	Scattering and Temperature Dependent 2-D Analytical Modeling and Analysis of Submicron Surrounding Gate SOI MOSFET for its Microwave Frequency Applications. [Rs. 11.08 Lakhs] *Sanction Letter No.:* DTSR/70685/Proj-9/R&T/2189/D(R&D), Dt. 15.06.1999	*Completed*
[12].	**DRDO Sponsored**	Modulating Frequency and Scattering Dependent Optically Controlled Electrical Characteristics of Si/GaAs OPFET 77K-35K for its Potential Applications in Optical Communication System. [Rs. 11.18 Lakhs] *Sanction Letter No.:* DTSR/70685/Proj-8/R&T/6012/D(R&D), Dt. 13.10.1998	*Completed*
[13].	**DRDO Sponsored** **(Co-PI)**	Two-Dimensional Temperature and Bias Dependent Noise Analysis and Improved Equivalent Circuit Model of InP HEMTs for Microwave Characterization. [Rs.21.17 Lakhs] *Sanction Letter No.:* ERIP/ER/0023012/M/01, Dt. 01.10.2001	*Completed*
[14].	**DRDO Sponsored**	Accurate Physics Based Analytical Modeling of 6H/SiC MOSFETs for High Power High Temperature and Microwave Frequency Applications. [Rs.20.47 Lakhs] *Sanction Letter No.:* ERIP/ER/0103309/M/01/2127/D (R&D), Dt. 13.09.2001	*Completed*
[15].	**CSIR Sponsored**	Analytical 2-Dimensional Modeling Simulation and Characterization of AlGaN/GaN HEMT/MESFET Devices for Microwave Frequency Applications [Rs. 5.88 Lakhs] *Sanction Letter No.:* 22(0330)/02/EMR-II, Dt. 11.01.2002	*Completed*
[16].	**DRDO Sponsored** **(ARMAMENT)**	Modeling, Simulation & Characterization of Silicon based Submicron Semiconductor Devices for Higher Design Reliability. [Rs. 24.75 Lakhs] *Sanction Letter No.:* DARM/20/20004/M/03, Dt. 09.01.2002	*Completed*
[17].	**DRDO Sponsored** **(Co-PI)**	Development & Characterization of Transparent Conducting Material for Optically Controlled Devices [Rs. 19.22 Lakhs] *Sanction Letter No.:* ERIP/ER/0103325/M/01 Dt. 04.01.2002	*Completed*
[18].	**DST Sponsored**	Modeling Simulation and Characterization of Quantum Mechanical Effect in Nano Scale MOSFETs for ULSI Circuit Applications [Rs. 16.68 Lakhs] *Sanction Letter No.:* SR/S3/EE/013/2002-SERC-Engg., Dt. 11.12.2002	*Completed*

