

## Patents filed/Published/Granted

S. No.	Title of Invention	Inventors	Status
[1]	A PHOTOVOLTAIC INTEGRATED TRIPLE SLOPE SOLAR STILL	(1) AJAYA BHARTI (2) RAHUL DEV (3) RAHUL PATEL	Publication on: 24/11/2023\ Granted on:
[2]	A PHOTOVOLTAIC INTEGRATED TRIPLE SLOPE MULTI-WICK SOLAR STILL	(1) AJAYA BHARTI (2) RAHUL DEV (3) RAHUL PATEL	Publication on: 24/11/2023 Granted on: 24/02/2025
[3]	A PHASE CHANGE MATERIAL AND RADIANT HEATING BASED SOLAR COOKER	(1) AJAYA BHARTI (2) RAHUL DEV (3) LUKALAPU RAMU (4) AMAN KUMAR AGRAHARI	Publication on: 24/11/2023 Granted on:
[4]	A VIBRATING SOLAR COOKER	1) RAHUL DEV 2) VIJAY KUMAR 3) AJAYA BHARTI 4) JITENDRA NARAYAN GANGWAR 5) SUPRIYA YADAV 6) RAHUL SHARMA	Filing on: 27/09/2024 Publication on: Granted on:

## Research Publications in Reputed Journal:

- [1] Anuj Jain, Ravi Kant Baranwal, **Ajaya Bharti**, Z. Vakil, and C. S. Prajapati, "Study of Zn-Cu Ferrite Nanoparticles for LPG Sensing", Scientific World Journal, 2013, Article ID 790359, pp. 1-7, <https://doi.org/10.1155/2013/790359>, 26/05/2013, 20/06/2013, (SCI, later SCOPUS)
- [2] Tanveer Alam, M. K. Gupta, R. K. Srivastava, Harinder Singh, **Ajaya Bharti**, "Analysis of Mechanical Properties of Sisal Fibre Reinforced Polymer Composite", International Journal of Engineering Research & Management Technology, 2014, 1, pp.77-81, May-2014
- [3] M. K. Gupta, R. K. Gond, **Ajaya Bharti**, "Effects of treatments on the properties of polyester based hemp composite", Indian Journal of Fibre & Textile Research, 2017, pp. 313-319 DOI: 10.56042/ijftr.v43i3.17139, 08/08/2017, (SCIE)
- [4] M. K. Gupta, **Ajaya Bharti**, "Natural Fibre Reinforced Polymer Composites: A Review on Dynamic Mechanical Properties", Current Trends in Fashion Technology & Textile Engineering, 2017, 1(3), 1-4, DOI: 10.19080/CTFTTE.2017.01.55563, November 2017
- [5] **Ajaya Bharti**, Brij Kishor, Gourav Verma, Rajneesh Gautam, "Prediction of Wear Characteristics of Severe Plastically Deformed Al2024", Indian Journal of Scientific Research 17(2): 74-76, 2017
- [6] Manoj Kumar Gupta, **Ajaya Bharti**, Binayaka Nahak, Niraj Choudhary, Anil Kumar, "Thermal Characteristics of Sisal Composites Containing Charcoal Particles", Materials Today: proceedings 18:3174-3181, DOI:10.1016/j.matpr.2019.07.193, 26 November 2019 , (SCOPUS)
- [7] Naveen Kumar, **Ajaya Bharti**, Kuldeep K.Saxena, "A Re-Analysis of Effect of Various Process Parameters on The Mechanical Properties of Mg Based MMCs Fabricated By Powder Metallurgy Technique", Materials Today: proceedings, 2020, 9 March 2020, (SCOPUS)

