

Curriculum Vitae

Name: **BHAGIRATH SINGH BHADORIA**
Father's Name: Shri D.S. Bhadoria
Date of Birth: 17-10- 1967
Nationality/Category: Indian/General
Sex/Marital Status: Male/Married
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Present Status: Asstt. Prof., Deptt. of Physics, B.U. Jhansi(UP)
Mailing Address: Dr. B.S. Bhadoria, Nand Vihar Residency, Narayan Bagh Road, Jhansi (UP) INDIA -284 001.

Educational Qualifications:

Degree	Board/University	Year of Passing	Percentage of Marks	Division	Subjects
HSSCE	M.P. Board Bhopal	1983	68	First	Hindi, Eng., Maths., Phy., Chem.
B.Sc.	Jiwaji University Gwalior	1986	67	First	Mathematics, Physics, Chemistry
M.Sc.	Jiwaji University Gwalior	1988	61	First	Physics (Special. in Electronics)
Ph.D.	I.I.T. Delhi	1996	Retrofit MHD Power Generation		

Research/Teaching Experiences:

Designation	Employer	Duration	
		From	To
Research Associate	I.I.T. Delhi	July 1995	August 1996
Lecturer	ITM Gurgaon	September 1996	August 1998
Lecturer	LIMAT Faridabad	September 1998	May 1999
Lecturer	Delhi College of Engg. Delhi	July 1999	August 2003
Lecturer	Bundelkhand University, Jhansi	September 2003	Onwards

Title of Ph.D. Thesis: Design and Performance Evaluation of a Retrofit MHD Channel for Coal Fired Thermal Power Plant

Honours/Scholarship Awarded:

- M.P. Govt. Merit Scholarship during M.Sc.
- Qualified GATE in 1990
- Qualified NET in 1992

Conferences/ Workshops Attended:

1. Refresher course on "Passive Building System", March 29-31, 1997, Centre for Energy Studies, IIT Delhi.
2. Workshop on ESP Performance-Role Fly Ash Resistivity, Sept. 23-24, 2004, CES, IIT Delhi.
3. National Workshop on Nanotechnology, March 14-15, 2008, Deptt. of Physics B.U. Jhansi (UP).
4. National Seminar on Nanotechnology, March 30, 2008, Jiwaji University, Gwalior(MP).
5. National Conference on Electron Microscopy and allied Fields, Jan. 17-20, 2009, Bundelkhand University, Jhansi.

Any Other Activities:

- Organizing Secretary of 24th National Science Conference, jointly organized by BARC Mumbai and Bundelkhand University Jhansi, February 3-5, 2019.
- Convener, International Workshop on Modeling of Materials (CRYSTAL program), organized at Deptt. of Physics, Bundelkhand University, Jhansi in collaboration with Michigan Tech. University USA and University of Tornio, Italy. March 7-12, 2014.
- Organizing Secretary of 19th National Symposium on Plasma Science and Technology, jointly organized by PSSI and Bundelkhand University Jhansi, December 7-10, 2004.
- Co-convener of the Conference on “Electron Microscopy and Allied Fields” jointly organized by EMSI and Bundelkhand University Jhansi, Jan. 17-20. 2009.
- Developed and maintained Computational Lab. For PG students at Deptt. Of Physics, B.U. Jhansi.
- Developed syllabuses for M. Sc. (Physics) of Advance Numerical Techniques and for M. Phil. (Physics) of Nanotechnology at B.U. Jhansi (UP).
- Coordinator/HOD Deptt. of Physics for one tenure 2011-2014.

Books Published/Edited:

- Reviews of "Application of Metallic Nanomaterials in Nanomedicine:(Volume 1052): Infectious Diseases and Nanomedicine III, Second International Conference (ICIDN - 2015), Dec. 15–18, 2015, Kathmandu, Nepal, Springer, ISBN 978-981-10-7571-1, 2018.
- Co-editor of “Scope and Challenges in Plasma Science and Technology”, Proceeding of 19th National Symposium on Plasma Science and Technology-2004, Allied Publisher, India.

