


Brief Biodata

Name: Dr. Bhanu Pratap Singh

Designation:	Senior Principal Scientist & Professor AcSIR	
DP No. and Name:	4.03: Advanced Carbon Products and Metrology	
DU No. and Name:	4: Advanced Materials and Devices Metrology	
Email:	bps@nplindia.org	
Date of Joining CSIR- NPL:	13-08-2004	
Phone (office)	+91-11-45608426	

Research Area/ Interest

Carbon Nanomaterials
Carbon Nanotubes
Graphene
Polymer Nanocomposites
Energy Storage
EMI Shielding
Ballistic Protection

Educational Qualifications

Degree	Subject	University/ Institute	Year
PhD	Polymer Science &Technology	IIT Delhi	2014
M.Tech	Chemical Engineering	IIT Kanpur	2004
B. Tech	Chemical Engineering	Lucknow University/ Institute of Engineering and Technology, Lucknow	2002

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Scientist B (Junior Scientist)	CSIR-National Physical Laboratory, New Delhi	13-08- 2004	12-08- 2007	R&D on Advanced Carbon Products
Scientist C (Scientist)	CSIR-National Physical Laboratory, New Delhi	13-08- 2007	12-08- 2011	R&D on Advanced Carbon Products
Scientist EI (Senior Scientist)	CSIR-National Physical Laboratory, New Delhi	13-08- 2011	12-08- 2014	R&D on Advanced Carbon Products
Principal Scientist	CSIR-National Physical Laboratory,	13-08- 2014	12-08- 2018	R&D on Advanced Carbon Products

	New Delhi			
Senior Principal Scientist	CSIR-National Physical Laboratory, New Delhi	13-08-2018	Till Date	R&D on Advanced Carbon Products

No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference	Books	Total
139	01	87	02- Book, 12- Book Chapters	241

Selected Publications

1. Pallvi Dariyal, **Bhanu Pratap Singh***, Gaurav Singh Chauhan, Manoj Sehrawat, Sushant Sharma, Ashok Kumar, Sanjay Ranganth Dhakate , Aerosol based synthesis of highly conducting carbon nanotube macro assemblies by novel mist assisted precursor purging system, Journal of Alloys and Compounds , 925, Article No 166634, 2022
2. Pallvi Dariyal, **Bhanu Pratap Singh***, Gaurva Singh Chauhan, S.R. Dhakate, Localized Liquid Zones Assisted Highly Crystalline Single Wall Carbon Nanotube Sheets: Implications for Conducting Shields in Coaxial Cables, ACS Applied Nano Materials, 5(8), 11964–11972, 2022
3. M. Sehrawat, M. Rani, Pallvi Dariyal, S. Bharadwaj, S.R. Dhakate and **B. P. Singh***, Highly Conducting CNT Aerogel Synthesized via Inert FC-CVD Technique: A Step towards Greener Approach, Reaction Chemistry & Engineering, 7, 1921-1930, 2022
4. Shailesh K. Yadav , S.R. Dhakate , **Bhanu Pratap Singh ***, Carbon nanotube incorporated eucalyptus derived activated carbon-based novel adsorbent for efficient removal of methylene blue and eosin yellow dyes, Bioresource Technology, 344, Article No. 126231, 2022
5. Sushant Sharma, Ishu Rawal, S.R. Dhakate, **B.P. Singh***, Synergistic Bridging Effects of Graphene Oxide and Carbon Nanotube on Mechanical Properties of Aramid Fiber Reinforced Polycarbonate Composite Tape, Composite Science and Technology, 199, 108370, 2020
6. Sushant Sharma, S.R. Dhakate, A. Majumdar, **B.P. Singh***, Improved static and dynamic mechanical properties of multiscale bucky paper interleaved Kevlar fiber composites, Carbon, 152, 631-642, 2019
7. Sushant Sharma, Vipin Kumar, Abhishek K Pathak, Tomohiro Yokozeki, Shailesh Kumar Yadav, Vidya Nand Singh, S.R. Dhakate, **Bhanu Pratap Singh***, Design of MWCNT bucky paper reinforced PANI–DBSA–DVB composites with superior electrical and mechanical properties, Journal of Materials Chemistry C, 6(45), 12396-12406, 2018
8. Jeevan Jyoti, S.R. Dhakate, **Bhanu Pratap Singh***, Phase transition and anomalous rheological properties of graphene oxide-carbon nanotube acrylonitrile butadiene styrene hybrid composites, Composites Part B, 154, 337-350 , 2018
9. Sushant Sharma, Abhishek Pathak, Vidya Nand Singh, Satish Teotia, S. R. Dhakate, **B. P. Singh***, Excellent Mechanical Properties of Long Length Multiwalled Carbon Nanotube Bridged Kevlar Fabric, Carbon, 137, 104-11, 2018
10. Sushant Sharma, **Bhanu Pratap Singh***, Sampat Singh Chauhan, Jeevan Jyoti,