- [8] Naveen Kumar, **Ajaya Bharti**, M.K. Gupta, "Effect of Treatments on Thermo-mechanical Properties of Epoxy based Sisal Biocomposites", *International Journal on Emerging Technologies* 11(3): 491-495(2020), 20 April 2020, (**SCOPUS**)
- [9] Naveen Kumar, **Ajaya Bharti**, Manish Dixit, Abhishek Nigam, "Effect of Powder Metallurgy Process and its Parameters on the Mechanical and Electrical Properties of Copper-Based Materials: Literature Review", *Powder Metallurgy and Metal Ceramics*, (2020), 59, p.p. 401–410 doi.org/10.1007/s11106-020-00174-1, 27 November 2020, (**SCIE**)
- [10] Naveen Kumar, **Ajaya Bharti**, K. K. Saxena, "A Re-investigation: Effect of Powder Metallurgy Parameters on the Physical and Mechanical Properties of Aluminium Matrix Composites", *Materials Today: Proceedings*, 2020, doi.org/10.1016/j.matpr.2020.12.351, 23 January 2021, (**SCOPUS**)
- [11] Vikash Chaudhary, **Ajaya Bharti**, Syed Mohd Azam, Naveen Kumar, Kuldeep K. Saxena, "A Re-investigation: Effect of TIG Welding Parameters on Microstructure, Mechanical, Corrosion Properties of Welded Joints", *Materials Today: Proceedings*, 2021, doi.org/10.1016/j.matpr.2021.01.007, 16 February 2021, (**SCOPUS**)
- [12] Raju Kumar Tiwari, Ajaya Bharti, Hariom Tripathi, Naveen Kumar, Kuldeep K. Saxena, A re-investigation of mechanical properties of aluminium-based surface composites prepared by friction stir processing, *Materials Today: Proceedings*, Volume 45, Part 6, 2021, Pages 4550-4557, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2020.12.1220.17> February 2021, (**SCOPUS**)
- [13] Ankur, **Ajaya Bharti**, Devendra Prasad, Naveen Kumar, Kuldeep K. Saxena, "A Re-investigation: Effect of Various Parameter on Mechanical Properties of Copper Matrix Composite Fabricated by Powder Metallurgy", *Materials Today: Proceedings*, 2021, doi.org/10.1016/j.matpr.2021.01.009, 18 February 2021, (**SCOPUS**)
- [14] Naveen Kumar, **Ajaya Bharti**, Akhilesh Kumar Chauhan, "Effect of Ti Reinforcement on the Wear Behaviour of AZ91/Ti composites Fabricated by Powder Metallurgy", *Materials Physics and Mechanics*, 2021, [http://dx.doi.org/10.18149/MPM.4742021\\_7](http://dx.doi.org/10.18149/MPM.4742021_7), May 9, 2021 (**ESCI**)
- [15] Naveen Kumar, **Ajaya Bharti**, "Review on Powder Metallurgy: A Novel Technique for Recycling & Foaming Aluminium-based Materials", *Powder Metallurgy and Metal Ceramics*, 2020, DOI 10.1007/s11106-021-00214-4, 09 July 2021, (**SCIE**)
- [16] Priyanka Kumari, **Ajaya Bharti**, Vishnu Agarwal, Naveen Kumar, and Kuldeep K. Saxena, "ZnO Coating on Silicon Rubber Urinary Catheter to Reduce the Biofilm Infections", *Advances in Materials and Processing Technologies*, 2021, doi.org/10.1080/2374068X.2021.1959105, 26 Jul 2021, (**ESCI, SCOPUS**)
- [17] Akash Gupta, Kuldeep K. Saxena, **Ajaya Bharti**, L. Jayahari, Kanwal Chadha, Prudvi Reddy Paresi, "Influence of ECAP Processing Temperature and Number of Passes on Hardness and Microstructure of Al6063", *Advances in Materials and Processing Technologies*, 2021, doi.org/10.1080/2374068X.2021.1953917, 29 Jul 2021, (**ESCI, SCOPUS**)
- [18] Hariom Tripathi, **Ajaya Bharti**, Kuldeep Kumar Saxena, Naveen Kumar, "Improvement in Mechanical Properties of Structural AZ91 Magnesium Alloy Processed by Friction Stir Processing", *Advances in Materials and Processing Technologies*, 2021, doi.org/10.1080/2374068X.2021.1949540, 10 Aug 2021, (**ESCI, SCOPUS**)
- [19] Piyush Pal, Suresh Kumar Patel, **Ajaya Bharti**, Audhesh Narayan, Rahul Dev, Dhananjay Singh, "Energy, exergy, energy matrices, exergoeconomic and enviroeconomic assessment of modified solar stills", *Sustainable Energy Technologies and Assessments*, 2021, <https://doi.org/10.1016/j.seta.2021.101514>, 24 August 2021, (**SCIE**)
- [20] Naveen Kumar, **Ajaya Bharti**, Kuldeep K. Saxena, "Effect of Ti Reinforcement on the Physical and Mechanical Properties of AZ91/Ti Composites", *Indian Journal of Engineering and Materials Sciences*, 2021, DOI: 10.56042/ijems.v28i6.46023, 1 September 2021, (**SCIE**)
- [21] Naveen Kumar, **Ajaya Bharti**, Kunvar Kant Patel, "The Evolution Of Brake Friction Materials: A Review", *Materials Physics and Mechanics*, 2021, [http://dx.doi.org/10.18149/MPM.4752021\\_13](http://dx.doi.org/10.18149/MPM.4752021_13), November 8, 2021 (**ESCI**)

