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**A. International Journal**

1. Deeksha Gupta, Ashish Dubey and **Abhishek Kumar**, “*Synergistic Impact of Multi-layering, MWCNT Dispersion and Ball Milling on the Enhanced Microwave Absorption of Boron Carbide*”, Journal of Materials Science: Materials in Electronics, 36, 1074 (2025). (SCIE: Impact factor- 2.8) <https://doi.org/10.1007/s10854-025-15132-z>
2. Chahare Sandhya, Renganathan Sujithra and **Abhishek Kumar**, “*Comparative analysis of build direction in SLA-printed parts based on optical, quasi-static, fracture, and dynamic experiments*”, Journal of Materials Engineering and Performance, Accepted (2025). (SCIE: Impact factor- 2.2) <https://doi.org/10.1007/s11665-025-11579-7>
3. Vivekanand, Sanjay Mishra Singh, Sanjeev Kumar Singh Yadav **Abhishek Kumar**, Avadesh Yadav, “*Development and characterization of SWCNT reinforced bio-epoxy (EcoPox) nanocomposites*”, Polymer Bulletin, Accepted (2025). (SCIE: Impact factor- 4.0) <https://doi.org/10.1007/s00289-025-05835-y>
4. Avadesh Yadav, Satish Kumar, and **Abhishek Kumar**, “*Investigation of MWCNT Dispersion in Epoxy-Based Shape Memory Polymer Using Probe Ultrasonication: Characterization and Mechanical Evaluation*”, Journal of Materials Science, 60, 9374–9395 (2025). (SCIE: Impact factor- 3.5) <https://doi.org/10.1007/s10853-025-10976-6>
5. Deeksha Gupta, Ashish Dubey and **Abhishek Kumar**, “*Improving microwave absorption bandwidth of nickel-dispersed boron carbide by double layering using genetic algorithm*” Ceramics International, Accepted (2025). (SCIE: Impact factor- 5.1) <https://doi.org/10.1016/j.ceramint.2025.03.421>
6. Avadesh Yadav, Sourabh Kumar Singh, Sreetam Das, Satish Kumar, and **Abhishek Kumar**, “*Shape Memory Polymer and Composites for Space Applications: A Review*” Polymer Composites, Accepted (2025). (SCIE: Impact factor- 4.8) <https://doi.org/10.1002/pc.29707>
7. Sushil Kumar Singh, Avadesh Yadav, Samarjit Singh, Anuj Jain and **Abhishek Kumar**, “*Enhancement of Mechanical and Viscoelastic Properties of Epoxy and Epoxy-Nano Silica Composites using Self-Healing Microcapsules*” Materials Today Communications, 43, 111741 (2025). (SCIE: Impact factor- 3.7) <https://doi.org/10.1016/j.mtcomm.2025.111741>
8. Amit Kumar Singh Chauhan, Mukul Shukla, **Abhishek Kumar**, “*Insights into microstructure and mechanical properties of 3D printed Ti-6Al-4V alloy at different layer thicknesses*” Materials Letters, 138047 (2025). (SCIE: Impact factor- 2.7) <https://doi.org/10.1016/j.matlet.2025.138047>
9. Amit Kumar Singh Chauhan, Mukul Shukla, **Abhishek Kumar**, “*Effect of NiAl and NiCr Coatings on High Cycle Fatigue and Corrosion Behavior of Direct Metal Laser Sintered Ti-6Al-4V Alloy*” Materials Today Communications, 42, 111102 (2025). (SCIE: Impact factor- 3.7) <https://doi.org/10.1016/j.mtcomm.2024.111102>
10. Deeksha Gupta, Prabhakar Kumar, Ashish Dubey and **Abhishek Kumar** “*Development of metamaterial using waste materials for microwave absorption*” Brazilian Journal of Physics, Volume 54, Article Number 200, (2024). (SCIE: Impact factor-1.5) <https://doi.org/10.1007/s13538-024-01571-2>
11. Amit Kumar Singh Chauhan, Mukul Shukla, **Abhishek Kumar**, “*Effect of Laser Sintering Parameters on the Microstructure, Mechanical Properties and Corrosion*

