

**KULDEEP SINGH**

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H. No- MTH-29, GJUST Campus, Hisar

**Present Position (Designation and Organization)**

Assistant Professor  
Department of Electronics and Communication Engineering  
Guru Jambheshwar University of Science and Technology Hisar

Date of Joining: 8<sup>th</sup> Nov. 2013

**Area of Specialization:** Microelectronics and VLSI Design Tools and Technology, FPGA Design, DFT, Optical Communications

**PROFESSIONAL SNAPSHOT**

- ⇒ Elected as Executive Council Member GJUST Hisar
- ⇒ Working Deputy Coordinator B.Tech First Year Faculty of Engineering GJUST Hisar
- ⇒ Worked as Hostel Warden Boys Hostel-1 GJUST Hisar
- ⇒ Working as Assistant Professor Department of ECE, GJUST Hisar since Nov 2013
- ⇒ Worked as Assistant Manager (Academics, Project & Research) in IIIT Delhi from 27<sup>th</sup> November, 2012 to 7<sup>th</sup> Nov 2013.
- ⇒ Worked as a Sr. Engineering Faculty (I) CDAC (Centre for Development of Advanced Computing), A Scientific Society of Department of IT, Govt of India, Noida from 13<sup>th</sup> February, 2012 to 26<sup>th</sup> Nov 2012.
- ⇒ Worked as an Assistant Professor (Contract) in Department of Electronics, Kurukshetra University Kurukshetra (Sept. 2009 to Jan. 2012 )
- ⇒ Worked as a Lecturer under the project SMDP-II in Dr BR Ambedkar NIT Jalandhar (1<sup>st</sup> oct 2007 to 8<sup>th</sup> Dec 2008), MCIT, Govt of India. ([www.smdp2vlsi.gov.in](http://www.smdp2vlsi.gov.in))

**TECHNICAL SKILLS**

<b>Optical</b>	: OptSimRsoft CAD
<b>HDL</b>	: VHDL, Verilog
<b>Front End tools</b>	: Synopsys (VCS, Design Compiler, DFT compiler, TetraMax, Prime Time, Prime Power) Cadence (NC Sim), Mentor (ModelSim, LeonardoSpectrum), Xilinx for Synthesis
<b>Operating System</b>	: Windows 9X / 2000 / XP, Unix/Linux.
<b>Back End Tools</b>	: Tanner Tools, PSPICE, Hspice, Cadence Tools, Mentor-Design Manager

**ACADEMIA**

- ⇒ **M.Tech in VLSI Design** (2005-2007): from CDAC-Noida, in affiliation with GGSIPU, Delhi with CPI 74.43
- ⇒ **M.Sc. Electronics** (2002-2004): from Electronic Science Department Kurukshetra University Kurukshetra with 61.2% marks.
- ⇒ **B.Sc. Electronics** (1999-2002): from University College Kurukshetra, affiliated to Kurukshetra University, Kurukshetra with 68% marks.
- ⇒ **Higher Secondary (10+2)**, (session 1999): From Govt. Model Sr. Sec. School, Kurukshetra affiliated to H.B.S.E. Bhiwani with 58% marks.
- ⇒ **Matric (10<sup>th</sup>)** (session 1997): from Govt. Sr. Sec. School, Ahar (PNP) affiliated to H.B.S.E with 68% marks.

**EXTRAMURAL ACTIVITIES (Workshop/Conference/Lecture Delivered/Attended)**

1. Nominated as a Board member in medical board constituted for the purpose of shifting of house on the nature of disabilities, dated Gen/2018-2628-29, 29-06-