Invited Talk Delivered:

- “Pollution Control by using Nonthermal Plasma” in the workshop on Fundamentals and Application of Plasma, held at SATI Vidisha in Collaboration with DST New Delhi, Feb. 19-24, 2007.
- “Carbon Nanotubes and its Application” in the National Conference on Electron Microscopy and Allied Fields, held at Bundelkhand University, Jhansi in Collaboration with EMSI, Jan .17-20, 2009
- “Electronic Properties of Ggraphene Nanoribben(GNR)” in the international conference on mathematical modeling and numerical simulation, held at Dept. of Applied Maths. BBAU, Lucknow, July 01-03, 2013.

M.Sc./M.Phil/Ph. D. Thesis/Dissertation Completed:

1. M.Sc. Dissertation:

- ❖ Evaluation of Ground State of Helium Atom by Quantum Monte Carlo, 2008
- ❖ Computational Analysis of the Harmonic Oscillator Problem, 2007

2. M. Phil. Thesis:

a) Completed: 29

- Carbon Nanotube’s Electronic Properties, 2008
- Parametric Study of Metal Nanoparticles, 2008
- Production of Metal Nanoparticles by Exploding Wire Method, 2008
- Quantum Entanglement & Teleportation, 2008
- Synthesis and Characterization of Metal oxide Thin Film for using in Dye sensitize solar cells, 2009
- Synthesis and characterization of CdSe-TiO₂, Nanocomposite, 2009

- Chalcogenide Glass Thin Film Development for Photonic Device Applications, 2009
- Blue Shift in Quantum Dots, 2009
- Chalcogenide Glass for Integrated Optics, 2009
- Study of shape Development Properties of Metallic Silver Ag_n ($n=1.5$) Nanowires by *Ab Initio* Approach, 2009
- Study of Isomeric Structure of Magnesium Mg_n ($n=1.5$) Nanowires: An *Ab Initio* Approach, 2009
- Growth and analysis of CdS thin film, 2010
- Fabrication of ferroelectric nanoparticles and their comparative analysis, 2010
- Synthesis & characterization of iron oxide nanoparticles, 2010
- Modelling of Graphene, 2011
- Modelling of Molecular electronics, 2011
- Effective Bandgap of quantum dots of various shape, 2011
- Various Study of ZnO Nanostructure, 2011
- Thermal behavior of Carbon Nanotubes, 2012
- Study of Band gap Engineering in grapheme sheet, 2012
- Thermal effect of Graphene, 2012
- Highly oriented architecture of 3D TiO_2 Nanotube arrays (synthesis, characterizations and strategic applications) , 2012
- Study of Biosensors, 2013
- Study of structural, electrical and hysteresis properties in multiferroic ceramics, 2013
- Nanotube and grapheme based composite for Tailer made properties, 2013
- Modification of the properties of CNT by insertion of fullerene , 2014
- Nanowire Gas Sensor 2014
- Synthesis of copper oxide nanorodes through microwave technique 2014
- Annealing Effect of ZnO nanoparticles on different substrates 2015

3. Ph. D. Thesis:

a) Completed: 02

- Risk management and emergency preparedness for disaster management system at educational institutions: a case study, Alka Gupta, 2011
- Electronic properties of adsorbed borophene(2D), Shalini Tomar, 2020

b) Progress: 02

Research Interest: Atomistic Simulation, Nonthermal Plasma Techniques for Pollution Control, Properties of Nanostructures.

Research Project: Project entitled "Study of Optoelectronic Properties in Graphene" funded by DRDO Lab.(DMSRDE, Kanpur) of around Rs. 10.0 lakh in 2015.

Courses Taught at UG/PG Level: Computational Methods and FORTRAN, Quantum Mechanics, Digital Electronics, C and C++ Languages, Fiber Optics and Communication, E.M. Theory and Wave Propagation.

Computational Experience: Successfully developed various computer codes for different scientific/research problems in FORTRAN, C and C++ languages.

Orientation Program/Refresher/Short- Term Course:

- Orientation Program, A.S.C.-U.G.C., Kumaun University, Nainital, Uttarakhand,

June 14 to July 11, 2008.

