


Brief Biodata

Name: Dr Bhasker Gahtori

Designation:	Principal Scientist	
DP No. and Name:	Advanced Carbon Products and Metrology (4.03)	
DU No. and Name:	Advanced Materials and Devices Metrology (4.0)	
Email:	bhasker@nplindia.org	
Date of Joining CSIR-NPL:	27-04-2012	
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Research Area/ Interest

Material Science: Thermoelectric Materials, Carbon Based Materials

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
Ph.D.	Physics	Jamia Millia Islamia University, New Delhi	2010

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Group IV(3)/ Scientist	CSIR-National Physical Laboratory	27 th April 2012	26 April 2016	Material Science
Group IV(3)/ Sr. Scientist	CSIR-National Physical Laboratory	27 April 2016	26-04-2020	Material Science
Group IV(4)/ Principal Scientist	CSIR-National Physical Laboratory	27 April 2020	Till Date	Material Science

No. of Publications~119

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
115		02	02	119

Selected Publications

1. R. Bhardwaj, A.K. Verma, K.K. Johari, N.S. Chauhan, S. Bathula, S. Dhakate, A. Dhar, B. Gahtori, CoSb₃ based thermoelectric elements pre-requisite for device fabrication, *Solid State Sciences*, 129 (2022) 106900.
2. K.K. Johari, D.K. Sharma, A.K. Verma, R. Bhardwaj, N.S. Chauhan, S. Kumar, M.N. Singh, S. Bathula, B. Gahtori, In Situ Evolution of Secondary Metallic Phases in Off-Stoichiometric ZrNiSn for Enhanced Thermoelectric Performance, *ACS Applied Materials & Interfaces*, 14 (2022) 19579.
3. A.K. Verma, K.K. Johari, K. Tyagi, D.K. Sharma, P. Kumar, S. Kumar, S. Bathula, S. Dhakate, B. Gahtori, Role of sintering temperature on electronic and mechanical properties of thermoelectric material: A theoretical and experimental study of TiCoSb half-Heusler, *Materials Chemistry and Physics*, 281 (2022) 125854.
4. K.K. Johari, S. Bathula, B. Gahtori, The role of magnetic interaction on the thermoelectric performance of ZrNiSn half-Heusler alloys, *Physica Status Solidi (A)*, 219 (2022) 2100765.
5. K.K. Johari, R. Bhardwaj, N.S. Chauhan, S. Bathula, S. Auluck, S. Dhakate, B. Gahtori, High Thermoelectric Performance in n-Type Degenerate ZrNiSn-Based Half-Heusler Alloys Driven by Enhanced Weighted Mobility and Lattice Anharmonicity, *ACS Applied Energy Materials*, 4 (2021) 3393-3403.
6. R. Bhardwaj, P.R. Raghuvanshi, S.R. Dhakate, S. Bathula, A. Bhattacharya, B. Gahtori, Synergistic Optimization of Electronic and Thermal Transport Properties for Achieving High ZT in Ni and Te Co-substituted CoSb₃, *ACS Applied Energy Materials*, 4 (2021) 142.
7. R. Bhardwaj, K.K. Johari, B. Gahtori, N.S. Chauhan, S. Bathula, S. Dhakate, S. Auluck, A. Dhar, Optimization of electrical and thermal transport properties of Fe_{0.25}Co_{0.75}Sb₃ Skutterudite employing the isoelectronic Bi-doping, *Intermetallics*, 123 (2020) 106796.
8. A. Vishwakarma, N.S. Chauhan, R. Bhardwaj, K.K. Johari, S.R. Dhakate, B. Gahtori, S. Bathula, Compositional modulation is driven by aliovalent doping in n-type TiCoSb based half-Heuslers for tuning thermoelectric transport, *Intermetallics*, 125 (2020) 106914.
9. N.S. Chauhan, P.R. Raghuvanshi, K. Tyagi, K.K. Johari, L. Tyagi, B. Gahtori, S. Bathula, A. Bhattacharya, S.D. Mahanti, V.N. Singh, Defect engineering for enhancement of thermoelectric performance of (Zr, Hf) NiSn-based n-type half-Heusler alloys, *The Journal of Physical Chemistry C*, 124 (2020) 8584-8593.
10. K.K. Johari, R. Bhardwaj, N.S. Chauhan, B. Gahtori, S. Bathula, S. Auluck, S. Dhakate, Band Structure Modification and Mass Fluctuation Effects of Isoelectronic Germanium-Doping on Thermoelectric Properties of ZrNiSn, *ACS Applied Energy Materials*, 3 (2019) 1349-1357.
11. R. Bhardwaj, A. Bhattacharya, K. Tyagi, B. Gahtori, N.S. Chauhan, A. Vishwakarma,

K.K. Johari, S. Bathula, S. Auluck, A. Dhar, Enhancement in thermoelectric performance of single step synthesized Mg doped Cu₂Se: An experimental and theoretical study, *Intermetallics*, 112 (2019) 106541.

12. N.S. Chauhan, S. Bathula, B. Gahtori, S.D. Mahanti, A. Bhattacharya, A. Vishwakarma, R. Bhardwaj, V.N. Singh, A. Dhar, Compositional tailoring for realizing high thermoelectric performance in hafnium-free n-type ZrNiSn half-Heusler alloys, *ACS Applied Materials & Interfaces*, 11 (2019) 47830-47836.

13. R. Bhardwaj, A. Bhattacharya, K. Tyagi, B. Gahtori, N.S. Chauhan, S. Bathula, S. Auluck, A. Dhar, Tin doped Cu₃SbSe₄: A stable thermoelectric analogue for the mid-temperature applications, *Materials Research Bulletin*, 113 (2019) 38-44.

14. S. Perween, A. Rathi, P. Babu, G. Gupta, B. Sivaiah, R. Pant, B. Gahtori, G. Basheed, Enhanced hard magnetic properties in partially-doped Mn_{3-x}GdxGa ($x \leq 0.03$), *Journal of Magnetism and Magnetic Materials*, 473 (2019) 278-283.

15. R. Bhardwaj, B. Gahtori, K.K. Johari, S. Bathula, N.S. Chauhan, A. Vishwakarma, S. Dhakate, S. Auluck, A. Dhar, Collective effect of Fe and Se to improve the Thermoelectric Performance of unfilled p-type CoSb₃ Skutterudites, *ACS Applied Energy Materials*, 2 (2019) 1067-1076.

Patents

Nanostructured copper-selenide with high thermoelectric figure-of-merit and process for the preparation thereof . Bhasker Gahtori, Sivaiah Bathula, Kriti Tyagi, Avanish Kumar Srivastava, Ajay Dhar, Ramesh Chandra Budhani, US Patent 9,865,791, Dated: 09-01-2018 and China CN105765748B, Dated: 24-07-2018.

Current Activities

(Not more than 100 words)

Development of Thermoelectric Materials

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

DST Fast Track Project for Young Scientist 2011

Contributions to AcSIR

Associate Professor, Academy of Scientific and Innovative Research (AcSIR)
Ph D Supervised – 05 and Under Supervision – 05 Students

Membership of Professional Societies/ Institutions

Life Member of Metrology Society of India

Any other Information

(Not more than 100 words)