


Faculty Profile

Title	Dr	First Name	Sneha	Last Name	Kabra	
Designation	Assistant Professor					
Address	F1, Shaheed Rajguru Collge of Applied Sciences for Women, Vasundhara Enclave, Delhi-110096					
Phone No	Office	011-22623505				
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Web-Page						
Educational Qualifications						
Degree	Institution				Year	
Ph. D (Electronics)	Department of Electronic Science, University of Delhi, South Campus.				2008	
M.Sc Electronics	Department of Electronic Science, University of Delhi, South Campus.				2003	
B.Sc (H) Electronics	Keshav MahaVidyalaya, University of Delhi.				2001	
AISSCE	CBSE Board				1998	
AISSE	CBSE Board				1996	
Career Profile						
<p>Worked as a lecturer on ad-hoc basis in Electronics Department of Acharya Narendra Dev College, Delhi University, from 26th Aug'2005-12th Oct'2007 and July 16' 2008- Aug 18'2008.</p> <p>Worked as a lecturer on guest basis in Electronics Department of Keshav Mahavidyalaya, Delhi University, from Feb'2008-March'2008.</p> <p>Working as Assistant Professor in Electronics, in Department of Instrumentation, Shaheed Rajguru College of Applied Sciences for Women, Delhi University, since August 19, 2008.</p>						
Administrative Assignments						
<p>Hostel Warden (July 2013- May 2015)</p> <p>Teacher-In-Charge, Department of Instrumentation, SRCASW (April 2014- March 2016, April 2010- March 2012)</p> <p>Member, ECA and sports admission Committee (May 2013-May2014)</p> <p>Coordinator, Examinations (May 2014-May2015)</p> <p>Member, Governing Body, SRCASW (1st January 2015-31st December 2015)</p>						
Areas of Interest / Specialization						
Analytical Modeling, Simulation and Characterization of advanced semiconductor devices for developing biosensors.						
Subjects Taught						

Digital Electronics, Analog Electronics, Microprocessors, Linear Integrated Circuits, Signals and Systems, Engineering Drawing, Electrical Technology, Engineering Mathematics, Numerical Methods, Physics, OptoElectronics

Research Guidance

NA

Publications Profile

Publications in International Journals:

1. Sneha Kabra, Harsupreet Kaur, Ritesh Gupta, Subhasis Haldar, Mridula Gupta and R.S.Gupta "A Semi Empirical Approach for Submicron GaN MESFET Using an Accurate Velocity Field Relationship for High Power Applications", *Microelectronics Journal*, pp.620-626, no.7, vol.37, 2006.
2. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R. S. Gupta "An Analytical Model for GaN MESFET's Using New Velocity-Field Dependence" *Physica Status Solidi C*, pp. 2350-2355, no.6, vol.3, 2006.
3. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R. S. Gupta, "Two Dimensional Subthreshold Analysis of Sub-Micron GaN MESFET" *Microelectronics Journal*, vol. 38, no. 4-5, pp. 547-555, 2007.
4. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R. S. Gupta, "A Semi-Empirical Model for Admittance and Scattering Parameters of GaN MESFET for microwave circuit applications" *Microwave and optical technology Letters*, vol.49, no. 10, pp.2446-2450, 2007.
5. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R. S. Gupta, "Temperature Dependent Analytical Model of sub-micron GaN MESFETs for Microwave Frequency Applications", *Solid State Electronics*, vol.52, no.1, pp.25-30, 2008.
6. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, "Impact of graded channel (GC) design in fully depleted cylindrical/surrounding gate MOSFET (FD CGT/SGT) for improved short channel immunity and hot carrier reliability" *Solid State Electronics*, vol. 51, pp. 398-404, 2007.
7. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, "An analytical drain current model for graded channel cylindrical/surrounding gate MOSFET" *Microelectronics Journal*, vol.38, pp. 352-359, 2007.
8. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, "An Analytical Threshold Voltage Model for Graded Channel Asymmetric Gate Stack (GCASYMGAS) Surrounding Gate MOSFET", *Solid State Electronics*, vol. 52, pp.305-311, 2008.
9. Harsupreet Kaur, Sneha Kabra, S Haldar, RS Gupta, "Impact of laterally asymmetric channel and gate stack architecture on device performance of surrounding gate MOSFETs", *Microwave and Optical Technology Letters*, vol52, no.3, pp. 746-750, 2010
10. Sona P Kumar, Anju Agrawal, Sneha Kabra, Mridula Gupta and R.S.Gupta "An analysis for AlGaIn/GaN modulation doped field effect transistor using accurate velocity-field dependence for high power microwave frequency applications" *Microelectronics Journal*, vol.37, pp. 1339-1346, 2006.
11. Threshold voltage model for small geometry AlGaIn/GaN HEMTs based on analytical solution of 3-D Poisson's equation, Sona P Kumar, A Agrawal, R Chaujar, Sneha Kabra, M Gupta, *Microelectronics Journal*, Vol38 no.10, pp 1013-1020, 2007

