

Dr. SACHIN KUMAR

Address : A-4 Meet Nagar,
Near T. R. Sawhney Motors Pvt. Ltd, Shahdara,
Delhi- 110094
Mobile : +91 - 7827328094
Email : sachin.kumar029@gmail.com
: drsachin.du@gmail.com

OBJECTIVE

Quest to work in a professional environment with sincerity and dedication to grow along with the organization.

EDUCATIONAL DETAILS

- **Ph.D.** in Microelectronics on *Novel Attribute of RingFET: A Modeling and Simulation Based Investigation*, Department of Electronic Science, University of Delhi South Campus, New Delhi, India, **February, 2019**
- **M. Sc. (Masters in Science)** (Electronic Science) (**First Div.**) from Department of Electronic Science, University of Delhi South Campus, New Delhi, India, in **2012**.
- **B. Sc. (H) (Bachelor in Science)** (Electronics) (**First Div.**) from Maharaja Agrasen College, University of Delhi, Delhi, India, in **2010**.

PROFESSIONAL EXPERIENCE

Organization	Position Held	Period
Maharaja Agrasen College	Assistant Professor	21.09.2016 - till date
Maharaja Agrasen College	Coordinator Training and Placement Centre	20.07.2017 – till date
Maharaja Agrasen College	Member Discipline Committee	01.08.2017 - till date
Maharaja Agrasen College	Course Coordinator Short Term Course: Mobile App Designing	01.08.2018 – 31-12-2018

ACADEMIC CERTIFICATES

- **Qualified UGC NET JRF** (Electronic Science) in **June-2013**.
- **Qualified UGC NET** (Electronic Science) for Lectureship in **December-2012**.
- **Qualified UGC NET** (Electronic Science) for Lectureship in **June-2012**.

ADMINISTRATIVE EXPERIENCE and EXTRA CURRICULAR

- Served as **Organizing Committee member** for **3rd Dr. Ambedkar Memorial Lecture** organized by SC/ST cell, Maharaja Agrasen College, University of Delhi on 16th April-2021.
- Served as **Organizing Committee member** for **National Article Writing Competition** titled **Dr. Ambedkar - The Reformer of Indian Society** organized by SC/ST cell, Maharaja Agrasen College, University of Delhi on 12th May-2020.
- Served as **team member** for a **NIRF Ranking** (data collection and data analysis) at Maharaja Agrasen College, University of Delhi.
- Served as **Organizing Committee member** for a **National Conference (FQRHE-2018)** at Maharaja Agrasen College, University of Delhi.
- **Participated in Seminar on E-Procurement: A step Towards Transparent Digital India** organized by IQAC, Maharaja Agrasen College on 10th January 2018.
- Served as **Co-Convener** of **Hands-On Workshop on Virtual Instrumentation in LABVIEW & IoT with Raspberry Pi** at Maharaja Agrasen College from 3rd - 7th January 2018.
- Served as **Convener** of **Hands-On Workshop on Programming with Arduino** Organized by Abdul Kalam Centre at Maharaja Agrasen College from 17th - 21st July 2017.
- Served as **Co-Convener** of **Hands-On Workshop on PCB Fabrication** at Maharaja Agrasen College from 3rd - 7th April 2018.
- Served as **Organizing Committee member** for a **National Conference (NCRDE-2017)** at University of Delhi from 17th – 18th February 2017.
- Served as **Organizing Committee member** for an **Inter Departmental Sports meet "Varchasva 2016"** at University of Delhi South Campus.
- Served as **Organizing Committee member** for a second **National Conference (NCRDE- 2013)** at University of Delhi.
- Served as **Organizing Committee member** for a Lecture series "**Mini-Colloquia on compact modeling of devices and circuits**" at University of Delhi.
- Served as **Organizing Committee member** for a Lecture series "**Short Course on Quantum Transport in Carbon Based Devices**" at University of Delhi.
- **Organized a trip** in college at departmental level.
- **Organized a fest** in college at departmental level.
- Served as **Junior Under Officer** in **N.C.C. Camp**

ACHIEVEMENTS

- **Second Prize in Volleyball (Captain)** at **Inter Departmental Sports meet (Varchasva 2016)** at University of Delhi South Campus.
- **Second Prize in Badminton (Single)** at **Inter Departmental Sports meet (Varchasva 2016)** at University of Delhi South Campus.
- **Second Prize in Badminton (Doubles)** at **Inter Departmental Sports meet (Varchasva 2016)** at University of Delhi South Campus.
- **Best Paper Presentation Award** in **International Conference NANOCON-2014**, Pune, Maharashtra, India.

- **Best Paper Presentation Award in International Conference ICMARS-2013,**
Jodhpur, Rajasthan, India.
- Obtained **First prize in Circuit simulation at Inter-College Level.**
- Obtained **‘B’ Certificate** in N.C.C.

