


## BRIEF PROFILE

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|   | <b>Name</b>  | Dr. Ajaib Singh  |
|  | <b>Designation</b>   | Assistant Professor  |
|  | <b>Area</b>  | Physics  |
|  | <b>Email</b>   | singhajaib81@gmail.com   |
|  | <b>Contact No.</b>   | +91-7024129108   |
| <b>Professional Experience</b>   | <b>Sept. 2020 to Present</b><br><b>Assistant Professor, Department of Physics</b><br><b>Uttaranchal University</b>   |  |
| <b>Education Qualification</b>   | <b>2014 - 2020</b>   | Ph.D. in Metallurgy Engineering and Materials Science<br>Indian Institute of Technology Indore                                       |
|  | <b>2012 - 2014</b>   | M.Tech. in Nanotechnology<br>National Institute of Technology Kurukshetra  |
|  | <b>2010 - 2012</b>   | M.Sc. in Physics<br>Hemwati Nandan Bahuguna Garhwal University<br>(A Central University), Srinagar Garhwal                           |
|  | <b>2007 - 2010</b>   | B.Sc. (Physics, Chemistry and Mathematics)<br>Hemwati Nandan Bahuguna Garhwal University<br>(A Central University), Srinagar Garhwal |
| <b>Area of Research</b>  | Condensed Matter Physics   |  |
| <b>Current Research, If any</b>  | Semiconductor Physics  |  |
| <b>Publications:</b><br>• <b>Articles in Journals (only Scopus/SCI)</b><br>• <b>Books edited/Chapter contributed/ Books authored</b> | <ul style="list-style-type: none"> <li>• Aakash Mathur, Dipayan Pal, <b>Ajaib Singh</b>, Rinki Singh, Parasmani Rajput, RJ Chaudhary, Sudeshna Chattopadhyay “Confinement induced variation of composition ratio in amorphous silicon carbide thin films and effect in optical properties”, <b>Journal of Non-Crystalline Solids</b> <b>536, 120009 (2020)</b> (<a href="https://doi.org/10.1016/j.jnoncrysol.2020.120009">10.1016/j.jnoncrysol.2020.120009</a>) (<b>Impact Factor : 2.93</b>)</li> <li>• <b>Ajaib Singh</b>, Aakash Mathur, Dipayan Pal, Amartya Sengupta, Rinki Singh, Sudeshna Chattopadhyay “Near Room Temperature Atomic Layer Deposition of ZnO Thin Films on Poly (Methyl Methacrylate) (PMMA) Templates: A Study of Structure, Morphology and Photoluminescence of ZnO as An Effect of Template Confinement”, <b>Vacuum</b> <b>161, 398 (2019)</b> (<a href="https://doi.org/10.1016/j.vacuum.2019.01.006">doi.org/10.1016/j.vacuum.2019.01.006</a>) (<b>Impact Factor: 2.91</b>)</li> <li>• <b>Ajaib Singh</b>, Aakash Mathur, Dipayan Pal, Amartya Sengupta, Rinki Singh, Sudeshna Chattopadhyay “Structure and Morphology of Atomic Layer Deposition Grown ZnO Thin Film/Nanostructure on Polymeric Template”, <b>Materials Today:</b></li> </ul> |  |