- Behaviour of Titanium Grade 5 Alloy*” Journal of Materials Engineering and Performance, 33, 12806–12818 (2024). (SCIE: Impact factor-2.2) <https://doi.org/10.1007/s11665-024-09935-0>
12. Avadesh Yadav, Sreetam Das, Rushikethu Badardinni, Satish Kumar and **Abhishek Kumar**, “*Effect of dual dispersion of carbon fiber and silica nanoparticles on recovery performance of shape memory epoxy*”, Smart Materials and Structures, 33 (6) 065044 (2024) (SCIE: Impact factor-3.7) DOI: [10.1088/1361-665X/ad4d37](https://doi.org/10.1088/1361-665X/ad4d37)
  13. Samarjit Singh, Rakesh Bhaskar, Kannan Badri Narayanan, **Abhishek Kumar**, Kishore Debnath, “*Development of silicon carbide (SiC)-based composites as microwave-absorbing materials (MAMs): a review*” Journal of the European Ceramic Society, 44 (13), 7411-7431 (2024) (SCI: Impact factor-5.8) <https://doi.org/10.1016/j.jeurceramsoc.2024.05.032>
  14. Amit Kumar Singh Chauhan, Mukul Shukla, **Abhishek Kumar**, “*Solid particle erosion behaviour of laser sintered heat treated Ti-6Al-4V alloy*” Russian Journal of Nondestructive Testing, 60 (5), 583–590 (2024). (SCIE: Impact factor-0.9, Scopus Indexed) <https://link.springer.com/article/10.1134/S1061830924601533>
  15. Samarjit Singh, Sushil Kumar Singh, **Abhishek Kumar** & Biplab Das “*Influence of Reduced Graphene Oxide Flakes Addition on the Electromagnetic Wave Absorption Performance of Silicon Carbide-Based Wave Absorber*” JOM: The Journal of The Minerals, Metals & Materials Society (TMS) 76, 486–495 (2024) (SCI: Impact factor-2.5) <https://doi.org/10.1007/s11837-023-06222-6>
  16. Avadesh Yadav, Sourabh Kumar, Sreetam Das, Satish Kumar and **Abhishek Kumar**, “*Shape recovery and mechanical properties investigation of carbon fiber dispersed Bisphenol-A based epoxy composite*” Smart Materials and Structures, 32 (9) 095016 (2023) (SCIE: Impact factor-3.7) <https://doi.org/10.1088/1361-665X/aceb27>
  17. Naveen Kumar, Ajaya Bharti, **Abhishek Kumar**, Ritesh Kumar Kushwaha, Kunvar Kant Patel, “*Nano material coatings for bio implant applications: A re-analysis*” Materials Physics and Mechanics, 51(6):92-106 (2023). (Scopus Indexed, ESCI) DOI: [10.18149/MPM.5162023\\_9](https://doi.org/10.18149/MPM.5162023_9)
  18. Amit Kumar Singh Chauhan, Mukul Shukla, **Abhishek Kumar**, “*3D Thermal Simulation of Powder Bed Fusion Additive Manufacturing of Stainless Steel*” International Journal on Interactive Design and Manufacturing, 17, 517–524 (2023). (Scopus Indexed, ESCI: Impact factor-2.1) <https://doi.org/10.1007/s12008-023-01234-7>
  19. Prabhakar Kumar, Deeksha Gupta, Ashish Dubey, **Abhishek Kumar** “*Utilization of Zn-dispersed waste materials for realizing thin meta-structure with improved microwave absorption*”, Composites: Mechanics, Computations, Applications: An International Journal, 14(2):39–55 (2023). (Scopus Indexed, ESCI, Impact factor-0.3) <https://doi.org/10.1615/CompMechComputApplIntJ.2022044803>
  20. Samarjit Singh, Sushil Kumar Singh, Pappu Kumar Harijan, Sunil Kumar Yadav, **Abhishek Kumar**, “*Investigation on the effect of Fe impurity pickups during ball milling and Ni dispersion on the microwave absorption performance of ball milled Fe impurities-Ni/SiC composites*”, Journal of Materials Science: Materials in Electronics, 33, 17828-17841 (2022). (SCI: Impact factor-2.8) <https://doi.org/10.1007/s10854-022-08647-2>
  21. Rahul Singh, Sunkulp Goel, R. Jayaganthan and **Abhishek Kumar**, “*Studies on microstructure evolution, mechanical and corrosion behaviors of cryo-rolled 316L steel*” Journal of Materials Engineering and Performance, 31, 9660–9669, 2022. (SCIE: Impact factor-2.2) <https://doi.org/10.1007/s11665-022-06993-0>