[19].	**DRDO Sponsored**	Design, Optimization and Simulation of Dual Material Gate (DMG)- Structure for Improved Hot-Electron Effect and Gate Transport Efficiency of Sub-100nm MOSFET for RF Applications [Rs. 22.62 Lakhs] *Sanction Letter No.:* ERIP/ER/0203372/M/01, Dt. 10.12.2002	*Completed*
[20].	**DRDO Sponsored** **(Co-PI)**	Physics Based Modeling, Simulation and Electrical Characterization of a Novel Device Architecture: Silicon on Nothing (SON) MOSFET for Sub-100 nm Device Dimensions [Rs. 31.68 Lakhs] *Sanction Letter No.:* ERIP/ER/0303417/M/01, Dt. 03.12.2003	*Completed*
[21].	**DRDO Sponsored**	Two-Dimensional Physics Based Modeling and Simulation of a Graded Channel (GC) Multiple SOI-MOSFET for Sub-100nm Device Dimensions for High Performance Analog Application [Rs. 13.37 Lakhs] *Sanction Letter No.:* ERIP/ER/0303446M/01, Dt. 23.08.2004	*Completed*
[22].	**DRDO Sponsored**	Modeling Simulation & Characterization of Modified Double Gate Sub-100 nm MOSFET Structure for ULSI Circuit Applications [Rs. 11.73 Lakhs] *Sanction Letter No.:* ERIP/ER/0403488/M/01, Dt 07.06.2005	*Completed*
[23].	**CSIR Sponsored**	Analytical Modeling and Simulation of Modulation Doped Field Effect Transistors (MODFET) [Rs. 14.03 Lakhs *Sanction Letter No.:* 21(0710)/08/EMR-II Dt. 28.04.2008	*Completed*
[24].	**DRDO Sponsored** **(Co-PI)**	Modeling, Simulation & Characterization of Modified Different Gate Geometric High Electron Mobility Transistor for Tera Hertz Applications [Rs. 14.83 Lakhs] *Sanction Letter No.:* ERIP/ER/0503560/M/01/894, Dt. 15.06.2006	*Completed*
[25].	**DST Sponsored** (Co-PI)	Modeling, Simulation & Characterization of Modified Different Gate Geometric Double Gate High Electron Mobility Transistor for High Power and High Frequency Applications with Two Separate/Common Gate Control [Rs. 19.67 Lakhs] *Sanction Letter No.:* SR/S3/EECE/042/2007 Dt. 16.11.2007	*Completed*
[26].	**UGC** **(Co-PI)**	*Modeling and simulation of Nanoscale Dual Material Gate Insulated Shallow Extension Silicon on Nothing MOSFET for Low voltage low power applications* [Rs. 9.22 Lakhs] *Sanction Letter No.:* F. No. 36-258/2008(SR), May 2009 – May 2012	*Completed*
[27].	**AICTE Sponsored**	*Analytical Modeling simulation and characterization of Silicon Gate All Around Nanowire MOFET for Ultra Large Scale Integration circuit Applications* [Rs. 13.00 Lakh] *Sanction Letter No.:* *8023/RID/RPS/36/PVT(POLICY-II)/2011-2012*	*Completed*

[28].	**DRDO Sponsored** **(Co-PI)**	Analysis and Characterization of Silicon Gate All Around Nanowire MOSFET for ULSI Circuit Application [Rs. 30.62 Lakhs] *Sanction Letter No.:* ERIP/ER/1002196/M/011395, Dt. 26.12.2011	*Will be completed on 20-Feb 2016*

12. Technical Visits Outside India

1. Department of Electronics Engineering, University of Malaga, Spain, December 1999.
2. Department of Electronics and Electrical Engineering, University of Sheffield, U.K. *(May - July 1988)* - Visiting Scientist under ALIS Link UGC-British Council.
3. Progress in Electromagnetic Research Symposium (PIERS'95), Seattle, Washington U.S.A. - *(July 1995).*
4. Department of Electrical Engineering, Washington State University, Seattle Washington, U.S.A. - *(July 1995).*
5. Department of Electronics and Computer Engineering, Oregan State University, Oregan, U.S.A. - *(July 1995).*
6. Department of Electronics and Electrical Engineering, College of Engineering, University of Neveda Reno, U.S.A. - *(July 1995).*
7. Department of Electrical and Computer Engineering, University of Colorado, Boulder, U.S.A. - *(August 1995).*
8. Deptt. of Electronic and Electrical Engineering, University of Utah, U.S.A. - *(August 1995).*
9. Department of Electrical and Computer Engineering, College of Engineering, University of Toledo, U.S.A. - *(August 1995).*
10. University of Malaga, *(Spain 1999).*
11. Technical University of Ostrava, Czech Republic, *(August 2003)*
12. Asia-Pacific Microwave Conference (APMC-2003), Seoul, Korea, *(November 2003)*
13. Rensellear Poly-technique Institute, New York, USA, *(August 2004).*
14. International Symposium on Microwave and Optical Technology (ISMOT-2005), Fukuoka Institute of Technology, Japan, *(August 2005)*
15. International Symposium on Microwave and Optical Technology (ISMOT-2007), University of Roma Tor Vergata, Italy, *(17 – 21 December 2007)*
16. Visiting Bejing, China attending IEEE-ED meeting, (*May 31- June 4,2007*)
17. Visited University of North Texas, USA, (*May 2009*)
18. Visited Southeast Missouri State University – *(May 2009)*