- [22] Kumar N., **Bharti A.**, Dixit M., "A Study on Powder Compaction Dies and Compressibility of Various Materials", Powder Metallurgy and Metal Ceramics, 2021, DOI 10.1007/s11106-021-00253-x, 01 December 2021, **(SCIE) 1.13**
- [23] Naveen Kumar, **Ajaya Bharti**, "Optimization of Powder Metallurgy Process Parameters to Recycle AZ91 Magnesium Alloy", Materials Physics and Mechanics, 2021, [http://dx.doi.org/10.18149/MPM.4762021\\_15](http://dx.doi.org/10.18149/MPM.4762021_15), December 14, 2021 **(ESCI) 0.22**
- [24] Naveen Kumar, **Ajaya Bharti**, Abhishek Kumar, Abhishek Nigam, "Effect of process parameters on the crystal-parameters of Cu-Zn spinel-ferrites" Materials Physics and Mechanics, 2021, P. 65-73. DOI: 10.18149/MPM.4712021\_7, December 2021, **(ESCI) 0.22**
- [25] Naveen Kumar, **Ajaya Bharti**, "Optimization Of Powder Metallurgy Process Parameters To Enhance The Mechanical Properties Of AZ91 Magnesium Alloy" Materials Physics and Mechanics, [http://dx.doi.org/10.18149/MPM.4832022\\_3](http://dx.doi.org/10.18149/MPM.4832022_3), April 25, 2022 **(ESCI) 0.22**
- [26] Devendra Prasad, G Naga Srinivaslu, **Ajaya Bharti**, Naveen Kumar, Syed Mohd Azam, and Kuldeep K. Saxena, "Experimental Analysis on Flow Field Pattern of PEM Fuel Cells", Materials Science Forum, 2021, <https://doi.org/10.4028/p-nyf254>, June 2022, **(SCOPUS)**
- [27] Devendra Prasad, G Naga Srinivaslu, **Ajaya Bharti**, Naveen Kumar, Venkateswarlu Velisala, Akhilesh Kumar Chauhan, Kuldeep K. Saxena, "Simulation Analysis on Flow Field Pattern of PEM Fuel Cells", Materials Science Forum, 2021, <https://doi.org/10.4028/p-b5lka8> , June 2022, **(SCOPUS)**
- [28] Kumar, N., **Bharti, A.** & Azam, S.M. Effect of Reinforcement with Metallic, Carbon, and Ceramic Fillers on Copper Matrix Composite: Physical and Mechanical Properties. Met Sci Heat Treat 64, 223–226 (2022). <https://doi.org/10.1007/s11041-022-00788-9> July, 2022 **(SCIE)**
- [29] Naveen Kumar, **Ajaya Bharti**, Devendra Prasad, Manju Verma, Akhilesh Kumar Chauhan, Investigations on physical and mechanical properties of Mg composites and foams fabricated by powder metallurgy using NaCl, Materials Today: Proceedings, 2022, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2022.09.374>, Available online on 24 September 2022 **(SCOPUS)**
- [30] Naveen Kumar, and **Ajaya Bharti**, "Physical and Mechanical Properties of Powder-Metallurgy-Processed Titanium Alloys and Composites: A Comparative Analysis ", Metal Science and Heat Treatment, 2021, Available online on 05/10/2022 **(SCIE) 0.75**
- [31] Naveen Kumar, Ajaya Bharti, Pradeep Kumar. Applications of waste egg shell and egg shell membrane: a review, Materials Physics and Mechanics. 2022;50(3): 485-494. DOI: 10.18149/MPM.5032022\_11 (Available online on 07/10/2022) **(ESCI)**
- [32] Kumar, N., **Bharti, A.** & Prasad, D. Analysis of Production Techniques for Metal Foams of Iron and Steel. Powder Metall Met Ceram 61, 287–297 (2022). <https://doi.org/10.1007/s11106-022-00316-7>, Available online on 6 December, 2022, **(SCIE)**
- [33] Gautam, R., **Bharti, A.**, Kumar, N. et al. Mechanical Properties of Low-Cost Aluminum-Matrix Hybrid Composites Reinforced With Industrial Waste Quarry Dust. Met Sci Heat Treat (2023). <https://doi.org/10.1007/s11041-023-00856-8>, Available online on 14/02/2023 **(SCIE) 0.75**
- [34] 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, [http://dx.doi.org/10.18149/MPM.5162023\\_9](http://dx.doi.org/10.18149/MPM.5162023_9) (Available online on Nov 2023) **(ESCI)**
- [35] Bhupendra Koshti, Rahul Dev, **Ajaya Bharti**, Audhesh Narayan "Comparative Performance Evaluation of Modified Solar Cookers for Subtropical Climate Conditions" Renewable Energy [doi.org/10.1016/j.renene.2023.04.021](https://doi.org/10.1016/j.renene.2023.04.021) (Available on 07/04/2023) **(SCIE)**
- [36] B. Koshti, R. Dev, **A. Bharti**, A. Narayan, "Experimental Investigation and Performance Analysis of Box-Type Standard Solar Cooker with An Inclined Cover (BTSCIC)", Environmental Science and Pollution Research, DOI : 10.1007/s11356-023-30120-8, Date of publication: October 2023, **(SCIE)**

- [37] Naveen Kumar and **Ajaya Bharti**, “Binding Effect Of Copper On The Physical, Mechanical, And Thermal Properties Of Mg/Ti/Cu Composites” Powder Metallurgy and Metal Ceramics, (Accepted on 07/02/2024) (SCIE)
- [38] Hariom Tripathi, **Ajaya Bharti**, Rahul Dev, Akhilesh Kumar Chauhan, Kuldeep K. Saxena, “Influence of Rotational Speed on the Microstructural, Mechanical and Wear Behaviour of FSPed cast AZ91 Magnesium Alloy” Advances in Materials and Processing Technologies, doi.org/10.1080/2374068X.2024.2379102 (ESCI) (Available on 20/07/2024) (ESCI, SCOPUS)
- [39] Devendra Prasad, **Ajaya Bharti**, Rahul Dev, B.D.Y. Sunil, Kuldeep K. Saxena, “Preparation, Characterization, Physical and Compression Testing of Sucrose Based Closed-Cell Aluminium Foam” Advances in Materials and Processing Technologies, https://doi.org/10.1080/2374068X.2024.2402151 (Accepted on 10/09/2024) (ESCI, SCOPUS)
- [40] Kumar N, Bharti A, Rony A, Kapgate RA. Effect of Ti reinforcement on the thermal behaviour of AZ91/Ti composites. Materials Physics and Mechanics. 2024;52(6): 91–100. http://dx.doi.org/10.18149/MPM.5262024\_8 (Available on 01/02/2025) (ESCI, SCOPUS)
- [41] J.P. Shakya, Anurag Kulshreshtha, Sudhir Sharma, G.P. Sahu, **Ajaya Bharti**, Pradeep Singh, “Mechanical and Sliding Wear Properties of sintered porous Ti-4Co alloy of tailored density” Materials Letters, https://doi.org/10.1016/j.matlet.2025.138176 (Available on 03 Feb, 2025) (SCIE)
- [42] Salil Kumar Shrivastava, Manju Verma, **Ajaya Bharti**, Kuldeep K. Saxena, “Simulation Study of Effect of Temperature on Deformation Behaviour of Magnesium-Aluminium using LAMMPS” AIP (Communicated)
- [43] Aman Kumar Agrahari, Rahul Dev, **Ajaya Bharti**, Kuldeep K. Saxena, “Reanalysis of Phase Change Materials used for Enhancement of Solar Energy Absorption” AIP (Communicated)
- [44] Rahul Patel, Ajaya Bharti, Dhananjay Singh, Anil Kumar, Rahul Dev, “Performance Assessment of Novel Triple Slope Solar Still for Sustainable Water Solution” Renewable Energy (Communicated)

