Dr. Ravi Bhatia

Presently working as
DST INSPIRE FACULTY,
Dept of Phys, Panjab Univ,
Chandigrah, INDIA

E-mail: bhatia.phy@gmail.com;
rbhatia@pu.ac.in

Mobile No.:+ 91 8699645848

Key Achievements

- DST INSPIRE Faculty Award [Nov 2015 - Present].
- Post Doctoral Fellow [Feb 2015 - June 2015], Institute of Nanoscience and Technology, Mohali.
- Post Doctoral Fellow [March 2014- Dec 2014], HINT (SAINT), Sungkyunkwan University, South Korea.
- Post Doctoral Fellow [July 2013- Feb 2014], CINAP (IBS), Sungkyunkwan University, South Korea.
- Research Fellow [March 2012- March 2013], Department of Materials Science and Engineering, National University of Singapore, Singapore
- Junior Research Associate [Jan 2012- March 2012], Department of Physics, Indian Institute of Science, Bangalore, India
- 24 Publications in Scientific International Journals + 02 Conference papers
- 01 Book Published (Lambert Academic Publishing, Germany, 2016; ISBN: 978-3-659-89050-5)
- 07 Presentations in International Conferences
- 01 Best Paper Award (ICMAT @ Singapore-2011)
- Google Scholar Citations:176
  http://scholar.google.com/citations?user=CaBNJpcAAAAJ&hl=en

Awards

- DST INSPIRE Faculty Award (2015)
- IISc Senior Research Fellowship (Jan 2009- Dec 2011)
- INSA Travel Award for participating in ICMAT Singapore (2011)
- Meritorious Research Student Award (2010)
- IISc Junior Research Fellowship (Jan 2007- Dec 2008)
- CSIR-NET Lectureship Award (2006)

DST INSPIRE Faculty Award

- Prestigious Award given to very few candidates by the Department of Science and Technology, New Delhi after a rigorous selection procedure
- Selected DST INSPIRE Faculty Awardees are considered equivalent to entry level Assistant Professor at IITs
- DST INSPIRE Faculty Award is tenable for 5 years
- A research grant of Rs. 7 lakhs per year for 5 years is sanctioned by DST

Education

- **Ph.D. (Awarded: June 2012)** from Department of Physics, Indian Institute of Science, Bangalore, India. [Course work **CGPA-6.3** (Maximum 8.0)]

  Ph.D. Thesis title: Low Temperature Charge Transport and Magnetic Properties of MWNTs / MWNT-Polystyrene Composites

- **M.Sc. (2005)** [Physics] from Department of Physics, Maharshi Dayanand University, Rohtak, Haryana. **Class: First** (**68.2%**)
- **B.Sc. (2003)** [Physics, Mathematics] from University College, Maharshi Dayanand University, Rohtak, Haryana. **Class: First** (**76.4%**)
- **10+2 (2000)** [Physics, Chemistry, Mathematics] from Govt. Sr. Sec. School, Rohtak, Haryana. **Class: First** (**70.5%**)
- **10th (1998)** from Jain Sr. Sec. School, Rohtak, Haryana. **Class: First** (**76.2%**)

Research Experience

- **DST INSPIRE Faculty [Nov 2015-Present]**
- **Post Doctoral Fellow [Feb 2015 – June 2015] at INST Mohali**
- **Post Doctoral Fellow [July 2013 – Dec 2014] Sungkyunkwan University, South Korea.**
- **Research Fellow [March 2012 – March 2013] at Department of Materials Science & Engineering, NUS Singapore.**
- **Junior Research Associate [Jan 2012 – March 2012] at Department of Physics, Indian Institute of Science, India**
- **Research Scholar [Jan 2007 – Dec 2011] at Department of Physics, Indian Institute of Science, India**

Presentations at International/ National Conferences

Oral Presentations at International/ National Conferences

[2] **Ravi Bhatia*** and I. Sameera, Carbon nanomaterials based polymer composites : Charge transport, magnetic response and field (CHASCON @ Chandigarh-2016)

[1] **Ravi Bhatia***, V. Prasad and Reghu Menon, Production of High Quality Aligned Carbon Nanotubes by One Step Method **(ICMAT@Singapore-2009)**

Poster Presentations at International Conferences

[7] **Ravi Bhatia***, V. Prasad and Reghu M, Synthesis and characterization of iron filled aligned carbon nanotubes by one step method **(ICANN@Guwahati-2011)**.