22. Sushil Kumar Singh, Dheeraj Gunwant, Ajitanshu Vedrtam, **Abhishek Kumar** and Anuj Jain “*Synthesis, Characterization, and Modelling the Behavior of in-situ ZrO<sub>2</sub> Nanoparticles Dispersed Epoxy Nanocomposite*” Engineering Fracture Mechanics, 263, 108300, 2022. (SCI: Impact factor- 4.7)  
<https://doi.org/10.1016/j.engfracmech.2022.108300>
23. Sunkulp Goel, Dharmendra Singh, Nikhil Kumar, **Abhishek Kumar** Chauhan, & Punit Singh, “*Effect of water and mercury quenching on the microstructure and mechanical behavior of room temperature rolled Zircaloy-2*”, Indian Journal of Engineering & Materials Sciences; Vol: 29, 432-436, 2022 (SCI: Impact factor-0.9) DOI: [10.56042/ijems.v29i4.47288](https://doi.org/10.56042/ijems.v29i4.47288)
24. S Singh, SK Singh, R Singh, **A Kumar**, A Nigam; “*Effect of Ni on the dielectric behavior and microwave absorption performance of ZnO composites*”, Materials Physics and Mechanics 47 (3), 416-422, 2021. (ESCI) DOI: [10.18149/MPM.4732021\\_3](https://doi.org/10.18149/MPM.4732021_3)
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28. Naveen Kumar, Ajaya Bharti, **Abhishek Kumar** and Abhishek Nigam, “*Effect of process parameters on the crystal- parameters of Cu-Zn spinel-ferrites*”, Materials Physics and Mechanics 47 (2021) 65-73. (Scopus Indexed, ESCI) [http://dx.doi.org/10.18149/MPM.4712021\\_7](http://dx.doi.org/10.18149/MPM.4712021_7)
29. Rahul Singh, Shubham Agrahari, Surya Deo Yadav and **Abhishek Kumar**, “*Microstructural evolution and mechanical properties of 316 austenitic stainless steel by CGP*”, Materials Science & Engineering A, 812, Article id: 141105, 2021. (SCI: Impact factor- 6.1) <https://doi.org/10.1016/j.msea.2021.141105>
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#### International Conference

56. Avadesh Yadav, Sourabh Kumar Singh, Satish Kumar and **Abhishek Kumar**, “*Deep Learning-Based Prediction of Dynamic Mechanical Behavior in Epoxy-Based Shape Memory Polymers*”, International Conference on Advances in Science & Technology (ICAST 2025) organized by Institute of Technology and Management (ITM), Dehradun, Uttarakhand, India, held during 23-25, June 2025.
57. Deeksha Gupta, Ashish Dubey, **Abhishek Kumar**, “*Effect of ball milling on microwave absorption properties of B<sub>4</sub>C*”, 4<sup>th</sup> Global Ceramic Leadership Roundtable Ceramics for Frontier Sectors: Emerging Advances and Prospects (CerAP2024) organized by Indian

Institute of Technology Roorkee during March 11-12, 2024.