### Research Publications in International Conferences:

Sl. No.	Year	Conference
1.	July 2007	<b>A. Bharti</b> , I. K. Bhat, R. Kumar “ <b>Comparative Study on Wear of Different Commercially Available Aluminium Alloys in Presence of Different Lubricants</b> ” Proceeding of “11 <sup>th</sup> International conference on Metrology & Properties of Engineering Surfaces (2007)” organized at University of Huddersfield, U.K. during 17-20 July, 2007
2.	Aug 2011	Sudhendu N. Tiwari, Artika Rao, <b>Ajaya Bharti</b> , K. M. Gupta “ <b>Effect of Torque Tightening at low and high value of stress amplitude on the fatigue strength of Al 2024-T4 double lap bolted joints</b> ”, Proceeding of “International conference on Advance Materials (ICAM)-2011” page 79, organized by BTL Institute of Technology, Bangalore, India & University of Delaware, USA at BTLIT Bangalore, India during 19-20 August, 2011.
3.	Aug 2011	Artika Rao, Sudhendu N. Tiwari, <b>Ajaya Bharti</b> , K. M. Gupta “ <b>Effect of artificial aging on fretting fatigue behaviour of 2024 Aluminium alloy</b> ” Proceeding of “International conference on Advance Materials (ICAM 2011)”, page 80, organized by BTL Institute of Technology, Bangalore, India & University of Delaware, USA at BTLIT Bangalore, India during 19-20 August, 2011.
4.	Jan 2014	<b>Ajaya Bharti</b> , K. N. Pandey, K. M. Gupta, “ <b>Effect of Mean -stress on the performance of Double-lap Bolted Joint</b> ” Proceeding of “International Conference on Metallurgical & Materials Processes, Products and Applications” pp. 69, during 8-10 January, 2014 at OPJIT Raigarh, M. P., India.

5.	Jan 2014	Ajaya Bharti, K. N. Pandey, K. M. Gupta, “ <b>Effect of Cryorolling on Microstructure of Al 2024</b> ” Proceeding of “International Conference on Metallurgical & Materials Processes, Products and Applications” pp. 111, during 8-10 January, 2014 at OPJIT Raigarh, M. P., India.
6.	Oct 2015	Krishna Brij, Anuj Jain, Ajaya Bharti, “ <b>Effect of Room Temperature Rolling and Cryogenic Rolling on 2024-Al Alloy</b> ”, 6 <sup>th</sup> International Conference of International Scientific Academy of Engineering & Technology (ISAET) on Manufacturing and Industrial Engineering (ICMIE'15), Oct 11-12, 2015, Dubai, UAE (Received Best Paper Award) IC- 26
7.	Feb 2016	Priyanka Gupta, Ajaya Bharti, K. M. Gupta, “ <b>Antibacterial Activity of Calcium Titanate Thin Film Deposited on Commercially pure Titanium Substrate Synthesized by Reactive Sputtering Technique</b> ” Proceeding of “International Conference on Translational Biotechnology” pp. 147, during February 4-6, 2016 held at MNNIT Allahabad, India.
8.	Feb 2017	Shiv Kumar Ji Yadav, S. J. Pawar, and Ajaya Bharti, “ <b>Assessment of Waste Management of Sugarcane Farm And Sugarcane Industry</b> ” Proceeding of 19 <sup>TH</sup> Indian Agricultural Scientist and Farmer Congress on “Prospects of Green Economy and Value Addition Technology for Attracting and Retaining Youth in Agriculture and Rural Sector” pp. 56, during 18-19 February 2017, organized by Bioved Research Institute of Agriculture and Technology Allahabad, India.
9.	Dec 2017	Ajaya Bharti, HariomTripathi, “ <b>Enhancement of fatigue life of TIG welded joint by Friction Stir Processing</b> ” proceeding of International Conference on “Energy, Materials and Information Technology (ICEMIT’17)” held during 23-24 December 2017, organized by Engineering and Applied Sciences Division, Amity University Jharkhand, Ranchi, India
10.	Dec 2017	Rahul dev, Ajaya Bharti “ <b>Estimation of Performance of Proposed Room Designed on Solar Architectural Concepts</b> ” Proceedings of the 2nd International Conference on Renewable Energy and Environmental Engineering (ICREEE 2017) organized by Godavari Academy of Science and Technology, Khajuraho during 09-11 December 2017 Published by: Basha Research Corporation, Hyderabad, India ISBN 13: 978-81-930222-4-5
11.	Dec 2017	Ajaya Bharti, Brij Kishor, Gourav Verma, Rajneesh Gautam “ <b>Prediction Of Wear Characteristics Of Severe Plastically Deformed Al2024</b> ” In the Proceedings of the “2nd International Conference on Recent Innovations in Engineering and Technology (ICRIEAT-2017)” during 21-22 Dec, 2017, organized by Aurora's Scientific, Technological and Research Academy Chandrayangutta, Hyderabad, India
12.	March 2018	Tripti Sonker, Ajaya Bharti, Anupam Rawat and Rakesh Kumar “ <b>Impedance Based Monitoring Of Laminated Composite GLARE</b> ” Proceedings of the International Conference on “Advances In Construction Materials And Structures (ACMS-2018)” during March 7-8, 2018, organized by Indian Society for Construction Materials and Structures (ISCMS) in association with Department of Civil Engineering, Indian Institute of Technology Roorkee, Roorkee, INDIA
13.	Nov 2018	Deepak Kumar, Ajaya Bharti, Syed Mohd Azam, “ <b>Investigations of Mechanical Properties of Copper Matrix Hybrid Composite</b> ” International Conference on Recent Innovations and Developments in Mechanical Engineering IC-RIDME18, Organized by NIT Meghalaya, Shillong, India, November 8 – 10, 2018
14.	Nov 2018	Naveen Kumar, Ajaya Bharti, HariomTripathi, “ <b>Investigation of Microstructural and Mechanical Properties of Magnesium Matrix Hybrid Composite</b> ” International Conference on Recent Innovations and Developments in Mechanical Engineering IC-RIDME18, Organized by NIT Meghalaya, Shillong, India, November 8 – 10, 2018
15.	Nov 2018	HariomTripathi, Ajaya Bharti, Ankur Vishal, Naveen Kumar, “ <b>Effect of Tool Rotation on Microstructure and Hardness of AZ31 Mg Alloy Processed by FSP</b> ” International Conference on Recent Innovations and Developments in Mechanical Engineering IC-RIDME18, Organized by NIT Meghalaya, Shillong, India, November 8 – 10, 2018
16.	Dec 2018	Rahul Dev, Ajaya Bharti, Aman Kumar, Ankit Meena, Amaresh Kumar Singh, Amarendra Kumar, Mohit Dev “ <b>Design, Construction and Thermal Performance of a Solar House</b> ” Proceedings of the Third International Conference on Sustainable Energy and Environmental Challenges (3rd SEEC) 18-21 December, 2018, IIT Roorkee, India, pp. 332-335