Publication in National Journal:

1. Development of e-resource on standard procedure of operation and applications of important electronic devices used by undergraduate science students Sneha Kabra, Amita Kapoor, Himani Dua, DU Journal of Undergraduate Research and Innovation, 2015

International Conferences:

1. Sneha Kabra, Subhasis Haldar, Mridula Gupta and R.S.Gupta "A semi-empirical model for current voltage characteristics of sub-micron GaN MESFET's" XVIth Asia Pacific Microwave Conference (APMC), New Delhi, India, December 15-18, pp.1037, 2004.
2. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta "An Analytical Model for GaN MESFET's Using New Velocity-Field Dependence" International Conference on Nitride Semiconductors (ICNS), , Bremen, Germany, August 28-September 2, 2005.
3. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta "An Analytical Model of Sub-micron GaN MESFET's using Exact Velocity Field Dependence for Microwave Applications" Thirteenth International Workshop on The Physics of Semiconductor Devices (IWPSD), New Delhi, India, December 13-17 , pp. 826-829, 2005.
4. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta, "An Analytical Threshold Voltage Model for Sub-Micron GaN MESFE" European Workshop on III Nitride Materials and Devices 2006, Sep-18-20, Crete, Greece.
5. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta, "An Analytical Model for Admittance Parameters of GaN MESFET for microwave circuit applications" Fourteenth International Workshop on The Physics of Semiconductor Devices (IWPSD), Mumbai, India, December 16-20, 2007.
6. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta, "An analytical 2 dimensional subthreshold model for drain induced barrier lowering effect in sub micron GaN MESFET" International symposium on microwave and optical technology (ISMOT), Monte Porzio, Catone, Italy, December 17-21, 2007.
7. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta, "An analytical model for high temperature operation of GaN MESFETs" CODEC 2006, Dec.'18-20, Kolkatta, India.
8. Harsupreet Kaur, Sneha Kabra, Simrata Bindra, Subhasis Haldar and R.S.Gupta , "Modeling and Analysis of graded channel fully depleted cylindrical/ surrounding gate SOI MOSFETs " URSI'2005, Oct'23-29, New Delhi, India
9. Harsupreet Kaur, Sneha Kabra, Simrata Bindra, Subhasis Haldar and R.S.Gupta, "An Analytical 2-Dimensional Model for Graded Channel Fully Depleted Cylindrical/ Surrounding Gate SOI MOSFETs " IWPSD'2005, Dec'13-17, New Delhi, India
10. Sona P Kumar, Anju Agrawal, Sneha Kabra, Mridula Gupta and R.S.Gupta, "An analysis of bias dependent performance of AlGaIn/GaN High Electron Mobility transistor using new velocity-field dependence" European Workshop on III Nitride Materials and Devices 2006, Sep-18-20, Crete, Greece
11. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, "Asymmetric gate stack surrounding gate transistor (ASYMGASST): 2-D analytical threshold voltage model" XVIIIth Asia Pacific Microwave Conference (APMC), Bangkok, Thailand, December 11-14, 2007.
12. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, "Laterally Asymmetric channel gate stack (LACGS) SGT: a new structural concept for improved device performance" Fourteenth International Workshop on the Physics of Semiconductor Devices (IWPSD), Mumbai, India, December 16-20, 2007.
13. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, "Impact of laterally asymmetric

channel and gate stack architecture on device performance of surrounding gate MOSFET (LACGAS SGT): A simulation study” International semiconductor device research symposium, University of Mariland, USA, December 12-14, 2007.

14. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, “Impact of Gate Stack Architecture on Device Characteristics of Surrounding Gate MOSFETs”, Mini-Colloquia on Compact Modeling of Advance MOSFET Structures and Mixed mode Applications, January 5-6, 2008, New Delhi, India.
15. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, “Modeling and Simulation of Graded Channel Asymmetric Gate Stack (GCASYMGAS) Surrounding Gate MOSFET”, Mini-Colloquia on Compact Modeling of Advance MOSFET Structures and Mixed mode Applications, January 5-6, 2008, New Delhi, India
16. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, “A 2D analytical model for I-V characteristics of graded channel surrounding gate (GC SGT) MOSFT” Fourteenth International Workshop on The Physics of Semiconductor Devices (IWPSD), Mumbai, India, December 16-20, 2007.
17. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, “An analytical model for asymmetric gate stack surrounding gate MOSFET (GC ASYMGAS SGT)”, International symposium on microwave and optical technology (ISMOT), Monte Porzio, Catone, Italy, December 17-21, 2007.
18. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, “Impact of Non-Uniformly Doped and Multilayered Asymmetric Gate Stack Design on Device Characteristics of Surrounding Gate MOSFETs ”, Communicated to 2008 Workshop on Compact Modeling (WCM-2008), June 1-5, Boston, Massachusetts, U.S.A.
19. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, “A Comparative Analysis Using Modeling and Simulation to Study the Impact of Multilayered Gate Dielectric (MGD) Design on Device Performance of Surrounding Gate MOSFET”, Communicated to 2008 The XXIX General Assembly of the International Union of Radio Science (Union Radio Scientifique Internationale) URSI-2008, Chicago, Illinois, USA. (August 2008).
20. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R. S. Gupta, “Impact of Laterally Asymmetric Channel and Gate Stack Design on Device Performance of Surrounding Gate MOSFETs: A Modeling and Simulation Study”, Asia Pacific Microwave Conference, APMC’2008, Dec’16-18, Hong Kong.
21. Development of e-learning based module for teaching practicals in electronics to science and engineering students in India, Sneha Kabra, Himani Dua, and Amita Kapoor “IEEE International Conference on teaching, assessment and learning for Engineering”, organized by Victoria University, Wellington, New Zealand from 8-10 Dec 2014.
22. Development, use and impact of E-learning based modules for teaching Electronics To undergraduate girl students: A case study, Amita Kapoor, Sneha Kabra, and Himani Dua “2nd IEEE International Conference on MOOCs, Innovation and Technology in Education” organized by Thapar University, Patiala, Punjab, India from 19-20 Dec, 2014.
23. A review on the Eye Stick: Boon to Visually Impaired, Anushka Singh, Deeksha Agarwal, Pratibha Sangam, Prerna Singh, Shivani Ranjan, Yogesh Pratap, Sneha Kabra International Conference on Advances in Nanomaterials and Nanotechnology (ICAN 2016) 4th and 5th November 2016, Centre for NanoScience and Nanotechnology, Jamia Milia Islamia.