13. Invited Lectures Delivered at

1. Progress in Electromagnetic Research Symposium (PIERS'95), Washington State University, U.S.A. - (July 1995).
2. Lecture at University of Utah, U.S.A. - (July 1995).
3. Lecture and discussion in the research group college of Engineering, University of Toledo, U.S.A. - (August 1995)
4. Lectures at University of Nevada Reno, U.S.A. - (July 1995).
5. Special lectures on VLSI Design and technology at Dayal Bagh Educational Institute, Agra, - (October 1992).
6. Lecture on VLSI technology in refresher course for college teachers held at Draunacharya College, University of Rohtak - (January 1992).
7. Short term course for SC/ST students of B.Tech (of IITs) sponsored by DOE held at University of Delhi South Campus -
   (i) June - July 1989
   (ii) June - July 1990
8. Lecture on "Evolution of VLSI" in refresher course for college teachers under CPDHE program, University of Delhi, June 1998.
9. Lecture on "Semiconductor device development" for college teachers under CPDE program, University of Delhi, October 2001.
10. Lecture on "Evaluation of microelectronic devices" for college teachers organised by Jawahar Lal Nehru University, December 12-13, 2001.
11. Lecture on "Optimization of InAlAs/InGaAs heterostructure, InP based HEMT for its microwave frequency applications" Ostrava, Czech Republic, August 11-15, 2003.
12. Lecture on "Temperature dependent characterization of InAlAs/InGaAs/InP LMHEMT for microwave frequency application" Ostrava, Czech Republic, August 11-15, 2003.
13. Lecture on "Modeling of submicron field effect devices" Solid State Physics Laboratory, (Ministry of Defence) New Delhi, July 21, 2004.
14. Lecture on "Analytical model for non-self aligned buried p-layer SiC MESFET", 4 – 6, August, New York, 2004.
15. Lecture on "Two-dimensional analytical modeling and simulation of retrograde doped HMG MOSFET" 4 – 6, August, New York, 2004.
16. Lecture on "Two-Dimensional Analysis and Simulation for Gate Stack Silicon-on-Nothing MOSFET (GAS-SON) MOSFET" Fukuoka Institute of Technology Japan, August 22-25, 2005.
17. Lecture on "Modeling and Simulation of Poly-Crystalline Silicon Thin Film Transistor for Improved Gate Transport Efficiency" Fukuoka Institute of Technology Japan, August 22-25, 2005.

14. Book and Book Chapter

[i].	**Recent Advances in Microwave Technology**	R.S. Gupta (Ed.), *New Age International Publisher*, New Delhi, 1993.
[ii].	**Analytical Modeling of Short Channel Devices**	R.S. Gupta and Rachna Sood, Chapter in the book entitled Recent Advances in Microwaves (Ed. G.P. Srivastava), *Narosa Publishing House*, New Delhi, 1993.
[iii].	**Proceedings Edited**	*8th Asia-Pacific Microwave Conference (APMC '96)*, University of Delhi, Dec. 17-20, 1996, Hotel Ashok, New Delhi.
[iv].	**Proceedings Edited**	National Symposium on *Recent advances in microwaves and light waves (NSAML'2000)*, University of Delhi South Campus, New Delhi, March 2000.
[v].	**Proceedings Edited**	National Symposium on *Recent advances in microwaves and light waves (NSAML'2003)*, University of Delhi South Campus, New Delhi, October 2003.
[vi].	**Proceedings Edited**	*16th Asia-Pacific Microwave Conference (APMC '04)*, University of Delhi, (to be organized in Dec. 15-18, 2004, New Delhi.
[vii].	**Proceedings Edited**	*12th International Symposium on Microwave and Optical Technology (ISMOT-2009*), University of Delhi, December 16–19, 2009, New Delhi, India.
[viii].	**MOSFET Modeling**	R.S. Gupta, Mridula Gupta and Manoj Saxena in Encyclopedia of RF & Microwave Engineering, John Wiley U.S.A. (Jan. 2005).