17.	March 2019	Manoj Kumar Gupta, <b>Ajaya Bharti</b> , Binayaka Nahak, Niraj Choudhary, Anil Kumar, “ <b>Thermal Characteristics of Sisal Composites Containing Charcoal Particles</b> ” In the proceeding of “9th International Conference on Materials Processing & Characterization (ICMPC-2019)”, held during March 8-10, 2019, GRIET, Hyderabad.
18.	Feb 2020	Naveen Kumar, Ajaya Bharti, Kuldeep K. Saxena, “ <b>A re-analysis of effect of various process parameters on the mechanical properties of Mg based MMCs fabricated by powder metallurgy technique</b> ” In the proceeding of “10th International Conference on Materials Processing and Characterization (ICMPC 2020)” held during 21–23 February 2020 at GLA University Mathura, U.P. India.
19.	March 2020	Tripti Sonker, <b>Ajaya Bharti</b> , Pranshu Malviya “ <b>Mechanical and Fatigue Behavior of GLARE Composite</b> ” Proceeding of International Conference on Advanced Light-Weight Materials and Structures (ICALMS 2020) organized by Department of Mechanical Engineering, CMR Technical Campus, Kandalakoya, Hyderabad, India , 6-7 March, 2020, ISBN No.: 978 81 92 705125
20.	Nov 2020	Angaraj Singh and <b>Ajaya Bharti</b> , “ <b>Mechanical properties and fatigue crack growth rate behavior ultra fine grain aluminum 2024 alloy processed by Cryorolling</b> ”, Proceeding of “International conference on Smart Technologies for Energy, Environment & Sustainable Development (ICSTEESD-20), held at G H Rasoni College of Engineering, Nagpur, India, during 04-05 December 2020
21.	Dec 2020	Naveen Kumar, Ajaya Bharti, Kuldeep K. Saxena, “ <b>A re-investigation: Effect of powder metallurgy parameters on the physical and mechanical properties of aluminium matrix composites</b> ” In the proceeding of “11th International Conference on Materials Processing and Characterization (ICMPC 2020)” held during 15–17 December, 2020 at IIT Indore, India.
22.	Feb 2021	Naveen Kumar, <b>Ajaya Bharti</b> , “ <b>A Review on Physical and Mechanical Properties of Powder Metallurgy Processed Titanium Alloys &amp; Composites</b> ” In the proceeding of International Conference on Sustainable Engineering (ICSE-2021)” to be held from 26 - 27 February, 2021 organized at Department of Mechanical Engineering, Engineering College Bikaner, India
23.	Feb 2021	Naveen Kumar, <b>Ajaya Bharti</b> , Kuldeep K. Saxena, “ <b>Effect of Ti Reinforcement on the Physical and Mechanical Properties of AZ91/Ti Composites</b> ” In the proceeding of International Conference on Sustainable Engineering (ICSE-2021)” to be held from 26 - 27 February, 2021 organized at Department of Mechanical Engineering, Engineering College Bikaner, India
24.	March 2021	Vikash chaudhary, <b>Ajaya Bharti</b> , Syed Mohd Azam, Naveen Kumar, Kuldeep K. Saxena, “ <b>A Re-investigation: Effect of TIG Welding Parameters on Microstructure, Mechanical, Corrosion Properties of Welded Joints</b> ” In the proceeding of “Second International Conference on Aspects of Materials Science and Engineering (ICAMSE2021)” during 05th - 06th March 2021, organized by Panjab University, Chandigarh
25.	March 2021	Raju Kumar Tiwari , <b>Ajaya Bharti</b> , Hariom Tripathi , Naveen Kumar, Kuldeep K. Saxena, “ <b>A re-investigation of mechanical properties of aluminium-based surface composites prepared by friction stir processing</b> ” In the proceeding of “Second International Conference on Aspects of Materials Science and Engineering (ICAMSE2021)” during 05th - 06th March 2021, organized by Panjab University, Chandigarh
26.	March 2021	Ankur, Ajaya Bharti, Devendra Prasad, Naveen Kumar, Kuldeep K. Saxena, “ <b>A Re-investigation: Effect of various parameter on mechanical properties of copper matrix composite fabricated by powder metallurgy</b> ” In the proceeding of “Second International Conference on Aspects of Materials Science and Engineering (ICAMSE2021)” during 05th - 06th March 2021, organized by Panjab University, Chandigarh
27.	April 2021	Priyanka Kumari, <b>Ajaya Bharti</b> , Vishnu Agarwal, Naveen Kumar, and Kuldeep K. Saxena, “ <b>ZnO Coating on Silicon Rubber Urinary Catheter to Reduce the Biofilm Infections</b> ”, In the proceeding of 12 <sup>th</sup> International conference on Materials processing and characterization (12 <sup>TH</sup> ICMPC), Organized at NITTR Chandigarh, India during 06-08 Oct 2021.