- Short Term Course on “Optoelectronics Network Communications” IIT Kharagpur, June 22 to July 03, 2009.

Foreign Visit:

- Visited Deptt. of Physics, Michigan Technological University, USA for research purpose during June 28- July 25, 2015.

Referees:

1. Dr. Y.S. Chauhan, Deptt. Of Electrical Engg, IIT Kanpur (UP) - 208016
2. Prof. A.C. Pandey, Director, IUCA, New Delhi-110067
3. Prof. Ravi Pandey, Chair, Deptt of Physics, Michigan Tech. University, USA.

LIST OF PUBLICATIONS

A- Published Paper in Journals/Conferences:

1. Keshav Dev, Swati Saxena, Ankit K. Srivastava, B.S. Bhadoria and Barish Diwedi, Monolayer Graphene and Borophene Behavior after the Doping of 4d Transition Metals, GIS Science Journal, Vol.8, Issue 12, pp.989-999, 2021.
2. Keshav Dev, Swati Saxena, Ankit K. Srivastava, B.S. Bhadoria and Suneel Kumar, Doping of 3d-Transition Metals on Monolayer of Graphene and Borophene, IJRTE, Vol.X, Issue X, pp 1-8, 2021.
3. Shalini Tomar, Priyank Rastogi, **Bhagirath Bhadoria**, Somnath Bhowmick, Amit Agarwal, Yogesh Chauhan, Thermoelectric Properties of CrI₃ Monolayer, accepted for oral presentation in IEEE-ICEE, Bengaluru, India, 16-19th Dec., 2018.
4. Tomar Shalini, Ghosh Barun, Mardanya Sougata, Rastogi Priyank, **B.S. Bhadoria**, Chauhan Yogesh, Agarwal Amit, Bhowmick Somnath, Intrinsic Magnetism in Monolayers of Transition Metal Trihalides: A comparative study, Journal of Magnetism and Magnetic Materials, 489, 165384, 2019.
5. Rohan Sagar, M.S. Gaur, and **B.S. Bhadoria**, Investigation of TSDC and Dielectric Modulus of PVDF-BaZrO₃ Nanocomposites Thin Film, Vacuum, 156, pp.375-383, 2018.
6. Mahi R. Singh, Jiaohan Gao, José M. Cid, Prakash C. Sharma, Arafa H. Aly, **Bhagirath S. Bhadoria**, and Jesus E. De Hayas Martinez, Phonon Conductivity of Nanoparticles Embedded in Dielectric Material, Physica Status Solidi (B), page 1700681, 2018.
7. Shalini Tomar, Priyank Rastogi, **Bhagirath Singh Bhadoria**, Amit Agrawal, Yogesh Singh Chauhan, Adsorption of magnetic transition metals on borophene: an ab-initio study, Eur. Phys. J. B 91: 51, 2018.
8. Shalini Tomar, **Bhagirath Singh Bhadoria**, Priyank Rastogi, Somnath Bhowmick, Amit Agarwal, Yogesh Singh Chauhan, Strain Dependent Carrier Mobility in 8 - Pmmn Borophene: ab-initio study, IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT), Bengaluru, India, May 2018.
9. M. Pastor, Patri Tirupathi, Nawnit Kumar, A. Panwar, and **B.S. Bhadoria**, “Study of Ferroelectric Phase Transition in new Lead Free Ba(Ca_{1/3}Nb_{2/3})O₃ Compound”, FERROELECTRICS, VOL. 518, pp. 1–12 , 2017.
10. Piyush Kumar, **B. S. Bhadoria**, Sanjay Kumar, Somnath Bhowmick, Yogesh Singh Chauhan and Amit Agarwal, " Thickness and electric-field-dependent polarizability and dielectric constant in phosphorene", PHYSICAL REVIEW B 93, 195428, 2016.