15. Academic (International)

IEEE Activities

Treasurer	- IEEE-ED/MTT Chapter	1976 – 1978
Secretary	- IEEE-ED/MTT Chapter	1978 – 1980
Vice Chairman	- IEEE-ED/MTT Chapter	1980 – 1982
Secretary	- IEEE Delhi Section	1983 – 1984
Member	- IEEE/ED-MTT Chapter	1984 – 1990
Member	- IEEE/ED-MTT Chapter	1995 – 2000
Chairman	- IEEE/ED Chapter Delhi	2007 – 2011

16. Member Expert Committee

AICTE *(All India Coucil for Technical Education)* (U.P., Bihar, Rajasthan, Orissa, Karnataka, Maharashtra).

17. REVIEWER

A. **International Journal (Referred Journal)**

1. IEEE Trans. Electron Devices
2. IEEE Electron Device Letter
3. IEEE Trans Microwave Theory and Techniques
4. Solid-State Electronics (Elsevier)
5. Journal of Microelectronics Engineering (Elsevier)
6. Journal of Vaccum (U.K.)
7. International Journal of Electronics (U.K.)
8. Journal of Microelectronics Reliability

B. **Indian Journal**

1. Indian Journal of Pure and Applied Physics (CSIR)
2. Indian Journal of Physics (Calcutta)
3. IETE Journal (The Institute of Electronics and Telecommunication Engg.)
4. Defence Science Journal (Ministry of Defence, Govt. of India)

18. (A) **Contributions to the corporate life of the Institution**

1. ***Coordinator*** – Vocational Training Unit, University of Delhi – 1994 to 1999 (for SC/ST Students sponsored by DSFDC, Govt. of Delhi).
2. ***Chairman*** – Transport Committee, University of Delhi South Campus – 1993 to 2003.
3. ***Coordinator*** – B.Sc. (H) Electronic Course – University of Delhi South Campus – 1998 to till date.
4. ***Coordinator*** – B.Sc. B.A.Sc. Electronic/Instrumentation course, University of Delhi – 1994 to till date.
5. ***Students Advisor*** – Students Union – University of Delhi South Campus – 1989 – 1995, 1998 – 2008.
6. ***Coordinator*** – PG Exam South Campus – 1998 – 2003.
7. ***Chairman Library Committee***, UDSC – 2002 – 2004.
8. ***Chairman UFM Committee*** (Examination Disciplinary Committee) – 1989 – 2004.
9. ***Chairman*** – Write-off Committee, UDSC – 2002 to continue.
10. ***OSD***, Institute of Informatics and Communication, South Campus, September 2002 to January 2008.
11. ***Member Managing Committee***, Institute of Informatics and Communication, South Campus, September 2002 to till date.
12. ***Dean Student Walfare,*** (University of Delhi South Campus) 1989-1997.
13. **Member governing bodies**
    1. Bhaskaracharya College of Applied Science – 2 Years
    2. College of Vocational Studies – 4 Years
    3. Dayal Singh College – 3 Years
    4. Ramlal Anand College – 2 Years

(B) Corporate life in the Department

Coordinator B.Sc. (H) Electronics
1988 – 1990
1992 – *Continue*

Coordinator B.A. Sc. (Applied Science)
1992 – *Continue*

Convener Purchase Committee
1988 – 1990
1992 – 1997
2003 – *Continue*

Convenor Library Committee
2000 – 2003

Coordinator – M.Sc. (*Electronics*)

Member Board of Research Studies

TEACHING AND RESEARCH SUPERVISION

I. Major Projects Supervision

- M.Sc. Project - 34
- M.Tech Project - 24
- M.Phil - 6

PH.D. THESIS SUPERVISION

S.No.	Name	Year	Title of the Thesis
1.	Subhasis Haldar	1994	*Analytical Modeling and Analysis of Depletion mode devices.*
2.	Alka Das	1994	*Electrical Characterization of Metal (P) a.Si : H (n) GaAs Heterostructures*
3.	Rachna Sood	1995	*An analytical two dimensional model for short channel ion implanted GaAs MESFET using perturbation method*
4.	Vaneeta Agarwal	1996	*A New two dimensional analytical model for short channel fully depleted thin film SOI MOSFETs*
5.	Maneesha	1996	*Analytical modeling and characterization of non uniformly doped short channel MOSFETs*
6.	Manoj K. Khanna	1997	*Anomalous Behavior & Fringing Field Dependent Threshold Voltage Modeling of Small Geometry MOSFETs for VLSI Applications*
7.	Manju Bhatia	1997	*Analytical Subthreshold and Threshold Voltage Modelling for Small Geometry MOSFET*