58. Zainab Momin, A. Mishra and **Abhishek Kumar**, “*Design modification of cooling channel for improved cooling of lithium-ion batteries*”, The 64<sup>th</sup> Battery Symposium in Japan, Osaka, Japan (Physical Mode) held during 28-30, November 2023.
59. Avadesh Yadav, Rushikethu Badardinni, Ratnesh Kumar Yadav, Satish Kumar and **Abhishek Kumar**, “*Temperature-Step/Hold Multi-Frequency Dynamic Mechanical Analysis to Study Viscoelastic Behaviour of Shape Memory Epoxy for Space Structure and Component*”, Third Global Conference on Recent Advances in Sustainable Materials (GC-RASM 2023) organized by PGP College of Engineering & Technology Namakkal, Tamil Nadu, India, held during 27 - 28, July 2023.
60. Yogesh Iyer Murthy, Sumit Gandhi and **Abhishek Kumar**, “*Crystallographic Study of Solid Solutions in The Mg-Ca-Nd Ternary System at 400 °C*”, in the *International Conference on Advancements in Interdisciplinary Research (AIR-2022)* organized by MNNIT Allahabad, Prayagraj, held during 6-7 May 2022. Proceedings-AIR2022, River Publishers (ISSN: 2794-2333) **doi:** <https://doi.org/10.13052/rp-978-87-7022-828-2>
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62. Prabhakar Kumar, Deeksha Gupta and **Abhishek Kumar**, “*Dispersion of Zn in waste material for microwave absorption property*”, in the *International Conference on Advancements in Interdisciplinary Research (AIR-2022)* organized by MNNIT Allahabad, Prayagraj, held on 6-7 May 2022.
63. Prabhakar Kumar, Prashant Singh, Nigatu D. Tilahun, R. Sujithra, **Abhishek Kumar**, “*Finite Element Analysis of Re-entrant and modified curved re-entrant auxetic structure for energy-absorption*”, in the *International Conference on Advancements in Interdisciplinary Research (AIR-2022)* organized by MNNIT Allahabad, Prayagraj, held on 6-7 May 2022. Proceedings-AIR2022, River Publishers (ISSN: 2794-2333) **doi:** <https://doi.org/10.13052/rp-978-87-7022-828-2>
64. Sushil Kumar Singh, Samarjit Singh, Sourabh Shukla, **Abhishek Kumar** and Anuj Jain, “*Influence of SiO<sub>2</sub> nanoparticle reinforcement on the thermo-mechanical behavior of two different epoxy composite systems: A comparative study*”, in *International Conference on Sustainable Engineering*” (ICSE-2021) organized by Government Engineering College Bikaner, Rajasthan, held on 26-27 February, 2021.
65. Samarjit Singh, Sushil Kumar Singh, Rahul Singh, **Abhishek Kumar**, “*Ball milled Ni dispersed SiC composites for improved microwave absorption response*”, in *International Conference on Sustainable Engineering*” (ICSE-2021) organized by Government Engineering College Bikaner, Rajasthan, held on 26-27 February, 2021.
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67. Sushil Kumar Singh, Amit Kumar, Samarjit Singh, **Abhishek Kumar** and Anuj Jain, “*Investigation of thermo-mechanical properties of surface treated SiO<sub>2</sub>/epoxy nanocomposite*”, in the *International Conference & Exposition on Mechanical, Material and Manufacturing Technology*” (ICE3MT2020) organized by CVR College of

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Materials Today: Proceedings Vol. 38 (5), 2861-2865, 2021. (Scopus Indexed)  
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68. B. Kranthi Kumar, Rahul Singh and **Abhishek Kumar**, “*Characterization and Mechanical Properties of Refractory High Entropy Alloys: A brief review*”, in the 3<sup>rd</sup> international workshop on High Entropy Materials (IWHM-2020) organized by IIT Kanpur, during March 7-8, 2020.
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73. Rahul Singh, Deepak Sachan, Raviraj Verma, Sunkulp Goel, **Abhishek Kumar**, “*Mechanical behavior of 304 austenitic stainless steel processed by cryogenic rolling*”, AMPCO 2017 at IIT Roorkee, Nov. 30- Dec. 2, 2017.  
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76. Sushil Kumar Singh, **Abhishek Kumar** and Anuj Jain, “*Unveiling the impact of ZrO<sub>2</sub> dispersion over the mechanical behavior of epoxy resin*”, NMD-ATM 2017 at Pune (The Indian Institute of Metals), November 11-14, 2017.
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98. **Abhishek Kumar**, Gaurav Goswami and I. K. Bhat “*Prediction of Fatigue Crack Growth in Al-alloys using Artificial Neural Network*” 5<sup>th</sup> International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2010) from 27<sup>th</sup> -29<sup>th</sup> December, 2010 at IIT Kharagpur.
99. Manoj Maurya, **Abhishek Kumar** and I. K. Bhat “*An experimental comparative study of cyclic creep behavior on different commercially available Al alloys*” 5<sup>th</sup> International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2010) from 27<sup>th</sup> -29<sup>th</sup> December, 2010 at IIT Kharagpur.
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101. Aftab Alam, **Abhishek Kumar** “*Finite Element Analysis of K-dominance region for functionally graded materials*” 4<sup>th</sup> International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM-2007) and Reunion of the Aerospace Engineering Graduates of IIT Kharagpur, from 27<sup>th</sup> -29<sup>th</sup> December, 2007 at IIT Kharagpur.