National Conferences:

1. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta, "An Empirical Model for the Effective Velocity Field Characteristics in GaN MESFET Including Near Ballistic Transport and its Applications" MATEIT'2006, March'22-25, New Delhi, India.
2. Sneha Kabra, Harsupreet Kaur, Subhasis Haldar, Mridula Gupta and R.S.Gupta, "An Analytical Two Dimensional Threshold Voltage Model for Sub-Micron GaN MESFET" Microwaves 06' Oct'6-8, 2006, Jaipur, India
3. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, "A Two-Dimensional Threshold Voltage Model for Graded Channel Fully Depleted Cylindrical/Surrounding Gate MOSFETs" MATEIT'2006, March'22-25, New Delhi, India
4. Sona P Kumar, Anju Agrawal, Sneha Kabra, Mridula Gupta and R.S.Gupta "An analysis of bias dependent performance of AlGaIn/GaN modulation doped field effect transistor using accurate velocity-field dependence" MATEIT'2006, March'22-25, New Delhi, India
5. Sona P Kumar, Anju Agrawal, Sneha Kabra, Mridula Gupta and R.S.Gupta, "Bias Dependent Analytical Model of AlGaIn/GaN High Electron Mobility Transistor" Microwaves 06', Oct'6-8, 2006, Jaipur, India.
6. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R.S.Gupta, "An Analytical Drain Current Model for Graded Channel Fully Depleted Cylindrical/Surrounding Gate MOSFET" Microwaves 06' Oct'6-8, 2006, Jaipur, India.
7. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, "Graded Channel (GC) Design in Surrounding Gate MOSFET (SGT) for Improving Short Channel and Hot Carrier Performance" Indian microelectronics society (IMS)'2007, August'16-17,2007, Chandigarh, India.
8. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar, and R.S.Gupta, "Asymmetric Multilayered Gate Dielectric (AMGAD) Surrounding gate MOSFET: A New Structural Concept for Improved Device Performance" Microwaves'2008, Jaipur, India.
9. Harsupreet Kaur, Sneha Kabra, Subhasis Haldar and R.S.Gupta, "A Two-Dimensional Threshold Voltage Model for Asymmetric Gate Stack Surrounding Gate MOSFET", MATEIT'2008, September'26-28, 2008, New Delhi, India
10. Himani Dua, Amita Kapoor, and Sneha Kabra, "E-Learning based approach for teaching experiments in Electronics, National Conference on Striving and Thriving towards diffusion of student – driven research in Science and Technology for Inspired Learning pp.321-323, organized by Maharaja Agrasen College, University of Delhi, India from 16-17 October, 2014.
11. Poster presentation on "Low cost eco friendly Solar Inverter - A standalone solar power system for households" at Vice Regal Lodge, Delhi University on 1st May 2016.
12. Low cost eco-friendly solar inverter a standalone solar power system for households, Archana Rajput, Ayushi Chopra, Diksha Pandey, Pratima Kumari, Roopal, Smriti Srivastava, Vaishali Pathak, Sneha Kabra, Himani Dua, Ms Ritika Chopra national conference on "Recent trends in Instrumentation and Electronics", (RTIE-2016) from Oct'5-6, 2016, Shaheed Rajguru College of Applied Sciences for Women.
13. Analog Characteristics and Linearity Analysis of Gate-All-Around Junctionless Nanowire Transistor (JNT) under wide Operating Temperature Ranging from 200K to 500K, Yogesh Pratap, J.H.K. Verma, Sneha Kabra, Subhasis Haldar, R. S. Gupta and Mridula Gupta, National conference on Recent developments in Electronics, (NCRDE 2017), Feb. 17-18, 2017 organized by IEEE EDS Delhi Chapter and Department of Electronic Science, University of Delhi.