**Proceedings** 18, 1517 (2019)  
(doi.org/10.1016/j.matpr.2019.06.621) (Cite Score: 1.30)

- Aakash Mathur, Dipayan Pal, **Ajaib Singh**, Amartya Sengupta, Rinki Singh, Sudeshna Chattopadhyay “Violet Emission of ALD Grown ZnO Nanostructures on Confined Polymer Films: Defect Origins and Emission Control via Interface Engineering Based on Confinement of Underneath Polymer Template”, **Macromolecular Chemistry and Physics** 220, 1800435 (2019) (doi.org/10.1002/macp.201800435) (Impact Factor: 2.62)
- Aakash Mathur, Dipayan Pal, **Ajaib Singh**, Rinki Singh, Stefan Zollner, and Sudeshna Chattopadhyay “Dual Ion Beam Grown Silicon Carbide Thin Films: Variation in Refractive Index and Band Gap as a Function of Film Thickness”, **Journal of Vacuum Science & Technology B** 37, 041802 (2019) (doi.org/10.1116/1.5097628) (Impact Factor: 1.51)
- Rinki Singh, Dipayan Pal, Aakash Mathur, **Ajaib Singh**, Mena A Krishnan, Sudeshna Chattopadhyay, “An Efficient pH-Sensitive Dye Adsorbing Hydrogel, with Biocompatibility and High Reusability for the Removal of Methylene Blue Dye from Aqueous Solution”, **Reactive and Functional Polymers** 144, 104346 (2019) (doi.org/10.1016/j.reactfunctpolym.2019.104346) (Impact Factor: 3.33)
- Dipayan Pal, Aakash Mathur, **Ajaib Singh**, Srimanta Pakhira, Rinki Singh, Sudeshna Chattopadhyay “Binder-Free ZnO Cathode Synthesized via ALD by Direct Growth of Hierarchical ZnO Nanostructure on Current Collector for High-Performance Rechargeable Aluminium-Ion Batteries”, **Chemistry Select** 3, 12512 (2018) (doi.org/10.1002/slct.201803517) (Impact Factor: 1.81)
- Dipayan Pal, Aakash Mathur, **Ajaib Singh**, Jaya Singhal, Sudeshna Chattopadhyay “Photoluminescence of Atomic Layer Deposition Grown ZnO Nanostructures”, **Materials Today: Proceedings** 5, 9965 (2018) (doi.org/10.1016/j.matpr.2017.10.194) (Cite Score: 1.30)
- **Ajaib Singh**, Susanne Schipmann, Aakash Mathur, Dipayan Pal, Amartya Sengupta, Uwe Klemradt, Sudeshna Chattopadhyay “Structure and Morphology of Magnetron Sputter Deposited Ultrathin ZnO Films on Confined Polymeric Template”, **Applied Surface Science** 414, 114 (2017) (doi.org/10.1016/j.apsusc.2017.04.078) (Impact Factor: 6.18)
- Dipayan Pal, Jaya Singhal, Aakash Mathur, **Ajaib Singh**, Surjendu Dutta, Stefan Zollner, Sudeshna Chattopadhyay “Effect of Substrates and Thickness on Optical Properties in Atomic Layer Deposition Grown ZnO Thin Films”, **Applied Surface Science**