[6] **Ravi Bhatia***, V. Prasad and Reghu M, Fabrication of coaxial fibrils of multiwall carbon nanotube/polypyrrole **(ICMAT@Singapore-2011)-Won Best Poster Award**

[5] **Ravi Bhatia***, V. Prasad and Reghu M, Weak temperature dependence of Electrical conductivity near the percolation threshold **(ICMAT@Singapore-2011)**.

[4] **Ravi Bhatia***, V. Prasad and Reghu M, Fabrication of coaxial fibrils of multiwall carbon nanotube/polypyrrole **(INCCOM@Kanpur-2010)**.

[3] **Ravi Bhatia***, V. Prasad and Reghu M, Electron transport in aligned and randomized multiwall carbon nanotubes **(INCCOM@Kanpur-2010)**.

[2] **Ravi Bhatia***, V. Prasad and Reghu Menon, Low temperature transport of polystyrene-carbon nanotube composites **(ICTOPON@Allahabad-2009)**.

[1] **Ravi Bhatia*** and V. Prasad, Synthesis of multiwall carbon nanotubes by chemical vapor deposition of ferrocene **(ICONSAT@Chennai-2008)**.

Invited Talks

[2] Invited talk at Department of Physics, Indian Institute of Technology Kanpur on October 26, 2015.

Title of the talk- Low temperature Charge transport, Magnetization and Field emission studies of Carbon nanomaterials

[1] Invited talk at Department of Physics, Indian Institute of Science & Education Research Mohali on September 15, 2015.

Title of the talk- *Multiwall Carbon Nanotubes, Polymer Composites and Reduced Graphene oxide : Charge transport, Magnetic response and Field emission*

Book Published

[1] Ravi Bhatia, **Electrical and Magnetic Response of Carbon Nnaotube Based Composites, (Lambert Academic Publishing, Germany, 2016; ISBN: 978-3-659-89050-5)**

International Journal Publications (Peer-reviewed)

[28] R. Bhatia, I. Sameera, V.Prasad, R. Menon, Weak temperature dependence of electrical conductivity in the multiwall carbon nanotube/ polymer composites. (Submitted to Carbon, 2016)

[27] Kyung-Sik Shin, **R. Bhatia**, Sung Soo Kwak, Gyu Cheol Yoon, Sang A Han, Seongsu Kim, Bong-Joong Kim, S.- W. Kim, High Quality Metal Oxides-Graphene Thin Film Heterstructures for Multifunctional Electronic Devices (Submitted to Advanced Electronic Materials, 2016)

[26] R. Bhatia, Kiran Kumari, R. Gandhi, A. Suri, Low temperature charge transport in carbon nanotubes based composites: An analysis of experimental results (Review Article) (Submitted to Journal of Electronic Materials, 2016)

[25] R. Bhatia, Kiran Kumari, R. Gandhi, S. K. Tripathi, On the electrical conductivity of poly(3,4-ethylenedioxythiophene): poly(styrenesulfonate) thin films (Submitted to International journal of Nanoscience, 2016)

[24] S. K. Kim, **R. Bhatia***, T.-H. Kim, D. Seol, J. H. Kim, H. Kim, W. Seung, Y. Kim, Y. H. Lee, S.-W. Kim, Directional dependent piezoelectric effect in CVD grown monolayer MoS2 for flexible piezoelectric nanogenerators, **Nano Energy** 22, 483 **(2016). *Equal Author Contribution**

I.F.=10.325

[23] U. Khan, T. H. Kim, K. H. Lee, J. H. Lee, H. J. Yoon, **R. Bhatia**, I. Sameera, W. Seung, H. Ryu, C. Falconi, S.-W. Kim, Self-powered transparent flexible graphene microheaters, **Nano Energy** 17, 356 **(2015)**.