8.	S. Rajesh	1997	*Optimization of MESFETs With Pearson Approach Using Computer - Aided – Modelling: A Fuzzy Method for VLSI Design*
9.	Ciby Thomas	1997	*Computer-Aided-Modelling and Analysis of Drain Engineered MOS Transistors for VLSI/ULSI Applications*
10.	Sunita A Chhokra	1997	*An improved two dimensional analytical model with trial function approach for non self aligned GaAs MESFETs*
11.	Rubeena Saleem	1999	*Modelling and Characterization of Small Geometry Metal Oxide Field Effect Transistor for Microwave Frequency Applications*
12.	Sujata Sen	1999	*Al GaAs-GaAs Heterostructure modeling for microwave frequency application*
13.	Manoj K Pandey	1999	*Two-Dimensional Analytical Modeling and Characterization of a Fully Depleted Double Gate SOI MOSFET Down to 0.1μm Gate Length*
14.	Sonia Chopra	1999	*An Analytical Formulation for Computer-Aided-Modeling of Short Channel and Small Geometry Polycrystalline-Silicon Thin-Film Transistor*
15.	Anju Agarwal	2000	*An Accurate Two-Dimensional Modeling of Pseudomorphic Modulation Doped Field Effect Transistor (AlGaAs/InGaAs) for Microwave and High-Speed Circuit Applications.*
16.	Anil Kumar	2000	*An Analytical Model of Hot Carrier Immunized Submicron Fully Overlapped Lightly Doped Drain MOSFET for VLSI/ULSI Applications*
17.	Ekta Kalra	2000	*Analytical Modeling and Characterization of Hot Carrier Resistant Small Geometry LDD MOSFETs for VLSI/ULSI Applications*
18.	Anisha Goswami	2000	*Substrate Effect Dependent Scattering Parameters Extraction and Small-Signal MOSFET Circuit Analysis for Microwave Frequency Applications*
19.	Srikanta Bose	2001	*Analytical Modeling of GaAs MESFET under Dark and Illuminated Conditions for MMIC/OEIC Applications*
20.	Abhinav Kranti	2001	*Two-Dimensional Modeling and Characterization of Short Channel Vertical Cylindrical/Surrounding Gate SOI MOSFETs (CGT/SGT) for ULSI Circuit Applications*
21.	Rashmi Gupta	2002	*Modeling and Characterization of Spontaneous and Piezoelectric Polarization Dependent Lattice Mismatched AlGaN/GaN High Electron Mobility Transistors (HEMTs) for Microwave and Millimeter Wave Applications*
22.	Jyotika Jogi	2002	*Two-Dimensional Analytical Modeling of Ultra-High Speed InAlAs/InGaAs/InP Lattice Matched High Electron Mobility Transistors*
23.	Ritesh Gupta	2003	*Modeling, Characterization and Optimization of InAlAs/InGaAs Heterojunction, InP based High Electron Mobility Transistor (HEMT) For Microwave and Millimeter Wave Frequency Applications*
24.	Adarsh Singh	2004	*Analytical Modeling, Analysis and Characterization of GaN MESFET for Optoelectronic Applications*
25.	Simrata Bindra	2004	*Theoretical Analysis and Study of Polysilicon Thin Film Transistors*
26.	Nirupma Kapoor	2005	*Distributed Gate Resistance Dependent Modeling and Noise*

