

**Dr. Neeru Chaudhary**  
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## **EDUCATION**

**Doctor of Philosophy (Oct. 2012-Sept. 2017)** Panjab University, Chandigarh, India  
Thesis Title: Electrical characterization of nanocrystalline and amorphous semiconductors under different stresses and their optoelectronic properties

**Master of Technology (Instrumentation) (July 1999-June 2001)** Panjab University, Chandigarh, India

**Bachelor of Engineering (Instrumentation) (Aug. 1995-April 1999)** Dr. Babasaheb Ambedkar Marathwada University, India

## **PROFESSIONAL EXPERIENCE**

1. **Assistant Professor, Panjab University, Chandigarh (India) July, 2010- Present**

### **Job Responsibilities (Assistant Professor)**

- ✓ Teaching Advance Microprocessors, Digital electronics, Digital Signal Processing, Electronics Network Theory, Microcontrollers and applications
- ✓ Conduct laboratory sessions of B.Sc. Physics & Electronics (H.S.) and M.Sc. Physics (H.S.) as per time table, Internal Examinations and evaluate answer sheets of the subjects taught.
- ✓ Guide, oversee and evaluate laboratory reports and conduct end semester practical examinations
- ✓ Counsel students on academics and guide in making career decisions
- ✓ Guide undergraduate and postgraduate students in their research projects
- ✓ Conduct research in material science engineering and presented the outcomes in International conferences and published in reputed and referred International Journals
- ✓ Member of Admission committee, Technical and Purchase committee, Anti-Ragging Committee and career counselling committee of the Department.
- ✓ Holding the position of President Physics Association and is responsible for organizing inaugural function, annual cum prize distribution function, academic function, sports activities and many other extracurricular activities of the department. For authenticity [Vortex - PU Fest](#) a Facebook page can be checked for the vibrant activities performed under the umbrella of Physics Association.
- ✓ Active in Research enrolled two research scholars.
- ✓ Started electronics club under which students initiated lot of academic activities including Seminars, Summer Workshops on Arduino boards and Robotic

**2. Lecturer Aug, 2001-July, 2010 Punjab Technical University Jalandhar, India**

➤ **Lecturer, Head of Department in Electronics and Instrumentation Department and Dean Academics in IIT College of Engineering, Pojewal, District Nawanshahr, Punjab (India)**

**Job Responsibilities (Lecturer)**

- ✓ Taught Chemical process control, Linear and non-linear control systems, Programmable logic controllers, Microprocessors and its applications, Power Electronics using planned lectures, discussions, seminars and giving them small project models based on analog and digital electronics
- ✓ Prepared resource material and class plans for different courses.
- ✓ Evaluated the performance of students through quizzes, assignments, mid-term exams and final-examinations
- ✓ Helped students in handling their issues and making decisions for career
- ✓ Tried to focus on students who need extra attention by providing remedial instructions
- ✓ Supervised group projects, and helped students in laboratory work
- ✓ Member of admission committee, Purchase committee, academic committee

**Job Responsibilities (Head of the Department Electronics & Instrumentation; Dean Academics)**

- ✓ To take care of functioning & maintenance of Labs & associated equipment
- ✓ Students discipline
- ✓ Requisition & records of consumable for the labs
- ✓ Guest lecturer for visiting faculty
- ✓ Short term courses
- ✓ Attendance of students
- ✓ To keep track record of News Paper/ Journals in Library
- ✓ Tours & Travels
- ✓ Time table academic affairs
- ✓ Faculty Management
- ✓ Daily appraisal reports from the faculty

➤ **Assistant Professor in Electronics and communication Department and Dean Academics in Rayat Institute of Engineering & Information Technology, Railmajra, District Nawanshahr, Punjab (India)**

**Job Responsibilities (Assistant Professor)**

- ✓ Taught microwave engineering, optical fiber communication, Power Electronics, Electrical circuits, Microprocessors, Microcontrollers & its applications, Signals and systems, Linear integrated circuits, Biomedical Instrumentation
- ✓ Prepared resource material and class plans for different courses.
- ✓ Evaluated the performance of students through quizzes, assignments, mid-term exams and final-examinations

- ✓ Conduct laboratory sessions of B. Tech, internal examination, evaluate answer sheets, counsel students and guided M. Tech students for their projects.
- ✓ Gave stress on understanding the theory with experimentation, designed few experiments to understand the software and hardware for robotics & automation using microcontrollers
- ✓ Member of admission committee, academic committee.