I.F.=10.325

[22] V. R. Rikka, I. Sameera, **R. Bhatia**, V. Prasad Synthesis, characterization and field emission properties of tin oxide nanowires, **Materials Chemistry and Physics** 166, 26 **(2015)**.

I.F.=2.259

[21] S. A Han, **R. Bhatia,** S.-W. Kim, Synthesis, properties and potential applications of two-dimensional transition metal dichalcogenides, Nanoconvergence, 2, 1, **(2015).**

[20] S. A Han, K. H. Lee, T.-H. Kim, W. Seung, S. K. Lee, S. Choi, B. Kumar, **R. Bhatia**, H.-J. Shin, W.-J. Lee, S. M. Kim, H. S. Kim, J.-Y. Choi, S.-W. Kim, Hexagonal boron nitride assisted growth of stoichiometric Al_2O_3 dielectric on graphene for triboelectric nanogenerators, **Nano Energy** 12, 556 **(2015).**

I.F.=10.325

[19] M. S. Vasanthkumar, I. Sameera, **R. Bhatia**, V. Prasad, H. S. Jayanna, Low temperature magnetoresistance and magnetization properties of iron encapsulated multiwall carbon nanotube-polyvinyl chloride composites, **Solid State Commun.** 202, 58 **(2015).** I.F.=1.897

[18] I. Sameera**, R. Bhatia,** V. Prasad, R. Menon, Temperature dependent current-voltage characteristics of zinc oxide nanowire/ polypyrrole nanocomposite, **Appl. Phys. Lett.** 105, 232112 **(2014).** I.F.=3.302

[17] K. H. Lee, H. -J. Shin, B. Kumar, H. S. Kim, J. Lee, **R. Bhatia**, S. –H. Kim, I. –Y. Lee, H. S. Lee, G. –H. Kim, J. –B. Yoo, J. –Y. Choi, and S. –W. Kim, Nanocrystalline-Graphene-Tailored Hexagonal Boron Nitride Thin Films, **Angew. Chem. Int. Ed.** 53, 1 **(2014). (Very Important Paper)** I.F=11.704

[16] R. Bhatia, J. Galibert and R. Menon, Magnetic field induced delocalization in multiwall carbon nanotube-polystyrene composite at high fields, **Carbon** 69, 372 **(2014).** I.F.= 6.196

[15] M. S. Vasanthkumar, **R. Bhatia**, V. P. Arya, I. Sameera, V. Prasad, H. S. Jayanna, Characterization, charge transport and magnetic properties of multi-walled carbon nanotube–polyvinyl chloride nanocomposites, **Physica E** 56, 10 **(2014)**.
I.F.=2.000

[14] I. Sameera, **R. Bhatia**, V. Prasad, Characterization and magnetic response of multiwall carbon nanotubes filled with iron nanoparticles of different aspect ratio, **Physica E** 52, 1 **(2013).** I.F.=2.000

[13] R. Bhatia, I. Sameera, V. Prasad and R. Menon, Charge transport and Magnetic properties of coaxial composite fibrils of Polypyrrole/Multiwall carbon nanotubes at low temperature, **Solid State Commun.** 159, 93 **(2013)**. I.F.= 1.897

[12] I. Sameera, **R. Bhatia**, J. Ouyang, V. Prasad, and R. Menon, Electron field emission from reduced graphene oxide on polymer film **Appl. Phys. Lett.** 102, 033102 **(2013)**. I.F.=3.302

[11] I. Sameera, **R. Bhatia** and V. Prasad, Efficient field emission properties of ZnO (core)/graphite (shell) nanowires, **Mater. Sci. and Eng. B** 177, 1090 **(2012).**
I.F.= 2.169

[10] I. Sameera**, R. Bhatia,** V. Prasad and R. Menon, High emission currents and low threshold fields in multi-wall carbon nanotube-polymer composites in the vertical configuration **J. Appl. Phys.** 111, 044307 **(2012)**. I.F.= 2.183

[09] R. Bhatia, I. Sameera, V. Prasad and R. Menon, Threshold-like features in the magnetic response of iron-filled multi-walled carbon nanotube and polymer composite **J. Phys. D: Appl. Phys.** 44, 415001 (**2011**). I.F.= 2.721