			Analysis of SOI MOSFETs
27.	Vandana Guru	2005	*Noise Modeling and Scattering Parameter Evaluation of AlGaAs/InGaAs/GaAs Pseudomorphic HEMT for Microwave Frequency Application*
28.	Navneet Kaushik	2007	*Modeling and Simulation of 6H-SiC MOSFETs for High Power and High Temperature Applications*
29.	Manoj Saxena	2007	*Physics Based Analytical Modeling and Simulation of Dual-Material Gate (DMG) MOSFET*
30.	Amit Sehgal	2007	*Poly-crystalline silicon thin film transistors: modeling, simulation and characterization*
31.	Tina Mangla	2007	*Modeling, simulation and characterization of nano scale MOSFETS with quantum mechanical effects and gate stack engineering for ULSI*
32.	Sandeep Aggarwal	2008	*Correlation & enhancement of circuit parameters with device parameters of different metal-insulator geometric single/double/dual gate 4H-SiC MESFET with common and separate gate control*
33.	Ravneet Kaur	2008	*Analytical analysis, characterization and simulation of sub-100 nm advance MOSFET designs for improved hot carrier reliability and RF/ Analog performance*
34.	Poonam Kasturi	2008	*Modeling Simulation and Characterization of SON MOSFET*
35.	Harsupreet Kaur	2008	*Modeling and simulation of channel and gate oxide engineered cylindrical/surrounding gate MOSFETs for ULSI applications*
36.	Rishu Chaujar	2009	*Analytical modeling and simulation of gate electrode workfunction and dielectric engineered recessed channel MOSFET in Sub-100nm Regime*
37.	Servin Rathi	*2011*	*Modeling, Simulation & Characterization of Modified Different Gate Geometric Double Gate High Electron Mobility Transistor for High Power and High Frequency Applications with Two Separate/Common Gate Control*
38.	Rajni Gautam	*2013*	*Analytical Modelling, Simulation and Characterization of optically Controlled Gate Electrode Engineered Nanoscale MOSFET/MESFET Design*
39.	Yogesh Pratap	*In Progress*	*Modeling and Characterization of Gate All Around Junctionless Transistor for Reliability Study and Digital Applications*

OTHER PH.D. SCHOLARS SUPERVISED BUT NOT REGISTERED

1.	Kirti Goel	2007	*Two Dimensional Analytical Modeling and Simulation of Non-Uniformly Doped Dual Martial Gate(DMG) and Triple Material Gate (TMG) MOSFET Structures*
2.	Sneha Kabra	2008	*Modeling Simulation and Characterization of GaN MESFET*

3.	Parvesh	2009	*Polarization dependent analysis and characterization of AlGaN/GaN HEMT*
4.	Sona P Kumar	2010	*Analysis , Modeling and Simulation of AlGaN/GaN Modular Doped Field Effect Transistor*
5.	Rupendra Sharma	2010	*Two Dimensional Analytical Modeling and Simulation of Gate Misalignment Effect in Fully Depleted Double Gate MOSFET*
6.	Ruchika Aggarwal	2010	*Modeling, Characterization and Simulation of AlGaN/GaN Metal Insulator Semiconductor Heterostructure Field Effect Transistor(MISHFET) for High Power Microwave Applications*
7.	Priyanka Malik	*2011*	*Analytical modeling and simulation of advanced MOSFET structures in sub-100nm regime*
8.	Pujarani Ghosh	*2013*	*Capacitive Modelling Simulation and Characterization of Surrounded/Cylindrical Gate MOSFET (SGT/CGT) for High Frequency Applications*
9.	Vandana Kumari	*2013*	*Modeling and Simulation of Nano Scale DMG ISE SON MOSFET for Low Voltage Low Power Applications*
10.	Monika Bhattacharya	*2013*	*Noise Modeling, Noise Performance Simulation and Study of Noise Characteristics of Double Gate InP based InAlAs/InGaAs HEMTs for high power and Tara Hertz Frequency Applications*
11.	Rakhi Narang	*2013*	*Analytical Modeling of Double Gate Tunneling Field Effect Transistor*
12.	Jay Hind Kumar Verma	*In Progress*	*Noise Analysis and Modeling of CGT/SGT MOSFETs*
13.	Manoj Kumar	*In Progress*	*Analytical Modeling Simulation and Chracterization of Schottky Barrier Gate All Around MOSFET strectures for low power applications.*
14.	Sonam Revari	*In Progress*	*Analytical Modeling and Simulation of Gate All Around MOSFET*
15.	Jaya Madan	*In Progress*	*Simulation and Analysis of Gate All Around Tunnel FET for High Performance Analog and RF Applications*
16.	Nitin Trivedi	*In Progress*	*Analytical Modeling and Simulation of Junction Accumulation Mode Cylindricaal Surrounding Gate MOSFET*

LIST OF PUBLICATIONS

I. ***Papers in Reviewed Journal***

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