Conferences / Webinars

- Completed one professional development hour by attending Distinguished lecture (DL) on “Junctionless Nanowire Transistors: Electrical Characteristics and Compact Modeling” organized by IEEE EDS Delhi Chapter and Department of Electronic Science, University of Delhi South Campus, May 8th 2020.
- Completed one professional development hour by attending Distinguished lecture (DL) on “From CMOS to Neuromorphic Computing- A peek into the future” organized by IEEE EDS Delhi Chapter and Department of Electronics, University of Delhi South Campus, May 11th 2020.
- Completed one professional development hour by attending Distinguished lecture (DL) on “State-of-the-Art Silicon Very Large Integrated Circuits: Industrial Face of Nanotechnology” organized by IEEE EDS Delhi Chapter and Department of Electronics, University of Delhi South Campus, May 15th 2020.
- Completed one professional development hour by attending webinar on “Engineering Solutions for Point-of-Care & Early Diagnostics” organized by MHRD-IIC, DDU College Chapter under ages of Atmanirbhar Bharat Webinar Series, May 30th 2020.
- Participated in a webinar titled “Future of Education Post Covid” organized by Tata Mc Graw Hill, on June 18th 2020.
- Participated in a webinar on “Cyber Security Awareness-I” organized by IQAC, Bhaskaracharya College of Applied Sciences, University of Delhi, June 23rd 2020.
- Participated in a webinar on “Impact of COVID-19 on Physical and Mental Health” organized by BVICAM, New Delhi, June 26th 2020.
- Participated in a webinar on “Cyber Security Awareness-V” organized by IQAC, Bhaskaracharya College of Applied Sciences, University of Delhi, August 29th 2020.

SOFTWARE AND HARDWARE SKILLS

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|---------------------------------|---|---|
| • Programming Languages | : | Python, C, C++, |
| • Processor and Microcontroller | : | 8085, 8086, 8051 |
| • Web Designing Tools | : | HTML, CSS, Java Script, Flask |
| • Working Platforms | : | Windows, Linux |
| • Software Package | : | LT Spice, P-Spice, ATLAS, MS Office. |
| • IDE | : | Android Studio, PyCharm, IDLE, Anaconda, Dream Viewer. |
| • Hardware | : | PC Assembling, OS installation, Software installation, Hardware installation. |

ACADEMIC PROJECT

- **Minor Project**
 - **Regulated Variable power supply** (-15V to +15V) and fix supply of 5V using **LM-7805** and **LM-317**.
 - Microcontroller 8051 based **Solar trekking system**
- **Summer Training**
 - 2 month summer training on **AVR Studio**, to design **Winding Resistance Meter** using Atmel 128, in **Real Time Systems..**
- **Major Project**
 - Analytical modeling of **SON-MOSFET** and comparison of simulated results with analytical results.

LIST OF PUBLICATION

Papers in International Journals

1. “*Nanoscale-RingFET: An Analytical Sub-threshold drain Current Model including SCE’s*” **Sachin Kumar**, Vandana Kumari, Sanjeev Singh, Manoj Saxena and Mridula Gupta, **IEEE Transactions on Electron Devices**, Vol.62(12), pp. 3965 - 3972 Nov. 2015.(Accepted). ISSN No. 0018-9383, DOI: 10.1109/TED.2015.2493578, **Impact Factor: 2.913**.
2. “*Sub-threshold Drain Current Model of Double Gate RingFET (DG-RingFET) Architecture: Analog and Linearity Performance Investigation for RFIC Design*” **Sachin Kumar**, Vandana Kumari, Sanjeev Singh, Manoj Saxena and Mridula Gupta, **IETE Technical Review**, Sep 2016, DOI: <https://doi.org/10.1080/02564602.2016.1270174>, **Impact Factor: 1.845**.
3. “*Reconnoiter the leavening of Skin-Deep Insulated Extension on Analog Performance of RingFET*” **Sachin Kumar**, Vandana Kumari, Sanjeev Singh, Manoj Saxena and Mridula Gupta, **AEU - International Journal of Electronics and Communications**, Vol.83, pp.67-72, Jan 2018, DOI: <https://doi.org/10.1016/j.aeue.2017.07.038>, **Impact Factor: 2.924**.
4. “*Analytical Drain Current Model for Gate and Channel Engineered RingFET (GCE-RingFET)*” **Sachin Kumar**, Vandana Kumari, Sanjeev Singh, Manoj Saxena and Mridula Gupta, **Superlattices and Microstructures**, Vol.111, pp.1113-1120, Nov 2017, DOI: <https://doi.org/10.1016/j.spmi.2017.08.006>, **Impact Factor: 2.120**.
5. “*Performance Evaluation of Dielectric Modulation and Metalloid T-Shaped Source/Drain on Gate-All-Around Junctionless Transistor for Improved Analog/RF Application*” Yogesh Pratap, **Sachin Kumar**, R. S. Gupta, Mridula Gupta, **Journal of Materials Science: Materials in Electronics**, **Impact Factor: 2.22**