Abhishek Kr. Arya, S.R.Dhakate, Vipin Kumar, Tomohiro Yokozeki Enhanced Thermomechanical and Electrical Properties of Multiwalled Carbon Nanotube Paper Reinforced Epoxy Laminar Composites, Composites Part A, 104, 129-138,2018

11. Indu Elizabeth, **Bhanu Pratap Singh***,Thoyikkottu K..Bijoy, Venkata Rami Reddy, Gunasekaran Karthikeyan, Vidya Nand Singh, Sanjay R. Dhakate, Palanichamy Murugan, Sukumaran Gopukumar, In-situ Conversion of Multiwalled Carbon Nanotubes to Graphene Nanosheets: An Increasing Capacity Anode for Li Ion Batteries, Electrochimica Acta, 231, 255-263,2017

12. I. Elizabeth, A.K. Nair, **B.P. Singh**, S Gopukumar, Multifunctional Ni-NiO-CNT composite as high performing free standing anode for Li ion batteries and advanced electro catalyst for oxygen evolution reaction, Electrochimica Acta 230, 98-105, 2017

13. I. Elizabeth, **B.P. Singh**, S. Trikha, S. Gopukumar, Bio-derived hierarchically macro-meso-micro porous carbon anode for lithium/sodium ion batteries, Journal of Power Sources, 329, 412-421,2016

14. J. Jyoti, **B.P. Singh***, AK Arya, SR Dhakate, Dynamic mechanical properties of multiwall carbon nanotube reinforced ABS composites and their correlation with entanglement density, adhesion, reinforcement and C factor, RSC Advances, 6 , 3997-4006,2016

15. **B. P. Singh***, D. K. Saket, A. P. Singh, Santwana Pati, T. K. Gupta, V. N. Singh, S. R. Dhakate, S. K. Dhawan, R. K. Kotnala and R. B. Mathur, Microwave shielding properties of Co/Ni attached to single walled carbon nanotubes,Journal of Materials Chemistry A,3,13203-13209,2015

16. Jeevan Jyoti, Surita Basu, **B.P Singh***, S.R Dhakate Superior mechanical and electrical properties of multiwall carbon nanotube reinforced acrylonitrile butadiene styrene high performance composites, Composites Part B, 83 , 58-65,2015

17. Ravi Gupta, **B. P. Singh***, V.N. Singh, T. K Gupta, R. B. Mathur Origin of radial breathing mode in multiwall carbon nanotubes synthesized by catalytic chemical vapor deposition, Carbon 66,724-726, 2014

18. R. Kamaliya, **B.P. Singh***, B.K. Gupta, V.N. Singh, T.K. Gupta, R Gupta, P Kumar, R. B.Mathur, Large scale production of three dimensional carbon nanotube pillared graphene network for bi-functional optical properties, Carbon, 78, 147-155, 2014

19.T.K. Gupta, **B.P.Singh***, V.N Singh, Satish Teotia, A.P. Singh, Indu Elizabeth, S.R Dhakate, S.K. Dhawan,R.B.Mathur, MnO₂ decorated graphene nanoribbons with superior permittivity and excellent microwave shielding properties, Journal of Materials Chemistry A, 2, 4256-4263, 2014

20. **B.P. Singh***, Kamal Saini, Veena Choudhary, Satish Teotia, Shailaja Pande, P. Saini, R.B. Mathur, Effect of length of carbon nanotubes on electromagnetic interference shielding and mechanical properties of their reinforced epoxy composites, Journal of Nanoparticle Research, 16, Article No. 2161,2014