Conference Organization/ Presentations (in the last three years)
<ol style="list-style-type: none"> 1. Organised UGC sponsored first national conference on “Recent trends in Instrumentation and Electronics”, (RTIE-2015) from Jan’5-6, 2015, Shaheed Rajguru College of Applied Sciences for Women. 2. Organized and attended 7days short course on PLC and SCADA from 25th-31st May 2016. It was organized in collaboration with Futuronix Pvt Ltd 3. Attended and Organised UGC and IEEE EDS Delhi Chapter sponsored Second National conference on Recent Trends in Instrumentation and Electronics (RTIE-2016). 4. Attended and Organized IEEE-EDS Distinguished Lecturer Talk On “CMOS Transistors -Operation, Scaling, Reliability and Way Forward” by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on January 23, 2017 organised by IEEE EDS Delhi Chapter and SRCASW. 5. Attended and Organised Second National conference on Recent developments in Electronics, (NCRDE 2017), feb 17-18, 2017 held at Dept. of Electronics, University of Delhi South Campus, New Delhi
Research Projects (Major Grants/Research Collaboration)
<p>Innovation project titled “Development of e-resources on standard procedure of operation and applications of important electronic devices used by undergraduate science students” sanctioned in November 2013, completed in March2015</p> <p>Innovation project titled “Low cost eco-friendly Solar Inverter - A standalone solar power system for households” sanctioned in October 2015, funded by Delhi University</p> <p>Research Project titled “Modeling, Simulation and development of AlGaIn/GaN HEMT based lactic acid and Uric acid biosensor for clinical research” funded by SERB(DST) sanctioned for the duration of three years.</p>
Awards and Distinctions
<p>Qualified UGC–NET (University Grants Commission’s-National Educational Test for Eligibility for Lectureship) in December 2003</p>
Association With Professional Bodies
<p>Member IEEE</p> <p>Member, Executive Committee, IEEE EDS Delhi Chapter</p>
Other Activities
<p>Workshops/Seminars/Conferences attended</p> <ol style="list-style-type: none"> 1. Workshop on Research methodology and techniques at Shaheed Sukhdev college of business studies from Oct-3-4,2008 2. Refresher course in physics and electronics held from Dec-1-22' 2008 at Department of Physics & Astrophysics, Delhi University organized by CPDHE. 3. IEEE EDS Distinguished Lecture on “ESD Protection Design for RF/AMS ICs” by Professor Albert Wang, (Fellow-IEEE, Department of Electrical and Computer Engineering, University of California, Riverside, CA 92521, USA) on May 29, 2009 at Department of Electronic science, University of Delhi, South Campus 4. Workshop on ‘Recent trends in Electronics’ from June1-12, 2009, organized by Electronics Department, Acharya Narendra Dev College, Delhi University. 5. Orientation programme (OR-61) held from Oct 3-31, 2009 organized by CPDHE, Delhi University.

6. Twelfth International symposium on microwave and optical technology (ISMOT) organized by IEEE EDS Delhi Chapter, Department of Electronic Science, University of Delhi South Campus from 16-19 Dec 2009 at New Delhi, India
7. First National Conference on Recent Developments in Electronics (NCRDE 2013) organized by IEEE EDS Delhi Chapter, New Delhi at University of Delhi South Campus, from 18-20 January 2013
8. International Workshop on "New Frontiers in Global Learning and Communication" organized by SRCASW, DU and University of Massachusetts Boston from 28th December 2013 to 2nd January 2014
9. Seventeenth Refresher course in Computer Science and Information Technology, organized from July 28-August 22, 2014 by UGC academic Staff College, JNU.
10. Seven days National Faculty Development programme on "Reflections on emerging pedagogy in higher education & qualitative research" at Ramanujan College, November 2015
11. Attended UGC sponsored national conference on advancements in Electronics and Computer applications held on 4th and 5th February at SRCASW, Delhi University.
12. Organized and participated in 7 days short course on PLC and SCADA from 25th May 2016 to 31st May 2016, organized by SRCASW in association with IEEE EDS Delhi Chapter.
13. Attended IEEE-EDS Distinguished Lecturer Talk on Negative Bias Temperature Instability in HKMG MOSFETs - Characterization, Process Dependence, DC / AC Modeling, TCAD Implementation and Stochastic Effects by Prof. Souvik Mahapatra, (Department of Electrical Engineering, IIT Bombay, Mumbai) on November 10, 2016 organized by IEEE EDS Delhi Chapter.
14. Attended IEEE-EDS Distinguished Lecturer Talk On "Publish and Flourish Art, Craft, and Sportsmanship of Publishing in Scholarly Journals" by Professor Vijay K Arora, Wilkes University USA organized jointly by IEEE EDS Delhi Chapter and Department of Electronic Science University of Delhi on 13 January 2017