### **Job Responsibilities (Dean Academics)**

- ✓ Prepare the Academic Calendar for the semester
- ✓ Interaction with University on academic programs, curriculum& other result oriented queries
- ✓ Conduct of Internal Examination and evaluation of answer sheets
- ✓ Conduct of external examinations
- ✓ Conduct of internal laboratory examination, Viva-voce
- ✓ Display on college notice boards monthly attendance, detention cases and send letters to the parents of students falling short of attendance/ having poor performance in internal sessional/ University results or the toppers of University
- ✓ Interaction with parents regarding academic problems
- ✓ Interaction with students
- ✓ Issue of certificates to students for loan and bus passes
- ✓ To make the academic record
- ✓ To get filled the admission forms/ Examination forms from the students and send it to the university
- ✓ Prepare result analysis of final examination
- ✓ Time table in charge
- ✓ Organized national workshops for faculty and induction programs for new faculty and students

### **PROFILE SUMMARY**

- ✓ More than 18 years' experience of teaching core subjects of electronics and instrumentation engineering
- ✓ Strong managerial skills with more than 10 years of experience as Dean Academics
- ✓ Extensive experience in designing course structure and study material for different Electronics courses
- ✓ Highly motivated, responsible, experienced, adaptable and highly energetic with excellent communications and interpersonal skills.
- ✓ Member, The Indian Society for Technical Education, Indian Association of Physics Teachers (IAPT), Board of Studies of Electronics and Communication Engineering of Punjab Technical University (Jalandhar) from 2008 to 2011 Board of Studies of Electronics and Communication Engineering of Panjab University (Chandigarh) from 2015 to 2017.
- ✓ Attended more than 20 national workshops in the field of Engineering subjects
- ✓ Cleared state level entrance exam for the admission of Undergrad and post-graduate program. Cleared the entrance exam for the admission of Ph.D. Also the National Level Exam (UGC-NET) for Lecturer-ship.

## ADDITIONAL EXPERIENCE

- ✓ Socially committed: worked as Program officer for National Service Scheme (NSS) for four years
- ✓ Participated in Many cleanliness drives and social awareness rallies
- ✓ Member of selection committees for the appointment of Assistant Professors
- ✓ Delivered lectures on specialized topics in refresher courses/summer training programs for faculties
- ✓ Delivered keynote lectures in national/international conferences
- ✓ Lecture available on YouTube on ‘ARM Controllers’ delivered at Faculty development program
- ✓ Invited as judge to many technical events
- ✓ Acted as laboratory mentor in several DST Inspire internship camps

## SHORT TERM COURSES/WORKSHOPS ATTENDED

From	To	Short Term Course /Workshop
04.Jul.2006	07.Jul. 2006	‘DSP and Its Application’ (Short term course)
27.Jul.2007	28.Jul. 2007	‘Application of MATLAB Engineering’ (Short term course)
22.Sep.2007	22.Sep.2007	‘Emerging Trends in Wireless Communication’ (Workshop)
23.Jun.2008	27.Jun.2008	‘New Trends in Mobile Communication’ (Short term course)
21.Jul.2008	25.Jul. 2008	‘ELTX.& Commn. Engg’ (Short term course)
25.Nov.2011	22.Dec.2011	UGC Sponsored Orientation Programme
12 Nov.2011	16 Nov.2011	ANN with MATLAB Programming
23.Nov.2012	13.Dec.2012	UGC Sponsored Refresher Course in ‘Research Methodology in sciences’
6 June, 2013	21 June, 2013	Refresher course in Experimental Physics
11 Feb,2014	26 Feb,2014	Resource person in refresher course, ‘ Experimental Physics’
03 Mar.2014	07 Mar.2014	Mass Spectrometry (National Workshop)
27 May,2014	28 May,2014	North Zone workshop for ‘Considering NSS as Elective subject and various Youth Programmes to promote National Integration’
02 Dec,2014	17 Dec,2014	Materials Preparation& Measurement of properties (Refresher course)
25 May,2015	31 May, 2015	Orientation course for NSS Programme Officer
16 June,2015	01 July,2015	Resource person in refresher course, ‘ Experimental Physics’

25 Sept,2016	10 Oct,2016	Resource person in refresher course, ' Experimental Physics'
17 July, 2018	1 Aug, 2018	Resource person in refresher course, ' Experimental Physics'

