

Curriculum Vitae

Dr. RAJAN VOHRA

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CAREER OBJECTIVE

To obtain a position in an organization that provides ambience for utilization of knowledge, teamwork potential, leadership qualities and right platform to do challenging job provide an opportunity for professional and personal growth.

STRENGTHS

- Commitment towards work.
- Strong interpersonal skills.
- Positive attitude.

EDUCATIONAL QUALIFICATION

Examination	Institute/Board	Year	%AGE	Major Subjects
Ph.D (Regular)	Guru Nanak Dev University, Amritsar	Registered in 2016	Completed in 2021	Molecular Electronics & Nanomaterials
Masters of Tech (M.Tech)	Guru Nanak Dev University, Amritsar	2010	75.24 (with distinction)	Communication Systems
Bachelor of Tech (B.Tech)	D.A.V Institute of engineering and technology, Jalandhar	2006	74.13 (with distinction)	Electronics and Communication
Diploma in Engineering	Govt. Polytechnic, Batala	2003	71.28 (with distinction)	Electronics and Communication
10th	P.S.E.B	2000	72.61	All

LIST OF PUBLICATIONS

- 5 papers in **International journal** (Referred and peer reviewed)(**Scopus Index & ESCI Index**)
- 12 papers in **International journal** (**SCI, SCIE Index with Impact Factor**)

TECHNICAL SKILLS

- **Languages** : Basics of Python, C
- **Theoretical Concepts** : Networking, TCP/IP, Assembly Language – 8085,8086
- **Database** : SQL Server Basics
- **Software** : Atomistic Tool Kit- Virtual Nano Lab (ATK-VNL), MS Office
- **Computational Skills** : Skill in design and optimization of nanoscale molecular devices by using jellium model approach with different molecules at scattering region, Proficient in using NEGF methods(DFT and Extended Huckel) with the help of Graphical user interface of ATK (Virtual Nano Lab) . Skilled in investigating charge and quantum transport parameters of two probe junction
- **Experimental Skills** : Hands on experience of Characterization, Data Interpretation & Analysis of results in techniques : SEM, AFM, Ellipsometer etc
- **Material Synthesis and Deposition:** CVD, PVD etc.

RESEARCH AREA

My research area is related to the Theoretical Modeling of Molecular Electronics Devices by using NEGF approach for the possible applications in Bio-Medical or Bio-Sensing. I worked with the modeling of two probe devices by using DNA and Nucleobases of DNA placed in the scattering region using ATK – VNL(software). I have also had the hands-on experience of fabrication and characterization of MOS device at nanometer scale. Some of my work like “**Envisaging quantum transport phenomenon in a muddled base pair of DNA**” and “**Contemplating charge transport by modeling of DNA nucleobases based nano structures**” has been published in “**Pramana-Journal of Physics**” and “**Current Applied Physics**” Journals with good repute.

WORK EXPERIENCE AND TRAINING

- Worked as JRF and SRF in **Department of Electronics Technology, Guru Nanak Dev University,Amritsar** from March 2016 to March 2021. (Research and Teaching Experience 5 years)
- Worked with **Guru Nanak Dev University (Amritsar Campus)** as **Assistant Professor(Contract)** in Electronics Technology Department since from 18 July 2011 to 30 May 2014 (Teaching and Academic experience 4 years)
- Worked with **CT Group of Institutes, Jalandhar** as **Assistant Professor** in ECE Department for one year. (Teaching and Academic experience 1 year)