21. T.K. Gupta, **BP Singh**, RB Mathur, SR Dhakate, Multi-walled carbon nanotube–graphene–polyaniline multiphase nanocomposite with superior electromagnetic shielding effectiveness, Nanoscale 6 (2), 842-851, 2014

22. T.K. Gupta, **B.P Singh***, S.R. Dhakate, V.N. Singh, R.B. Mathur Improved Nanoindentation and Microwave Shielding Properties of Modified MWCNT Reinforced Polyurethane Composites, Journal of Materials Chemistry A, 1, 9138-9149, 2013

23. **B. P. Singh***, Prasanta, Veena Choudhary, Parveen Saini, Shailaja Pande , V. N. Singh, R. B. Mathur, Enhanced microwave shielding and mechanical properties of high loading MWCNT–epoxy composites, Journal of Nanoparticle Research, 15, Article No. 1554, 2013

Patents

1. A process for the simultaneous growth of single-walled and multi-walled carbon nanotubes Indian Patent No.- 27219, dated 21/03/2016 and US Patent No. US7955663, dated 07/06/2011
R.B.Mathur, C.Lal, T.L.Dhami, **B.P.Singh**, A.K.Gupta, and J.C. Ghawana
- 2 Light weight high electromagnetic interference (EMI) shielding material based on carbon nanotubes reinforced polymer composites” Indian Patent filed, 1793 DEL2011, June 2011
B.P.Singh, Parveen Garg, Shailaja Pande, R.B.Mathur, Parveen Saini and S.K.Dhawan
- 3 Carbon nanotubes-metal nanocomposites as flexible, free standing, binder free high performance anode for li-ion battery
US Patent No. US 10,003,075, dated 19/06/2018, Indian Patent filed 1592DEL2014, June 2014,
P. H. Maheshwari, Indu Elizabeth, **B.P. Singh**, Chanchal Gupta, R.B.Mathur, S. Gopukumar
- 4 A new approach for the development of high strength carbon fiber/ carbon nanotubes reinforced polymer nanocomposites
US Patent No. 10400074, dated 03.09.2019, Indian patent filed 201611036488, dated 25/10/2016,
B.P. Singh, Satish Teotia, S.R. Dhakate

Current Activities

(Not more than 100 words)

- Carbon nanotube yarn/sheet by floating catalytic chemical vapour deposition
- Large scale production of Carbon nanotube based flexible papers
- Carbon nanotube based light weight ballistic composites
- Carbon nanotube based structural composites
- Carbon fiber polymer composites for Sports Applications
- Bio mass derived activated carbon

Honour(s)/Award(s)/ Fellowship(s)

1. **NRDC- National Meritorious Invention Award** 2018 from National Research Development Corporation
2. **IEI –Young Engineer Award** for the Year 2017 in Metallurgical & Materials Engineering by the Institution of Engineers
3. **CSIR-Young Scientist Award** for the Year 2015 in Engineering Sciences
4. **HEAM Young Scientist Award** for the Year 2014 given by Indian Association of Hydrogen Energy and Advanced Materials

Contributions to AcSIR

- Professor, Faculty of Engineering Sciences, Academy of Scientific and Innovative Research (AcSIR)
- Course Coordinator - Engineering Materials
- Course Coordinator – Materials Processing and Characterization
- Course Coordinator – Materials Metrology
- Senate Member of Academy of Scientific and Innovative Research (AcSIR) from Sept 2017 to Sept 2019
- Finance Committee member of Academy of Scientific and Innovative Research (AcSIR) from 28-12-2017.
- Supervised – 3 PhD and Under Supervision – 07 Students

Membership of Professional Societies/ Institutions

1. Joint Secretary of Indian Carbon Society
2. Life Member of Metrology Society of India
3. Life Member of Materials Research Society of India
4. Life Member of The Society for Polymer Science, India

Any other Information

(Not more than 100 words)

- Total Citations – 8300+, h-index-49, i-10 index-108
As per Google scholar data
https://scholar.google.co.in/citations?hl=en&user=NPS0rEQAAAAJ&view_op=list_works
- Academic Editor of Journal of Nanomaterials (Since 2014)
- International editorial advisory board member of Journal of Environmental Nanotechnology
- Member of BIS of Primary Cells & Batteries Sectional Committee, ETD10 (Since June 2021)