2018

2. Member inspection committee for introduction of MA English in Govt College for Women Hisar for the session 2018-19 dated 04.06.2018
3. Nominated as a committee member for framing the rules for house allotment on medical ground basis
4. Nominated as a committee member for deciding PH roster and identification of jobs for PwDs
5. Performed the duty of Center Superintendent in End Sem Exam of Department in May 2018
6. Organised a Technical Quiz Contest "Binary Quiz" held on 13<sup>th</sup> April in the subjects Digital Electronics, Microprocessor and DSD
7. Attended Two days National Workshop on "Recent Trends in Engineering & Technology" under Twinning Arrangement of TEQIP-III held on February 27-28, 2018, organized by TEQIP-III Cell, GJUST Hisar.
8. Performed duty of Returning Officer in GJUTA Elections-2018
9. Organized a One day workshop on "Arts of High Speed Digital IC Design" under Institute Industry Interaction with STMicroelectronics Pvt Ltd Gr Noida, held on 13<sup>th</sup> November, 2017, in Department of ECE, GJUST, Hisar.
10. Assigned duty of Deputy Coordinator, B.Tech First Year GJUST Hisar w.r.t. letter no EN-M/M-559/2017/7486-75-46 dated 09-11-2017.
11. Nominated EC Member through election process held on 13.10.2017 for a term of two years with effect from 16.10.2017.
12. Attended one week GIAN Course Sponsored by MHRD, Govt. of India on "Authentication and Obfuscation of Integrated Circuits" held during August 28, 2017 to September 1<sup>st</sup>, 2017, organized by Deptt. of ECE, GJUST Hisar.
13. Attended One day National Workshop on "OUTCOME BASED EDUCATION" held on July 21, 2017, organized by Faculty of Engineering and Technology GJUST Hisar.
14. Attended One day National Seminar sponsored by Haryana State Council for Science and Technology, DST Govt. of Haryana on "Basics of Rheology and Its Applications" held on May 11, 2017, organized on the occasion of National Technology Day 2017 GJUST Hisar.
15. Deliver an expert Lecture on HDL (Hardware Description Language) at NCCE Isharana, Panipat on 29 March, 2017.
16. Concluded Purchase of Mentor Graphics Category-1 Tools in VLSI Design/Research Lab Feb 2017
17. Attended Two days National Workshop Sponsored by TEQIP-II on "LASER Techniques" held during March 02-03, 2017, organized by Optical Engineering Division of Deptt. of Physics, GJUST Hisar.
18. Time Table In-Charge Department of ECE, GJUS&T Hisar from Dec-2013 to Dec.2016
19. Attended 21 days (3 weeks) (24<sup>th</sup> November 2016-14<sup>th</sup> December 2016) UGC Sponsored Interdisciplinary Refresher Course on Research Methodology at UGC-HRDC GJUST Hisar.
20. Attended one week FDP Sponsored by TEQIP-II on "Recent Advancements in Broadband Communication Technologies and Networks" held during September 07-12, 2016, Deptt. of ECE, GJUST Hisar.
21. Assigned duty of Warden, Boys Hostel-1 GJUST Hisar w.r.t. letter no ENM/2016/18365-69 dated 22-06-2016.
22. Attended one week short term course on Modeling and Simulation of Wireless Communication Systems organized by Department of ECE, NIT Kurukshetra from June 20-24, 2016.
23. Springer *International Conference on Intelligent Communication, Control and Devices (ICICCD-2016)* at UPES Bidholi Campus Dehradun on 2<sup>nd</sup> and 3<sup>rd</sup> April, 2016.
24. Performed proctorial duty during two days Technical Fest Inceptre 2016, on March 18-19 2016 w.r.t. letter no Proctor/2016/221-243 dated 17.03.2016
25. Attended workshop on "BIOPROCESS TECHNOLOGY" organized by the Department of Bio & Nano Technology, GJUST Hisar, sponsored by Department of Biotechnology, Ministry of Science and Tech. GOI, from 1<sup>st</sup> - 3<sup>rd</sup> February