28.	May 2021	Akash Gupta, Kuldeep K. Saxena, <b>Ajaya Bharti</b> , L. Jayahari, Kanwal Chadha, Prudvi Reddy Paresi, “ <b>Influence of ECAP Processing Temperature and Number of Passes on Hardness and Microstructure of Al6063</b> ”, In the proceeding of 12 <sup>th</sup> International conference on Materials processing and characterization (12 <sup>TH</sup> ICMPC), Organized at NITTR Chandigarh, India during 06-08 Oct 2021.
29.	May 2021	Hariom Tripathi, <b>Ajaya Bharti</b> , Kuldeep Kumar Saxena, Naveen Kumar, “ <b>Improvement in Mechanical Properties of Structural AZ91 Magnesium Alloy Processed by Friction Stir Processing</b> ”, In the proceeding of 12 <sup>th</sup> International conference on Materials processing and characterization (12 <sup>TH</sup> ICMPC), Organized at NITTR Chandigarh, India during 06-08 Oct 2021.
30.	Oct 2021	Devendra Prasad, G Naga Srinivaslu, <b>Ajaya Bharti</b> , Naveen Kumar, Syed Mohd Azam, Kuldeep K. Saxena “ <b>Experimental Analysis on Flow Field Pattern of PEM Fuel Cells</b> ” In the proceeding of “International conference on Applied Research and Engineering” organized at Mechanical Engineering Department, FEBE, Cape Peninsula University of Technology, South Africa during 26-28 November, 2021.
31.	Oct 2021	Devendra Prasad, G Naga Srinivaslu, <b>Ajaya Bharti</b> , Naveen Kumar, Venkateswarlu Velisala, Akhilesh Kumar Chauhan, Kuldeep K. Saxena “ <b>Simulation Analysis on Flow Field Pattern of PEM Fuel Cells</b> ” In the proceeding of “International conference on Applied Research and Engineering” organized at Mechanical Engineering Department, FEBE, Cape Peninsula University of Technology, South Africa during 26-28 November, 2021.
32.	March 2022	Naveen Kumar, <b>Ajaya Bharti</b> , Devendra Prasad “ <b>Physical and Mechanical Properties of Mg Foams and Composites Fabricated by Powder Metallurgy using Salt (NaCl)</b> ” in the proceeding of ‘CHEM-CONFLUX22’, International Conference on Technological Interventions for Sustainability jointly organized by Department of Chemical Engineering, MNNIT, Allahabad and Universiti Sains Malaysia during April 14 -16, 2022 (Accepted on 31 March, 2022)
33.	April 2022	Bhupendra Koshti, Rahul Dev, <b>Ajaya Bharti</b> , Audhesh Narayan and Priyank Srivastava “ <b>Hybrid Solar Cooker Befitting Society and Environment: A review</b> ” in the proceeding of International Conference on Technological Interventions for Sustainability ( <b>CHEM-CONFLUX22</b> ), jointly organized by Department of Chemical Engineering, MNNIT, Allahabad and Universiti Sains Malaysia during April 14 -16, 2022 (Accepted on 01 April, 2022)
34.	April 2022	Bhupendra Koshti, Rahul Dev, <b>Ajaya Bharti</b> , Audhesh Narayan and Priyank Srivastava, “ <b>Solar Cookers and their Present Global Status: A Review</b> ” in the proceeding of International Conference on Advancements in Interdisciplinary Research ( <b>AIR2022</b> ), organized by Motilal Nehru National Institute of Technology Allahabad, Prayagraj(U.P.) India in association with NEXANCE-The Next Generation Alliance for Scientific and Professional Advancements during May 6 -7, 2022. doi: <a href="https://doi.org/10.13052/rp-978-87-7022-828-2">https://doi.org/10.13052/rp-978-87-7022-828-2</a>
35.	April 2022	Syed Mohd Azam, <b>Ajaya Bharti</b> , Naveen Kumar, Rahul Dev “ <b>A Historical Review on the Efficiency of Perovskite Solar Cells</b> ” in the proceeding of International Conference on Advancements in Interdisciplinary Research ( <b>AIR2022</b> ), organized by Motilal Nehru National Institute of Technology Allahabad, Prayagraj(U.P.) India in association with NEXANCE-The Next Generation Alliance for Scientific and Professional Advancements during May 6 -7, 2022. Proceedings-AIR2022, River Publishers (ISSN: 2794-2333), doi: <a href="https://doi.org/10.13052/rp-978-87-7022-828-2">https://doi.org/10.13052/rp-978-87-7022-828-2</a>
36.	April 2022	Devendra Kumar Gautam, Audhesh Narayan, Satish Kumar and <b>Ajaya Bharti</b> , “ <b>Finite Element Analysis of Laser Cladding Process</b> ” in the proceeding of International Conference on Advancements in Interdisciplinary Research ( <b>AIR2022</b> ), organized by Motilal Nehru National Institute of Technology Allahabad, Prayagraj(U.P.) India in association with NEXANCE-The Next Generation Alliance for Scientific and Professional Advancements during May 6 -7, 2022. doi: <a href="https://doi.org/10.13052/rp-978-87-7022-828-2">https://doi.org/10.13052/rp-978-87-7022-828-2</a>
37.	April 2022	Sarvesh Mishra, <b>Ajaya Bharti</b> , Naveen Kumar, Ashish Mishra, Rahul Dev, and Hariom Tripathi, “ <b>Reinvestigation of Microstructural, Mechanical and Wear Properties of FSPed Magnesium Matrix Surface Composites</b> ”, in the proceeding of International Conference on Advancements in Interdisciplinary Research ( <b>AIR2022</b> ), organized by Motilal Nehru National