## PUBLICATIONS

- ✓ Methods and Strategies Adopted During Ancient India to Substance Ecological Balance UGC Sponsored National Seminar on Environmental Changes: Consequential Effects Upon Living and Non-Living World 1st& 2nd Dec,2012
- ✓ Effect of Composition on Optical and Thermoelectric Properties of Micro-structured p-type  $(\text{Bi}_2\text{Te}_3)_x(\text{Sb}_2\text{Te}_3)_{1-x}$  Alloys Journal of Nano- and Electronic Physics Vol. 6 No 1, 01007 (6pp) (2014)
- ✓ Pressure sensors and shock wave applications in Biomedical Instrumentation: State of Art; 3rd International Conference on Biomedical Engineering & Assistive Technologies 2014
- ✓ Diagnosis and Categorization of Malignancy using modified neural network Chascon 2014 26th Feb, 2014-28th Feb, 2014
- ✓ Effect of pressure on nanocrystalline  $\text{Se}_{85-x}\text{Te}_{15}\text{Ga}_x$  ( $x$  0,2,6,10,15); Chascon 2015, 25th Feb, 2015-27<sup>th</sup> Feb, 2015
- ✓ Pressure tolerant nanocrystalline  $\text{Se}_{85-x}\text{Te}_{15}\text{Ga}_x$  ( $x$  0,2,6,10,15) semiconductor RAINSAT 2015, Chennai 8th July-10th July, 2015
- ✓ Pressure Sensors for Blasts and Shock Waves: State of Art IJARPS Volume 2, Issue 9, September 2015, PP 1-4
- ✓ Scope of improving thermoelectric properties with polycrystalline SeTeAg Semiconductors HETIS 2016 2nd International Conference at Dr. SSB UICET, Panjab University, Chandigarh 30th Sept-01 Oct, 2016
- ✓ Pressure tolerant nanocrystalline  $\text{Se}_{85-x}\text{Te}_{15}\text{Ga}_x$  ( $x$  0, 2, 6, 10, 15) semiconductor Materials today Proceedings: Elsevier Volume 3, Issue 6, 2016, Pages 2347-2351
- ✓ Thermal conductivity and dielectric dispersion in nanocrystalline Se-Te-Ga system; Chascon 2016, 29<sup>th</sup> Feb, 2016-2<sup>nd</sup> Mar, 2016
- ✓ Optical Coefficients and PL Spectra with Variation in Ga-content in GaSeTe Thin Films: Visible Spectrum Journal of Nano- and Electronic Physics Vol. 8 No 3, 03019(5pp) (2016)
- ✓ Electrical Resistivity Change of SeTeAg Compositions to Thermal and Pressure as Stress Journal of Material Sciences & Engineering ISSN: 2169-0022 Presented at 3rd International conference on Smart Materials & Structures in Orlando, USA, Received April 28, 2017 Accepted May 18, 2017 Published May 28, 2017
- ✓ Deviation in tuning of optical properties of polycrystalline AgSeTe thin films Integrated Ferroelectrics (Taylor & Francis) Presented at ICTAM-AMF10, NOV. 7-11, 2016 Univ. of Delhi, Delhi Received 07 Nov 2016, Accepted 22 Apr 2017, Published online: 04 Jan 2018
- ✓ Synthesis and application of silicon nanowire in device fabrication; Chascon 2019, 13<sup>th</sup> Mar, 2019-15<sup>th</sup> Mar, 2019

- ✓ Cost effective synthesis of semiconductor nanowires; AIP Conference Proceedings 2162, 020165 (2019), Published Online: 29 October 2019
- ✓ Band gap modification for enhancement in optoelectronic properties with silicon nanowire; Vikas Kashyap, Neeru Chaudhary, Navdeep Goyal and Kapil Saxena *Material Today Proceedings* <https://doi.org/10.1016/j.matpr.2021.01.722>.
- ✓ The Analysis of Fabricated Silicon Nanowires With Various Techniques: A Roadmap To Energy Saving World; Vikas Kashyap, Neeru Chaudhary, Navdeep Goyal and Kapil Saxena, *IOP Conf. Ser.: Mater. Sci. Eng.* 1033, 012047 (2021) doi:10.1088/1757899X/1033/1/01204.
- ✓ Fabrication and Characterization of Silicon Nanowires with MACE Method to Influence the Optical Properties; Vikas Kashyap, Neeru Chaudhary, Navdeep Goyal and Kapil Saxena *Material Today Proceedings* MATPR-D-20-07514 (in press)
- ✓ The correlation of resistivity with the crystal size present in silicon nanowires through confinement based models; Vikas Kashyap, Neeru Chaudhary, Navdeep Goyal and Kapil Saxena *Materials Letters* (Accepted)
- ✓ The Study of Enhancement of Optoelectronic Properties with Vertically Aligned Silicon Nanowire; Vikas Kashyap, Neeru Chaudhary, Navdeep Goyal and Kapil Saxena book chapter *Editor: Dr Bhatu Y. Bagul* “ e- International conference ethical and quality aspect in nanoscience and nanotechnology (ICEQANNR) (2020)”; Page (300-304 ) [ISBN- 978-93-87098-56-5].

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