

08th April, 2026

AJIT BEHERA (Ph.D., M.Tech, B.Tech)

Assistant Professor

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Academic Identity:

Work Place Link: <https://www.nitrkl.ac.in/FacultyStaff/FacultyProfile/beheraajit>

ORCID Link: <http://orcid.org/0000-0001-5357-7733>

Google Scholar: <https://scholar.google.co.in/citations?user=R-G7pSoAAAAJ&hl=en>

Web of science: <https://www.webofscience.com/wos/author/record/190963>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=56539505200>

Research Gate: https://www.researchgate.net/profile/Ajit_Behera4

Academia: <http://nitrkl.academia.edu/AjitBehera>

Summary:

No of Publication: 235+

Citation in Google Scholar: 3914+ (h-index=30, i10-index=99)

Book	Book Chapter	SCI + Scopus Journal	Int. conf. Paper	Nat. Conf. Paper	Patent + Copywrite	R&D Projects	Consultant Project	Conference, workshop, short term course conducted	Award
22	82	81 + 12	23	16+	10+02	05	28	12	05

Supervision:

	PhD			M. Tech	M. Tech Dual Degree	B. Tech
	Institute PhD	Sponsored PhD	Executive PhD			
Completed	05	00	00	07	04	24
Ongoing	01	01	04	00	01	03

RESEARCH INTERESTS

- Smart materials
- NiTi-alloys
- 3D & 4D Print Additive manufacturing
- Magnetron sputtered Thin Film
- Plasma surface Engineering
- Characterization of materials
- Nanotechnology
- Cryo-treatment
- Utilization of Industrial Waste

EDUCATIONAL QUALIFICATION

Year	Education
2016	Ph. D., IIT Kharagpur (Metallurgical & Materials Engineering) Specialization: Synthesis of Nanostructure Multilayered Ni/Ti Thin Film by Magnetron Sputtering and Effect of Annealing
2012	M. Tech, NIT Rourkela (Metallurgical & Materials Engineering) Specialization: Processing and Characterization of Plasma Spray coatings of Industrial Waste and Low Grade Ore mineral on metal substrates
2009	B. Tech, IGIT Sarang (Metallurgical & Materials Engineering)

PROFESSIONAL EXPERIENCE (Total 10.6 yr+)

NATIONAL INSTITUTE OF TECHNOLOGY, JAMSHEDPUR Assistant Professor	January '15-July '15
NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA Assistant Professor	July '15- Cont...
AMPRE ENGG. PVT. LTD. (SART-UP INDIA) Director	January '23- Cont...

COURSE TOUGHT (B. Tech and M. Tech)

- **Advance Processing of Materials** (B. Tech & M. Tech Dual degree, NIT-Rkl, 2023-2025)
 - **Advanced Materials** (B. Tech & M. Tech Dual degree, NIT-Rkl, 2015-Cont.)
 - **Materials Engineering** (M. Tech, NIT-Rkl, 2015-Cont.)
 - **Materials Science & Engineering** (B. Tech, NIT-Jsr, 2015)
 - **Heat Treatment** (B. Tech, NIT-Jsr, 2015)
 - **Physical Metallurgy** (B. Tech, NIT-Jsr, 2015)
 - **Additive Manufacturing** (Newly entered syllabus in B. Tech, MM, 2026)
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HONORS/AWARDS

- **Build Bharat Leadership award-2023**
 - **Utkal Pratiba Ratna Samman-2023**
 - **Dr. APJ Abdul Kalam Professional Achiever Award-2023**
 - **Young Engineer Award-2022**
 - **Yuva Rattan Award-2020**
 - **C.V. Raman National Award-2018**
 - **Young Faculty Award-2017**
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EDITORIAL BOARD/GUEST EDITOR/MANAGING EDITOR OF JOURNALS

- Editorial Board Member, Scientific Reviews, Springer Nature, (2026-continuing)
- Section Editor in **Engineering and Technology Horizons** (SCOPUS Indexed) (March, 2026- Continuing). <https://ph01.tci-thaijo.org/index.php/lej>, (2026-continuing)
- Editorial Board Member, Scientific Reports, Springer Nature, <https://www.nature.com/srep/about/editors>, (2026-continuing)
- Executive Guest editor, Applied Surface Science Advances, (2023) Elsevier, <https://www.sciencedirect.com/journal>.
- Guest editor, Journal of Micromanufacturing, Special Issue Title: Micro-processing of materials in miniaturized system for Industry 5.0, chrome-extension://efaidnbmninnibpcjpcglclefindmkaj/https://journals.sagepub.com/pb-assets/PDF/Ajit%20Behera%20Sp.%20Is.%20Proposal_JMF-1753963560763.pdf
- Managing Editor, High Temperature Materials and Processes, Focus of Hot Deformation of Metal and High Entropy Alloys (2023). <https://www.editorialmanager.com/http/default2.aspx>
- Associate editor, Journal of Process Mechanical Engineering, Adoptable materials for the sustainability of multifunctional structure (2022), <https://mc.manuscriptcentral.com/jpme>.
- Guest editor, Applied Surface Science Advances, <https://www.sciencedirect.com/journal/applied-surface-science-advances/special-issue/10V9R8WSWMG>, (2021) Elsevier.
- Managing Editor, Materials Today Proceeding, Volume 88, Part 1, Pages 1-168 (2023), (<https://www.sciencedirect.com/journal/materials-today-proceedings/vol/88/part/P1>), Elsevier.
- Guest editor, Coatings, Special issue on "Smart Material Coatings", MDPI. https://www.mdpi.com/journal/coatings/special_issues/smart_coatings