		Institute of Technology Allahabad, Prayagraj(U.P.) India in association with NEXANCE-The Next Generation Alliance for Scientific and Professional Advancements during May 6 -7, 2022.
38.	13 Oct 2022	Devendra Prasad, <b>Ajaya Bharti</b> , Naveen Kumar, Yashraj Singh, Salil Shrivastava, “Energy Efficient Material: Development and Characterization of Al/Cu Composite Material through Powder Metallurgy” in the proceeding of “4 <sup>th</sup> International Conference on Energy and Power (ICEP2022)” held at Military Institute of Science & Technology, Dhaka, Bangladesh in association with the Australian Society of Energy and Power (ASEP) from 11-13 December 2022.
39.	15 July 2023	Salil Kumar Shrivastava, Manju Verma, <b>Ajaya Bharti</b> , Kuldeep K. Saxena, “ <b>Simulation Study of Effect of Temperature on Deformation Behaviour of Magnesium-Aluminium using LAMMPS</b> ” in the proceeding of 15 <sup>th</sup> International Conference on Materials processing and Characterization ( <b>ICMPC-2023</b> ), held on Northumbria University Newcastle, England during 05-08 Sep, 2023. <a href="https://www.icmpc.com/index.php">https://www.icmpc.com/index.php</a>
40.	01 Aug 2023	Aman Kumar Agrahari, Rahul Dev, <b>Ajaya Bharti</b> , Kuldeep K. Saxena, “Reanalysis of Phase Change Materials used for Enhancement of Solar Energy Absorption” in the proceeding of 15 <sup>th</sup> International Conference on Materials processing and Characterization ( <b>ICMPC-2023</b> ), held on Northumbria University Newcastle, England during 05-08 Sep, 2023. <a href="https://www.icmpc.com/index.php">https://www.icmpc.com/index.php</a>
41.	Dec 2023	Aman Kumar Agrahari , Rahul Dev, <b>Ajaya Bharti</b> , Madhu Sudan, “Comparative Analysis of Organic PCM based Stepped and Radiant Box type Solar Cookers” in the proceeding of “1st International Conference on Advancement in Energy (ऊर्जाSangam-2023) held at MNNIT Allahabad, Prayagraj, Uttar Pradesh, India on 18th –20th December, 2023
42.	Feb 2024	Madhu Sudan, Ajaya Bharti and Rahul Dev, “ <b>A literature review of dynamic daylight metrics for daylight assessment</b> ” In the proceeding of International Conference “SOLARIS 2024” held at BERS Public School (BPS), Ballia, India on 07-09 February, 2024.
43.	24 April 2024	Hariom Tripathi, <b>Ajaya Bharti</b> , Rahul Dev, Akhilesh Kumar Chauhan, Kuldeep K. Saxena “ <b>Influence of Rotational Speed on the Microstructural, Mechanical and Wear Behaviour of FSPed cast AZ91 Magnesium Alloy</b> ” in the proceeding of “16 <sup>th</sup> International Conference On Materials Processing and Characterization (16 <sup>th</sup> ICMPC)” organized by Nirma University, Ahmedabad, India during 27th-29th June, 2024
44.	24 April 2024	Devendra Prasad, <b>Ajaya Bharti</b> , Rahul Dev, B.D.Y. Sunil, Kuldeep K. Saxena “ <b>Preparation, Characterization, Physical and Compression Testing of Sucrose Based Closed-Cell Aluminium Foam</b> ” in the proceeding of “16 <sup>th</sup> International Conference On Materials Processing and Characterization (16 <sup>th</sup> ICMPC)” organized by Nirma University, Ahmedabad, India during 27th-29th June, 2024
45.	08 April 2024	Syed Mohd Azam, <b>Ajaya Bharti</b> , Rahul Dev, “ <b>A re-investigation on different dyes and their effect on performance of Dye Sensitized Solar Cell</b> ” in the proceeding of International Conference on sUustainable Energy (ICUE 2024) on Energy Transition and Net-Zero Climate Future” held during 21-23 Oct, 2024 organized by Asian Institute of Technology, Klong Luang, Pathumthani, 12120, THAILAND (Accepted but could not be presented)
46.	08 April 2024	Aman Kumar Agrahari, Rahul Dev, <b>Ajaya Bharti</b> , Syed Mohd Azam, “ <b>Reanalysis of Energy Storage System in Agriculture Greenhouse</b> ” in the proceeding of International Conference on sUustainable Energy (ICUE 2024) on Energy Transition and Net-Zero Climate Future” held during 21-23 Oct, 2024 organized by Asian Institute of Technology, Klong Luang, Pathumthani, 12120, THAILAND (Accepted)
47.	09 July 2024	Devendra Prasad, <b>Ajaya Bharti</b> , Naveen Kumar “ <b>Camphor-Based Closed-Cell Aluminium Foam Prepared by Powder Metallurgy Technique</b> ” in the proceeding of 10th International Conference on Advances in Machinery, Material Science and Engineering Application (MMSE 2024) organized in Paris, France, from 27 to 28, July 2024 (Accepted)