- 2016.
26. Conducted the Practical Examination at PPIMT Hisar held on 12.01.2016
  27. Performed proctorial duty during World Food Day and Alumani Function on 16<sup>th</sup> October 2015 w.r.t. letter no Proctor/2015/1631-1645 dated 14.10.2015
  28. Attended 2 days STC on Telecom Management: Current & Emerging (20-21) August, 2015, at Bharti School of Telecommunication at IIT Delhi.
  29. Attended 28 days (18<sup>th</sup> May 2015-13<sup>th</sup> June 2015) UGC Sponsored Orientation Program at UGC-HRDC GJUST Hisar.
  30. Performed the duty of Judge (Live Project) in two days Technical Fest TechAagaaz 2k15, on April 17-18, 2015 organized by RISE, Deptt. Of ECE, GJUST Hisar
  31. Organized a One day workshop "High Speed Digital IC Design", 24<sup>th</sup> April, 2015, Department of ECE, GJUST, Hisar.
  32. Attended one day Training Programme on Team Building held at Nainital on 1<sup>st</sup> June 2013 conducted by VERTO Learning Centre, New Delhi.
  33. Attended Restructured Accelerated Power Development and Reforms Programme (R-APDRP) Part-C Capacity Building Programme for ToT on IT General 15<sup>th</sup> Sept, 2012, Engineering Staff College of India, Hyderabad.
  34. Attended the National Program on Micro and Smart Systems- Institute for Smart Structures and Systems (NPMAS-SS) MEMS workshop organized by Electronic Science Department, KUK held during November 12-14, 2010.
  35. Attended STC at IIT Kanpur on Synthesis of Digital Systems sponsored by Deptt. Of IT, MCIT, GOI, New Delhi during December 10-21, 2007.
  36. Delivered a lecture in a workshop on "Verilog Digital System Design" under the community development programme of TEQIP, held on 04.04.2008, NIT Jalandhar
  37. First prize in State Level Elect. Science convention in "Quiz Competition" at D.N College Hisar.
  38. First prize in Science Day Celebration "Quiz Competition" at University College Kurukshetra.
  39. Second prize in Science Day Celebration "Quiz Competition" at University College Kurukshetra.
  40. Second prize in Quiz Competition in the field of Electronics and Computer at University College Kurukshetra

#### **A. PUBLICATIONS/PAPERS**

1. Komal Tomer, Anuj Singal, Kuldeep Singh, and Hem Hirwani, "*Pull Up and Pull Down Network Base Design of Comparator with Adiabatic Logic,*" THINK INDIA JOURNAL, ISSN:0971-1260, pg-173-178, Vol-22-Issue-41-December-2019. (UGC Index)
2. Nitin Sharma, Abhimanyu Nain, Kuldeep Singh, Nisha Rani, Anuj Singal, "*Impedimetric Sensors: Principles Applications and Recent Trends,*" International Journal of Innovative Technology and Exploring Engineering (IJITEE), vol. 8, no. 10, pp. 4015-4025, August 2019 **(Scopus Indexed)**.
3. Nisha Rani, Kuldeep Singh, Nitin Sharma, Anuj Singal, "*Recent Updates on Electrochemical Detection of Perchlorate Ions,*" International Journal of Innovative Technology and Exploring Engineering (IJITEE), vol. 8, no. 10, pp. 4326-4335, August 2019 **(Scopus Indexed)**.
4. Pinki, Kuldeep Singh, Anuj Singal, "*Performance Analysis of Hygroscopic Swelling in MEMS Sensor using Different Polymers Materials,*" International Journal of Research in Electronics and Computer Engineering (IJRECE- I2OR), vol.7, no.2, April 2019 **(UGC Approved)**.