#### National Conference

102. B. Kranthi Kumar, **Abhishek Kumar**, Vikram. S, N. Shamanth Kumar, “*Enhancing the working life of Industrial components by Laser Cladding Technology*” in the 78<sup>th</sup> Annual Technical Meeting of Institute (IIM-ATM 2024) held at Bengaluru during November 20-22, 2024.
103. Saurabh, Ratnesh Kumar Yadav, Sandeep Sahu, Deepak Kumar and **Abhishek Kumar**, “*Effect of high pressure torsion on microstructure and microhardness of Magnesium AZ91*” in the National Symposium of Research Scholar on Metallurgy and Materials (NSRS-2024) organized by the Department of Materials Science and Engineering at Indian Institute of Technology Kanpur during March 09-10, 2024.
104. Sourabh Kumar Singh, Avadesh Yadav, Akanksha Singh, Satish Kumar, **Abhishek Kumar** “*Analysis of Copper Reinforcement Effect on Epoxy Based Shape Memory Polymer for Smart Actuators*” 5<sup>th</sup> Indian Conference on Applied Mechanics, National Institute of Technology Jamshedpur, November 11 - 13, 2022.  
Advances in Applied Mechanics. INCAM 2022. Lecture Notes in Mechanical Engineering. Springer, Singapore. Print ISBN: 978-981-97-0471-2; Online ISBN: 978-981-97-0472-9. [https://doi.org/10.1007/978-981-97-0472-9\\_14](https://doi.org/10.1007/978-981-97-0472-9_14)
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106. Samarjit Singh and **Abhishek Kumar**, “*Improved Microwave Absorption Response of Ball Milled Ni Dispersed SiC Composites*”, 4<sup>th</sup> Prof. Vijaya Agarwala Memorial National Conference on Microwave Absorbing Materials (VAMMAM-2020) organized by IIT