48.	01Aug 2024	Rahul Patel, Rahul Dev, <b>Ajaya Bharti</b> , Dhananjay Singh, Anil Kumar “ <b>Enhancing Evaporation and Condensation in Solar Desalination Systems through Hybridization: A Mini-Review</b> ” in the proceeding of International Conference on Advanced Materials for Sustainable Innovation (IC-AMSI 2024) organized by Vivekananda Institute of Professional Studies (VIPS-TC) - Technical Campus, New Delhi, India during 28th-30th August 2024 (Accepted)
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## Book Chapters Published

- [1] **Bharti A.**, Tripathi H. (2019) Enhancement of Fatigue Life of TIG-Welded Joint by Friction Stir Processing. In: Chattopadhyay J., Singh R., Prakash O. (eds) Renewable Energy and its Innovative Technologies. Springer, Singapore. [https://doi.org/10.1007/978-981-13-2116-0\\_5](https://doi.org/10.1007/978-981-13-2116-0_5)
- [2] Tripathi H., **Bharti A.**, Vishal A., Kumar N. (2020) Effect of Tool Rotation on Microstructure and Hardness of AZ31 Mg Alloy Processed by FSP. In: Biswal B., Sarkar B., Mahanta P. (eds) Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-15-0124-1\\_61](https://doi.org/10.1007/978-981-15-0124-1_61)
- [3] Kumar D., **Bharti A.**, Azam S.M., Kumar N., Tripathi H. (2020) Investigations of Mechanical Properties of Copper Matrix Hybrid Composite. In: Biswal B., Sarkar B., Mahanta P. (eds) Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-15-0124-1\\_60](https://doi.org/10.1007/978-981-15-0124-1_60)
- [4] Sonker T., **Bharti A.**, Malviya P. (2020) Tensile and Fatigue Behavior of Glass Fiber Laminated Aluminum-Reinforced Epoxy Composite. In: Praveen Kumar A., Dirgantara T., Krishna P.V. (eds) Advances in Lightweight Materials and Structures. Springer Proceedings in Materials, vol 8. Springer, Singapore. [https://doi.org/10.1007/978-981-15-7827-4\\_32](https://doi.org/10.1007/978-981-15-7827-4_32)
- [5] Kumar N., **Bharti A.**, Tripathi H. (2020) Investigation of Microstructural and Mechanical Properties of Magnesium Matrix Hybrid Composite. In: Biswal B., Sarkar B., Mahanta P. (eds) Advances in Mechanical Engineering. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-15-0124-1\\_59](https://doi.org/10.1007/978-981-15-0124-1_59)
- [6] Bhupendra Koshti, Rahul Dev, **Ajaya Bharti**, Audhesh Narayan and Priyank Srivastava, “**Solar Cookers and their Present Global Status: A Review**” **eBook: Interdisciplinary Innovations and Developments towards Smart and Sustainable Industries: Proceedings of the 2022 International Conference on Advancements in Interdisciplinary Research towards Smart and Sustainable Society (AIR2022)**, **Editors:** Sugumaran et al., e-ISBN: 9788770228282, doi: <https://doi.org/10.13052/rp-978-87-7022-828-2>  
Available: December 2022
- [7] Devendra Kumar Gautam, Audhesh Narayan, Satish Kumar, **Ajaya Bharti**, “**Finite Element Analysis of Laser Cladding Process**” **eBook: Interdisciplinary Innovations and Developments towards Smart and Sustainable Industries: Proceedings of the 2022 International Conference on Advancements in Interdisciplinary Research towards Smart and Sustainable Society (AIR2022)**, **Editors:** Sugumaran et al., e-ISBN: 9788770228282, , doi: <https://doi.org/10.13052/rp-978-87-7022-828-2>  
Available: December 2022
- [8] Syed Mohd Azam, **Ajaya Bharti**, Naveen Kumar, Rahul Dev, “**A Historical Review on the Efficiency of Perovskite Solar Cells**” **eBook: Interdisciplinary Innovations and Developments towards Smart and Sustainable Industries: Proceedings of the 2022 International Conference on Advancements in**

Interdisciplinary Research towards Smart and Sustainable Society (AIR2022), **Editors:** Sugumaran et al., e-ISBN: 9788770228282, doi: <https://doi.org/10.13052/rp-978-87-7022-828-2>  
Available: December 2022

- [9] Devendra Prasad, **Ajaya Bharti**, Naveen Kumar, **“Camphor-Based Closed-Cell Aluminium Foam Prepared by Powder Metallurgy Technique” Series: Advances in Transdisciplinary Engineering, eBook** Volume 58: Advances in Machinery, Materials Science and Engineering Application X, Page: 163 – 170, DOI: 10.3233/ATDE240620