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|  | <p><b>421, 341 (2017) (<a href="https://doi.org/10.1016/j.apsusc.2016.10.130">doi.org/10.1016/j.apsusc.2016.10.130</a>) (Impact Factor: 6.18)</b></p> <ul style="list-style-type: none"> <li>• Dipayan Pal, Aakash Mathur, <b>Ajaib Singh</b>, Jaya Singhal, Amartya Sengupta, Surjendu Dutta, Stefan Zollner, Sudeshna Chattopadhyay “Tunable Optical Properties in Atomic Layer Deposition Grown ZnO Thin Films”, <b>Journal of Vacuum Science &amp; Technology A</b> <b>35</b>, <b>01B108 (2017)</b> (<a href="https://doi.org/10.1116/1.4967296">doi.org/10.1116/1.4967296</a>) (Impact Factor: 2.17)</li> <li>• Aakash Mathur, Surjendu Bikash Dutta, Dipayan Pal, Jaya Singhal, <b>Ajaib Singh</b>, Sudeshna Chattopadhyay “High Efficiency Epitaxial-Graphene/Silicon-Carbide Photocatalyst with Tunable Photocatalytic Activity and Bandgap Narrowing”, <b>Advanced Materials Interfaces</b> <b>3</b>, <b>1600413 (2016)</b> (<a href="https://doi.org/10.1002/admi.201600413">doi.org/10.1002/admi.201600413</a>) (Impact Factor: 4.71)</li> <li>• <b>Ajaib Singh</b>, Astakala Anil Kumar, Ashok Kumar, Jitendra Kumar “Fe (III) Induced Behavior of Hydrothermally Synthesized Tin Dioxide Nanoparticles”, <b>Applied Mechanics and Materials</b> <b>749</b>, <b>186 (2015)</b> (<a href="https://doi.org/10.4028/www.scientific.net/AMM.749.186">doi.org/10.4028/www.scientific.net/AMM.749.186</a>)</li> </ul>  |
| <p><b>Conferences/Seminars/Workshops/ FDP/MDP attended</b></p> | <ul style="list-style-type: none"> <li>• Aakash Mathur, Dipayan Pal, <b>Ajaib Singh</b>, Sudeshna Chattopadhyay, ‘Controlled Surface Modification and Confinement Induced Enhanced Photocatalytic Activity of SiC for Renewable Energy and Environmental Remediation’, Conference on Advances in Catalysis for Energy and Environment (CACEE-2018), 10-12 January (<b>2018</b>), Tata Institute of Fundamental Research, Mumbai, India</li> <li>• <b>Ajaib Singh</b>, Susanne Schipmann, Aakash Mathur, Dipayan Pal, Rinki Singh, Uwe Klemradt, Sudeshna Chattopadhyay, ‘Zinc Oxide/Polymer Nanocomposites: Optical Properties and Growth Mechanism of Zinc Oxide in Polymer Matrix’, 1<sup>st</sup> International Conference on Nanotechnology: Ideas, Innovations &amp; Initiatives (ICN:3I-2017), 06-08 December (<b>2017</b>), Indian Institute of Technology Roorkee, India</li> <li>• Aakash Mathur, Dipayan Pal, <b>Ajaib Singh</b>, Jaya Singhal, Surjendu Dutta, Sudeshna Chattopadhyay, ‘ZnO-Polymer Nanocomposites: Effect of Confinement on Optical Properties of ALD Grown ZnO Thin Films,’ 2<sup>nd</sup> International Conference on Soft Materials (ICSM-2016), 12-16 December (<b>2016</b>), Jaipur, India</li> <li>• Dipayan Pal, Aakash Mathur, <b>Ajaib Singh</b>, Surjendu Dutta, Jaya Singhal, Stefan Zollner, Sudeshna Chattopadhyay, ‘Effect of Confinement on Optical Properties in ALD Grown ZnO,’ 7<sup>th</sup> International Conference on Spectroscopic Ellipsometry (ICSE-7), 6-10 June (<b>2016</b>), Berlin, Germany</li> </ul> |

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|   | <ul style="list-style-type: none"> <li>• <b>Ajaib Singh</b>, A. Anil Kumar and Ashok Kumar, 'Structural and Optical Properties of Fe<sup>3+</sup> Doped SnO<sub>2</sub> Nanostructures', National Conference on Nanomaterials and Instrumentation (NCNI—2014), 9-10 March (<b>2014</b>), NIT Kurukshetra, Haryana, India</li> <li>• <b>Ajaib Singh</b>, A. Anil Kumar, Shaheen Goel, Jaspreet Kocher, and Ashok Kumar, 'Synthesis of Fe<sup>+3</sup> Doped SnO<sub>2</sub> Nanoparticle and Its Application in Dye-Sensitized Solar Cells', International Conference on Light (OPTICS-14), 19-21 March (<b>2014</b>), NIT Calicut, Kerala, India</li> <li>• <b>Ajaib Singh</b>, Jaspreet Kocher, Shaheen Goel, and Ashok Kumar, 'Current Status of Copper Doped ZnO/ZnS, ZnO/ZnSe Nanorods: A Photo-Anode to Enhance Photocurrent and Conversion Efficiency of Dye-Sensitized Solar Cells,' National Symposium on Emerging Trends in Physics for Ionizing Radiations, Aerosols and Material Science (ETPRAM-13), 13-14 December (<b>2013</b>), Punjabi University, Patiala, India</li> </ul> |   |
| <b>Award/Certificate/Prize received</b> | <b>2014 - 2019</b>   | Teaching Assistance Fellowship awarded by the Ministry of Human Resource and Development for five years during Ph.D.  |
|   | <b>2012 - 2014</b>   | Teaching Assistance Fellowship awarded by the Ministry of Human Resource and Development for two years during M.Tech. |
|   | <b>2012</b>  | Qualified Graduate Aptitude Test in Engineering (GATE)  |
|   | <b>2012</b>  | Qualified Joint Entrance Screening Test (JEST)  |
| <b>Any extra-curricular activities</b>  | Volunteered at National Service Scheme (NSS) in university and received all three A, B, C certificates   |   |