11. R. S. Yadav and **B.S. Bhadoria**, "Blue Shift in Nanostructure: Quantum Dot", ISST (Journal of Applied Physics), Vol.2, No.2, pp.7-9, 2011.
12. R. S. Yadav and **B.S. Bhadoria**, "Variation of Electronic State of CUBOID Quantum Dot with Size", Nano Vision Vol.1(1), 25-33, 2011.
13. **B.S. Bhadoria**, et al., "Optical study of Cadmium Sulphide Thin Film Prepared by Chemical Bath Deposition", J. Pure Applied & Ind. Physics Vol.1(3), 200-205, 2011.
14. A.K. Kushwaha, **B.S. Bhadoria** and Shivali Chauhan, Nanotechnology: The Technology of Future", Bulletin of IAPT, July 2009, pp. 371-372.
15. M. Singh, N.K. Gaur and **B.S. Bhadoria**, "Plasma Wave Excitation and Charged Particle Acceleration in a Over dense Plasma", scope and Challenges in Plasma Science and Technology", Allied Publishers, pp.103-109, 2005.
16. B.K. Sawhney, **B.S. Bhadoria** and B.B. Singh, "Evaluation of Pollutants in Combustion of Indian Coal", International Journal of Chemical Sciences, 2(3), 397-412, 2004.
17. **B.S. Bhadoria** and A.Chandra, "Transient Analysis of Proposed Indian MHD Channel" Energy Conversion and Management, pp. 963-966, Vol. 42, No. 8, 2001.
18. **B.S. Bhadoria** and A.Chandra, "Losses in Diagonal MHD Generator", Energy Conversion and Management, pp. 1985-95, Vol. 40, No. 18, 1999.
19. **B.S. Bhadoria** and A.Chandra, "Non-thermal Plasma Techniques for Pollution Control", Continuing Education Program on Clean Power Generation, Centre for Energy Studies, IIT Delhi, India, July 6-10, 1998.
20. A.Chandra, **B.S. Bhadoria**, and S.S. Verma, "Performance of a MHD Retrofit Channel with Diagonal Electrode Geometry", Energy Conversion and Management, pp. 311-317, Vol. 37, No. 3, 1996.
21. A.Chandra, and **B.S. Bhadoria**, "MHD Retrofit Channel with diagonal Electrode Geometry: Parametric Investigation", Energy Conversion and Management, pp. 43-50, Vol. 37, No. 1, 1996.
22. A.Chandra, and **B.S. Bhadoria**, "Performance Prediction of Proposed Indian MHD Retrofit Channel", IEEE Trans. On Plasma Science, pp. 973-978, Vol. 22, No. 5, 1994.
23. A.Chandra, **B.S. Bhadoria**, U.K. Singh and S.S. Verma, "Analysis of MHD Channel Including Heat and Friction Losses", 30th SEAM, Maryland, 1992.
24. A.Chandra, **B.S. Bhadoria**, U.K. Singh and S.S. Verma, " Indian Retrofit Design and Power output Predictions", 11th International Conference on MHD Electrical Power Generation, pp 715-723, Vol. 2, Beijing, China 1992.

B- Published Abstracts:

1. **B.S. Bhadoria** and K. Chaturvedi" Modeling of Wet Plasma for Industrial Pollution Control", 19th National Symposium on Plasma & Technology, December 7-10, 2004.
2. **B.S. Bhadoria** and Amit Kumar, "Nonthermal Plasma for Air Pollution Control", 23rd National Symposium on Plasma & Technology, December 10-13, 2008.
3. **B.S. Bhadoria** and Rama Shankar Yadav, "Prospects Of Quantum Information Techniques", 30th National Conference on Electron Microscopy and Allied Fields, Jan.17-20, 2009.
4. **B.S. Bhadoria** and Rama Shankar Yadav, "Beyond Bits: Qubits", 30th National Conference on Electron Microscopy and Allied Fields, Jan..17-20, 2009.
5. A. Shyam, R. Das, **B.S. Bhadoria**, Megha Agrawal, Versha Sahu and Alka Sachan, "Production and Characterization of Nanoparticles", 30th National Conference on Electron Microscopy and Allied Fields, Jan..17-20, 2009.