Papers in International Conferences

6. “*Hot Carrier Reliability and linearity Performance Investigation of Nanoscale RingFET for RFIC Design*” **Sachin Kumar**, Vandana Kumari, Manoj Saxena, Mridula Gupta, International Conference on Microwave, Antenna, Propagation and Remote sensing (**ICMARS 2013**), 11th – 14th December pp. 40-44, , Jodhpur, India.

7. “TCAD Assessment of Dual Material Gate Nanoscale RingFET (DMG-RingFET) for Analog and Digital Applications” **Sachin Kumar**, Vandana Kumari, Manoj Saxena, Mridula Gupta, 2nd International Conference on Device, System and Circuit, (ICDCS-2014), 6th – 8th March, Coimbatore, Tamilnadu, India, 2014.
8. “Performance Investigation of Double Gate – RingFET (DG-RingFET) for Analog and Digital Circuit Design” **Sachin Kumar**, Vandana Kumari, Manoj Saxena, Mridula Gupta, International Conference on Nano Science and Technology (ICONSAT 2014), 3rd- 5th March, at Chandigarh, Punjab, India, 2014.
9. “TCAD Assessment of Nanoscale Double Gate RingFET (DG-RingFET) Architecture: Analog and Linearity Performance Investigation for RFIC Design” **Sachin Kumar**, Vandana Kumari, Manoj Saxena and Mridula Gupta, International conference on Nanotechnology (NANOCON-2014, Pune, India), October 14-15, 2014.
10. “Investigation of III-V Compound Semiconductor Materials on Analog Performance of Nanoscale RingFET”, **Sachin Kumar**, Vandana Kumari, Manoj Saxena and Mridula Gupta, INDICON 2015, Jamia Millia Islamia University, Delhi, India, 17-20 December, 2015.
11. “Schottky Barrier Nanoscale RingFET: A novel approach for efficient Analog Applications”, **Sachin Kumar**, Vandana Kumari, Manoj Saxena and Mridula Gupta, IWPSD 2015, IISc Bangalore, Bangalore, Karnataka, India, 07-11 December, 2015.
12. “A Smart Healthcare Monitoring System using Smartphone Interface”, Gaurav, Akshat, Zahid, Aditi, Bhupendra, **Sachin Kumar**, Maneesha, Praveen Pandey, ICDCS-2018, Karunya University, Coimbatore, Tamil Nadu, India, 16-17 March, 2018, IEEE Xplore.
13. “Performance Analysis Of Metalloid Source/Drain GaAs-FinFET For Analog/RF Applications”, Yogesh Pratap, Reshma Sinha, Praveen Pal, Sarul Malik, Sneha Kabra, **Sachin Kumar**, ICDCS-2018, Karunya University, Coimbatore, Tamil Nadu, India, 16-17 March, 2018, IEEE Xplore.
14. “Intelligent Energy Information and Management System for Academic Institutes”, Maneesha, Praveen Kant Pandey, **Sachin Kumar**, International Conference on Efficient Solar Power Generation and Energy Harvesting (ESPGEH-2019), Amity University UP, Noida, INDIA, 2019.
15. “Equivalent Channel Temperature in GaN HEMT with Field Plate” Sachin Kumar, Subhash Chander, DS Rawal, Samuder Gupta, Mridula Gupta, 5th International Conference on Devices, Circuit and Systems (ICDCS-2020) 5th – 6th March, Coimbatore, Tamilnadu, India, 2020.

Chapter in Book

16. “Intelligent Energy Information and Management System for Academic Institutes”, Maneesha, Praveen Kant Pandey, **Sachin Kumar**, Springer's book titled “Advances in Solar Power Generation and Energy Harvesting”. Print ISBN: 978-981-15-3634-2, Electronic ISBN: 978-981-15-3635-9, DOI: https://doi.org/10.1007/978-981-15-3635-9_11

PERSONAL DETAILS

Fathers' Name : Sh. Subhash Chand
Date of Birth : 29rd March, 1988
Nationality : Indian
Gender : Male
Languages Known : English, Hindi
Permanent Address : A-4, Meet Nagar,
Near T. R. Sawhney Motors Pvt. Ltd., Delhi - 110094.
Hobbies : Interacting with People, Playing Volleyball, Playing Badminton
Coding Programs, Listening Music.

(Dr. Sachin Kumar)