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107. Abir Roy and **Abhishek Kumar**, “*Corrosion Behaviour of Multiaxial Compressed Al-Mg-Si Alloy*”, 4<sup>th</sup> Prof. Vijaya Agarwala Memorial National Conference on Microwave Absorbing Materials (VAMMAM-2020) organized by IIT Roorkee and MNNIT-Allahabad, during August 23<sup>rd</sup> -24<sup>th</sup>, 2020.
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  112. B. Kranthi Kumar, Rahul Singh and **Abhishek Kumar**, “*Effect of nanoparticles dispersion in High entropy alloys: A brief review*”, in national conference Industrial application of Nano-Science and Nano-Technology (IANN-2019) organized by MNNIT-Allahabad, held during November 15-16, 2019.
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  115. Deepak Kumar, Kushagra Gupta, Sumit Soni, Virendra Kumar Gond, Rishi Tiwari and **Abhishek Kumar**, “*Effect of nanoparticle dispersion on single lap shear strength of epoxy resin*” in conference Polymers: Usefulness and Current Concerns, organized by MNNIT Allahabad, held during 23<sup>rd</sup>-24<sup>th</sup> December, 2018.
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119. Sushil Kumar Singh, **Abhishek Kumar** and Anuj Jain, “*Influence of Filler Dispersion on the mechanical Behavior of ZrO<sub>2</sub> Dispersed Epoxy Nanocomposites*” in conference “SWAYAM – 2018” organized by BITS Pilani, K.K. Birla Goa Campus, held during 04<sup>th</sup>-06<sup>th</sup> July, 2018.
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122. Abir Roy, Rishi Shukla and **Abhishek Kumar**, “*Mechanical behavior of Al lxxx processed by Torsion*” NMD-ATM 2016 held at Indian Institute of Technology Kanpur during 11-14 November, 2016. **(Best Poster Award)**
123. Abir Roy, **Abhishek Kumar**, Shashank Shekhar, “*Mechanical behavior of Al 5083 processed by Constrained Groove Pressing*”, in national conference on Product Design and Development at MNNIT Allahabad, during November 21-22, 2015.
124. Z. Vakil, **Abhishek Kumar**, Anuj Jain, K. M. Gupta, “*Design and Simulation of thin film based self-biased Coplanar Isolator*”, RAECE-2015 held at Indian Institute of Technology Roorkee, during February 13-15, 2015.
125. **Abhishek Kumar**, Vijaya Agarwala and Dharmendra Singh, “*Microwave Absorbing Properties of Metal-Particle Dispersed Al<sub>2</sub>O<sub>3</sub>*”, at National Conference on Advances in National Materials (ADNAM-2013) held at National Institute of Ocean Technology, Chennai, during February 22-23, 2013.
126. **Abhishek Kumar**, Kolli Ganapathi, Dharmendra Singh and Vijaya Agarwala, “*Radar Cross Section Measurements and Simulations of a regular shapes in the X-band*”, at National Symposium on Space Technology for Food & Environmental Security and Annual Conventions of Indian Society of Remote Sensing and Indian Society of Geomatics during December 5-7, 2012, New Delhi.
127. Pappu Kumar, **Abhishek Kumar** “*Preparation of nanocrystalline ZnCuMg ferrite powders synthesized by Sol-Gel method*” National Conference on Smart, Electronic and Engineering Materials 2010 (SEEMs’10), from 5<sup>th</sup>-6<sup>th</sup> March, 2010, at BFCET, Bathinda.

#### **D. Book(s)/ Proceeding(s) published:**

1. Edited a Proceeding of the 2022 International Conference on “*Advancements in Interdisciplinary Research towards Smart and Sustainable Society*” (AIR2022). e-ISBN: 9788770228282, doi: <https://doi.org/10.13052/rp-978-87-7022-828-2>

#### **E. Book Chapter published:**

1. Samarjit Singh, Abhishek Nigam, Bilab Das, Thozhuvur Govindaraman Loganathan and



- Abhishek Kumar** (2024) “*Selection of spinel ferrite-based electromagnetic wave absorbing composites using AHO-based TOPSIS and VIKOR approaches*”, Spinel Ferrite Materials: Fundamentals, Progress, and Applications, 1<sup>st</sup> Edition; Woodhead Publishing Series in Electronic and Optical Materials; Publisher: Elsevier, Paperback ISBN: 9780443217425, eBook ISBN: 9780443217432
2. Yadav, R.K., Saurabh, Goel, S., **Kumar, A.** (2024), “*Investigating the Effectiveness of Reinforced Ice on the Mechanical Properties*”, In: Raghavendra, G., Deepak, B.B.V.L., Gupta, M. (eds) Recent Advances in Mechanical Engineering, Volume 1. ICMech-REC 2023. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-97-0918-2\\_33](https://doi.org/10.1007/978-981-97-0918-2_33). (Print ISBN: 978-981-97-0917-5 and Online ISBN: 978-981-97-0918-2)
  3. B. Kranthi Kumar, Rahul Singh, and **Abhishek Kumar**, “*Effect of Nanoparticles Dispersion in High Entropy Alloys: A Brief Review*” Industrial Application of Nanoscience and Nanotechnology, Volume-1, Chapter -10, Pages 127-135, December 2020. (ISBN: 978-93-89947-256-7)