5. Pinki, Kuldeep Singh, Anuj Singal, "Reducing the Hygroscopic Swelling in MEMS Sensor using Different Mold Materials," IAES: International Journal of Electrical and Computer Engineering, vol. 10, no.1, pp. 494-499, Feb. 2010(**Scopus Indexed**).
6. Patent has been successfully filed in India under THE PATENT ACT 1970 (39 of 1970) & The Patent Rules, 2003. This Patent is related to Identify Pollutants from Vehicle Exhaust at Toll Plazas with provision of Penalty, Reference No 201911005535 & Application No. TEMP/E-1/5787/2019-DEL.
7. Kuldeep Singh and Sandeep K Arya, "Estimation of Signal-to-Crosstalk Ratio of Stimulated-Raman-Scattering-Induced Crosstalk in Wavelength-Division-Multiplexing-Based Radio-over-Fiber Links", De Gruyter-Journal of Optical Communications, JOC.2018.0039, 15<sup>th</sup> May 2018. (**Scopus Index**)
8. Jyoti and Kuldeep Singh, A comparative simulative performance analysis of WDM system using different Modulation Format, The IUP Journal of Telecommunications, vol. IX, No. 2, May,2017.
9. Kuldeep Singh and **Sandeep K. Arya**, "A Novel Method to Compensate Fiber Nonlinearities by Using NAFO Model" De Gruyter-Journal of Optical Communications, DOI: 10.1515/joc-2017-0016, March 2017(Scopus Index)
10. Kuldeep Singh and **Sandeep K Arya**, "Design of 10.24 Tb/s DWDM System using NRZ Modulation Format with Narrow Channel Spacing" **Springer International Conference on Intelligent Communication, Control and Devices (ICICCD-2016)** at UPES Bidholi Campus Dehradun on 2<sup>nd</sup> and 3<sup>rd</sup> April, 2016. (Scopus Index)
11. Kumari Sharmila and Singh Kuldeep, Simulative Investigation of Phase ADC for Wireless Communication, The IUP Journal of Electrical & Electronics Engineering, Vol. IX, No. 1, January 2016, pp. 69-78.
12. Jyoti and **Kuldeep Singh** "ATTENUATION AND DISPERSION ANALYSIS ALONG DISPERSION COMPENSATION OF A SIMPLE OPTICAL FIBER LINK, 3<sup>rd</sup> National Conference on Photonics and Materials Science during November 18-19, 2015 celebrating "International Year of Light" national conference on Light Year at GJU.
13. Anil Kumar and Kuldeep Singh, "A Low-Power 12 Transistor Full Adder Design using 3 Transistor XOR Gates", IJEECS - International Journal of Electronics, Electrical and Computational System, Vol. 4, Special Issue, Sep. 2015, pg. 134-142, ISSN : 2348-117X, Printed in ESM-2015 (International Conference on Innovative Research in Engineering, Science and Management), Vol. 1, McGraw Hill Education, 2015, pp.-405-413.
14. **Kuldeep Singh**, C.C. Tripathi, Arti Noor, Dinesh Kumar, "New Technology and Circuit Projections below 32nm for Low Power CMOS Circuit Design: A Survey", International Journal of Contemporary Research in Engineering & Technology, Shobit University, Meerut, India, Feb. 2012.
15. **Kuldeep Singh**, Archana, Ramkesh Sharma, "SRAM Cell Modelling for Read stability and Write Ability", National Conference on Global Challenges- Role of Science and Technology in giving their solutions (GC-RSTS-2012), Technology Institute of Textile and Sciences, Bhiwani, Haryana, 3-4 March, 2011
16. **Kuldeep Singh**, Vivek Pant, Sweta, Dinesh Kumar, "**Optimal High Performance Self Cascode Current Mirror**" National Conference on Emerging Trends in Electronics & Communication Engineering, April 22<sup>nd</sup> – 23<sup>rd</sup> 2011 PIET, Sambhalkha
17. **Kuldeep Singh**, Kamal Kant Kaushik,Arti Noor 'DFT Implementation at Behavioral/RTL Level', in the International Conference on IT, Present practices and challenges, Aug 31-Sept 1, 2007, Asia PacificInstitute of Management, New Delhi

## **PERSONAL DETAILS**

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**Date of birth** : 9<sup>th</sup> April, 1982  
**Marital Status** : Married  
**Permanent Address** : MTH-29, GJUST Campus, Hisar-125001  
**Linguistic Abilities** : English, Hindi

**(KULDEEP SINGH)**