[08] M. R. Parmar, **R. Bhatia,** V. Prasad and K. Rajanna, Ethanol sensing using CuO/MWNT thin film, **Sens. Actuators B** 158, 229 **(2011**). I.F.= 4.097

[07] R. Bhatia, C.S.S Sangeeth, V. Prasad and R. Menon, Preparation and characterization of multiwall carbon nanotube/polypyrrole coaxial fibrils, **Physica B: Condensed matter** 406 1727 **(2011)**. I.F.= 1.319

[06] Ravi Bhatia, V. Prasad and Reghu M, Characterization and electrical properties of aligned carbon nanotubes with high aspect ratio. **Internat. J. of Nanosci.** 10, 23 **(2011).**

[05] R. Bhatia, V. Prasad and R. Menon, Probing the inter-tube transport in aligned and random multiwall carbon nanotubes, **J. Appl. Phys.** 109, 053713 **(2011)**.

I.F.= 2.183

[04] R. Bhatia, V. Prasad and R. Menon, Characterization, electrical percolation and magnetization studies of polystyrene/multiwall carbon nanotube composite films, **Mater. Sci. and Eng. B** 175, 189 **(2010)**. I.F.= 2.169

[03] R. Bhatia, C.S.S Sangeeth, V. Prasad and R. Menon, Unusual metallic-like transport near the percolation threshold, **Appl. Phys. Lett. 96**, 242113 **(2010)**.

I.F.= 3.302

[02] I. Sameera, **R. Bhatia** and V. Prasad, Preparation, characterization and electrical conductivity studies of MWCNT/ZnO nanoparticles hybrid, **Physica B: Condensed matter** 405, 1709 **(2010)**. I.F.= 1.319

[01] R. Bhatia and V. Prasad, Synthesis of multiwall carbon nanotubes by chemical vapor deposition of ferrocene alone, **Solid State Commun.** 150, 311 **(2010)**.

I.F.= 1.897

International Conference Proceedings (Peer-reviewed)

[2] I. Sameera, **R. Bhatia** and V. Prasad, Preparation and characterization of MWCNT/ZnO nanoparticles hybrid. *International conference on Advanced Nanomaterials and Nanomaterials (ICANN-**2009**), **AIP conf. proc.*** 1276, 169 ***(2010)***

[1] Ravi Bhatia, V. Prasad and Reghu M, Electrical percolation studies of Polystyrene/multiwall carbon nanotubes nanocomposites. *Transport and Optical Properties of Nanomaterials – ICTOPON **-2009**, **AIP conf. proc.** 1147. 402* ***(2009).***

Responsibilities as a Reviewer

I am acting as reviewer for following International Journals

1. Applied Physics Letters
2. Journal of Applied Physics
3. Nano Energy

Referees

[1] Prof. Reghu Menon,

Department of Physics, Indian Institute of Science, Bangalore, India

Phone no:+91-80-2293 2725

Email: rmenon@physics.iisc.ernet.in

[2] Dr. V. Prasad

Department of Physics, Indian Institute of Science, Bangalore, India

Phone no:+91-80-2293 3338

Email: vishnu@physics.iisc.ernet.in

[3] Prof. V. Venkataraman

Department of Physics, Indian Institute of Science, Bangalore, India

Phone no:+91-80-2293 3286

Email: venki@physics.iisc.ernet.in

Personal Details

Name	**: Dr. Ravi Bhatia**
Father's Name	**: (Late) Surender Mohan Bhatia**
Mother' Name	**: Kamlesh Bhatia**
Date of Birth	**: July 4, 1983**
Gender	**: Male**
Nationality	**: Indian**
Marital Status	**: Married**
Spouse's Name	**: Dr. NVSP Sameera Ivaturi**
Children	**: None**
Permanent Address	**: # 695/20, Prem Nagar, Jail Road, Rohtak-124001, Haryana**

Declaration

I, Dr. Ravi Bhatia, hereby declare that the information provided above is true.

(Dr. Ravi Bhatia)

Date: June, 2016