WORKSHOPS AND CONFERENCES ATTENDED

- **5th International Conference on Advances in Functional Materials (AFM)** held at **George Washington University, Washington, D.C, U.S.A** from July 22-24, 2019
- **INUP Hands-on Training on Nanofabrication Technologies** at **IISC, Bangalore, India** from 26 November to 6 December 2018
- **22nd Punjab science Congress 2019** at **DAV Institute Of Engineering & Technology, Jalandhar, India**
- **7th INUP Familiarization Workshop on Nanofabrication Technology** at **IIT BOMBAY, Mumbai, India**
- **9th International Workshop on Nanomechanical Sensing 2012** at **IIT BOMBAY, Mumbai, India**
- **2011 International Conference on Computer Science and Intelligent System**, at **CIIT Coimbatore, Tamilnadu, India**
- **World Congress on “Frontiers of Mechanical, Aeronautical and Automobile Engineering”(WCFMAAE-2013)** at **IIT Delhi, New Delhi, India**
- **International Conference on Modeling Optimization and Computing** at **Noorul Islam University, Kumaracoil, Tamilnadu, India**
- **IEEE International Conference on Advanced Communication Control and Computing Technologies - ICACCCT 2012** at **Syed Ammal Engineering College, Ramanathapuram, Tamilnadu** August 23, 24 and 25 2012.
- **International Conference on Emerging Technologies in Electronics and Communication (ICETEC-2013)** at **Guru Nanak Dev University, Amritsar, India**
- **15th Punjab science Congress 2012** at **Guru Nanak Dev University, Amritsar**
- **16th Punjab science Congress 2013** at **Baba Farid University of health sciences, Fridkot**
- **Two Days Workshop on “ Low Power Embedded System Using MSP 430”** at **CTIEMT, Jalandhar**

ACADEMIC AND OTHER ACHIEVEMENTS

- Awarded with “**YOUNG SCIENTIST AWARD**” in **22nd Punjab Science Congress 2019** at **DAV Institute Of Engineering & Technology, Jalandhar, India**
- Received “**INTERNATIONAL TRAVEL GRANT**” from **SERB, Govt. of India** to attend International conference at **Washington State University, Washington DC, USA**
- **Best Paper Award** in International Conference on Emerging Technologies in Electronics and Communication (**ICETEC-2013**) at **Guru Nanak Dev University, Amritsar, India**
- Appreciation in written by the **WORTHY VICE CHANCELLOR** of **Guru Nanak Dev University, Amritsar** for “**YOUNG SCIENTIST AWARD**”
- Prestigious “**VISVESVARAYA PhD Scheme for Electronics & IT**”, **Govt. of India** fellowship holder
- Among **Top Three position** in **M.TECH** at **Guru Nanak Dev University , Amritsar**

- **Editor** of the **proceeding** of International Conference on Emerging Technologies in Electronics and Communication (**ICETEC-2013**) at Guru Nanak Dev University, Amritsar, India
- **UGC NET Qualified (Twice in December 2013 and June 2014)**

REVIEWER & EDITORIAL BOARD MEMBER

- JOURNAL OF NETWORK AND COMPUTER APPLICATIONS. (ELSEVIERJOURNAL, I.F –6.281) (REVIEWER)
- CHEMICAL PHYSICS LETTERS. (ELSEVIERJOURNAL, I.F – 2.328) (REVIEWER)
- International Journal of Chaos, Control, Modeling and Simulation, (**AIRCC JOURNAL**), (EDITORIAL BOARD MEMBER)
- International Conference On Information Technology Convergence And Services(ITCSE-2014), **Sydney, Australia (REVIEWER/ PROGRAM COMMITTEE MEMBER)**
- International Conference On Foundations Of Computer Science & Technology(FCST-2014),**Zurich, Switzerland (REVIEWER/ PROGRAM COMMITTEE MEMBER)**

EVENT ORGANIZED

- **Organizing Committee Member of International Conference on Emerging Technologies in Electronics and Communication (ICETEC-2013) at Guru Nanak Dev University, Amritsar, India**

PROFESSIONAL BODIES MEMBERSHIP

- **IACSIT (International Association of Computer Science & Information Technology, Singapore) Membership number is: 80343790**
- **IAENG (International Association of Engineers) , HONG KONG, Membership number is:120497.**
- **IAENG Society of Computer Science , CANADA**
- **IAENG Society of Wireless Networks, SPAIN**
- **AIRCC (Academy & Industry Research Collaboration Center), AUSTRALIA, Membership ID is: 128821**
- **CSTA/ACM (Computer Science Teachers Association/Association For Computing Machinery), USA Membership number is 3327869**
- **The International Association of Online Engineering (IAOE),AUSTRIA, Membership ID: 465**
- **Universal Association of Computer and Electronics Engineers i.e UACEE , AUSTRALIA,(membership ID is AM1002673)**

M.TECH (THESIS-SUPERVISION)

- **6 Student (Co- Supervision)**

PERSONAL PROFILE

- **Father's name:**

Mr. Ashok Kumar

Address:

H .no 143, Nagina Avenue, Majitha road b/s power colony, Amritsar, Punjab

- **Nationality / Marital Status:**

Indian/ Married

LIST OF PUBLICATIONS

- 1. Social media buzz created by# nanotechnology: insights from Twitter analytics**
P Singh, KS Kahlon, RS Sawhney, R Vohra, S Kaur
Nanotechnology Reviews 7 (6), 521-528 (I.F 7.848) (SCI)
- 2. Adenine Based Molecular Biomarker for the Diagnosis of Lead and Mercury Presence in a Live Sample**
R Vohra, RS Sawhney
Journal of Nanoelectronics and Optoelectronics 13 (4), 554-561(I.F 0.9)(SCIE)
- 3. Contemplating Charge Transport By Modeling of DNA Nucleobases Based Nanostructures**
R Vohra, RS Sawhney, KP Singh
Current Applied Physics 20(5) 653-659 (I.F 2.48) (SCIE)
- 4. Envisaging quantum transport phenomenon in a muddled base pair of DNA**
R Vohra, RS Sawhney
Pramana Journal of Physics 90 (5), 58 (I.F 2.21) (SCI)
- 5. Analyzing Porphine Based Molecular Junctions with Cu, Ag, Au Electrodes**
M Kaur, P Nayyar, R Vohra, RS Sawhney
Journal of Nanoelectronics and Optoelectronics 12 (10), 1077-1083 (I.F 0.9)(SCIE)
- 6. Comparative evaluation of NANO transport properties for DNA nucleobasebased molecular junction devices**
R Vohra, RS Sawhney
Journal of molecular modeling 24 (11), 330 (I.F 1.8) (SCIE)
- 7. Effect of Metallic Electrodes Ensemble on Charge Transport Characteristics of Cytosine Based Molecular Devices**
R Vohra, RS Sawhney
Journal of Nanoelectronics and Optoelectronics 14 (11), 1589-1596 (I.F 0.9)(SCIE)
- 8. To envisage charge transport attributes of doped Porphine devices**
P Nayyar, M Kaur, R Vohra, RS Sawhney
Materials Research Express 4 (8), 085011(I.F 1.620) (SCIE)
- 9. Scrutiny of Electron Transport Properties of Adenine Molecule UnderDissimilar Miller Orientations**
R Vohra, Y Bhat, M Kaur, RS Sawhney
Journal of Bionanoscience 11 (5), 363-369 (SCOPUS)

- 10. Impact of Different Metallic Electrodes on Quantum Transport Through Deoxyribonucleic Acid**
Y Bhat, R Vohra, M Kaur, RS Sawhney
Journal of Computational and Theoretical Nanoscience 14 (8), 4137-4142(SCOPUS)
- 11. First Principle Analysis of Biomarker for Lead Concentration**
R Vohra, RS Sawhney
Sensor Letters 15 (11), 924-927(SCOPUS)
- 12. Contemplating Nanometer Scale Transport Characteristics through Aromatic Molecules Based Molecular Devices.**
R Vohra, RS Sawhney
International Journal of Nanoelectronics & Materials 11 (3) (SCOPUS, ESCI)
- 13. Influence of Anchors on the Quantum Transport Through Benzene Based Molecular Wire**
R Vohra, RS Sawhney
Journal of Bionanoscience 12 (1), 58-63(SCOPUS)
- 14. Density functional theory investigations on the interaction of uracil with borospherene**
Jupinder Kaur, Ravinder Kumar, Rajan Vohra, Ravinder Singh Sawhney
Bulletin of Materials Science 45(1), 1-8 IF. 1.78(SCI)
- 15. Thymine Based Molecular Structure To Devise Logic Gates And Memory Devices**
R Vohra, RS Sawhney
Journal of computational electronics (Springer) IF. 1.801 (SCI)
DOI: 10.1007/s10825-021-01820-6
- 16. Investigation of transport behavior in borospherene-based molecular wire for rectification applications**
Rajan Vohra, Harleen Kaur, Jupinder Kaur, Ravinder Kumar
Journal of Materials Research (Springer) IF. 3.089 (SCI)
- 17. Density functional theory investigations on the interaction of uracil with borospherene**
Jupinder Kaur, Ravinder Kumar, Rajan Vohra, Ravinder Singh Sawhney
Bulletin of Materials Science (Springer) IF. 1.783 (SCI)

REFERENCES:

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