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- Guest editor, Int. J. of Materials and Product Technology, **2021** Vol. 62 No.1/2/3, <https://www.inderscience.com/info/inarticletoc.php?jcode=ijmpt&year=2021&vol=62&issue=1/2/3>, **Inder Science**
 - Managing Editor, Materials Today Proceeding, Volume 33, Part 8, Pages 4919-5770 (2020), (<https://www.sciencedirect.com/journal/materials-today-proceedings/vol/33/part/P8>), **Elsevier**.
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ACTIVE REVIEWER OF JOURNALS

- **Project Proposal Reviewer:** 1) DST SERB Sponsored Proposals; 2) OSPCB
 - **Book Reviewer:** 1) Springer, 2) CRC Press, 3) Wiley Scrivener Publishing, 4) ACS, 5) IGI Global
 - **Journal Reviewer:** 1) Scientific Reports, **Nature** (*IF*:3.9), 2) Materials & Design, **Elsevier** (*IF*:9.417), 3) Journal of Alloys and Compounds, **Elsevier** (*IF*:6.371); 4) The Journal of Physical Chemistry Letters, **ACS** (*IF*:6.475); 5) Journal of Materials Chemistry C, **RSC** (*IF*: 8.067); 6) Scripta Materialia, **Elsevier** (*IF*:5.3); 7) Advanced Engineering Materials, **Wiley** (*IF*:4.122), 8) Surface and Coatings Technology, **Elsevier** (*IF*:5.4), 9) Wear, **Elsevier** (*IF*:3.892), 10) Metallurgical and Materials Transactions A, **Springer** (*IF*:2.8); 11) Metallurgical and Materials Transactions B, **Springer** (*IF*:2.566); 12) Journal of Materials Research, **Springer** (*IF*: 2.909); 13) Transactions of the Indian Institute of Metals, **Springer** (*IF*:1.6); 14) Annalen der Physik, **Wiley** (*IF*:2.987); 15) IEEE Sensors Journal, **IEEE** (*IF*:4.3); 16) IEEE Transactions on Plasma Science, **IEEE** (*IF*:1.22); 17) Plasma Science and Technology, **IOP Science** (*IF*:1.7); 18) Journal of Cleaner Production, **Elsevier** (*IF*:11.072); 19) IONICS, **Springer** (*IF*:2.8); 20) Tribology Transactions, **Taylor & Francis** (*IF*:2.1); 21) Waste Management & Research, **SAGE Journal** (*IF*:3.9)
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PATENT/COPYWRITE

1. **Patent:** Ajit Behera, R. Manik, K. Behera, "Thermal Encoding Shape Memory Alloys (TESMA)", Patent application no: 202031008991, Date of filing: 03/03/2020, Date of Published: 15/05/2020, Date of grant: 16/02/2024.
2. **Patent:** D. K. Rajak, Ajit Behera, A. Kumar, P. H. Wagh, P. A. Patil, "Modern handi with smart technique", patent no: 202021042425 A, 2020, Date of filing: 30/09/2020, Publication Date: 30/10/2020, Date of Grant: 15/12/2023.
3. **Patent:** D. K. Rajak, A. Rajan, S. Kumar, A. Kumar, Ajit Behera, K. Bharti, D. K. Singh, P. A. Patil, "Multi-Functional Induction Furnace for Heating and Melting of Materials Method and Thereof", Patent no.: 202121048186, 2021, Date of file: 22/10/2021, Date of Publish: 29/10/2021, Date of Grant:10/05/2024.
4. **Patent:** D. K. Rajak, Ajit Behera, "Digital table calendar embedded with smart technologies thereof" Application No. 202221006872, Date of file: 09/02/2022, Publication number: 09/2022.
5. **Patent:** Ajit Behera, P. Mallick, S. Agarwal, J. Sharma, "System and method for cooling aeroturbine blade structure", Application No. 202331027855, Date of file: 17/04/2023.
6. **Patent:** Ajit Behera, Swadhin Kumr Patel, Arka Ghosh, Rakesj Roshan, Patel Parth Prakashbhai, "Multi-Stacked Crucible", Design No. 423287-001, Date of file: 16/07/2024
7. **Patent:** Binayak Mishra, Sambit Kumar, Mohapatra, Ajit Behera, Equal Channel Angular Pressing Die with Exit Relief, Design No: 435473-001, Date of file: 24/10/2024
8. **Ajit Behera, Jitesh Sharma, Copywrite Name:** AMPRE Engg. Private Limited, Trade Mark No6042658., Date: 28-07-2023, No. 3632060, J. No.: 2142.
9. **Ajit Behera, Jitesh Sharma, Copywrite Logo:** AMPRE Engg. Private Limited, Trade Mark No. 6042656, Date: 28-07-2023, No. 3515066, J. No.: 2130.
10. Debi Prasad Sahoo, Ajit Behera, S. Murugan, Novel method to store waste heat in exhaust gas in reciprocating heat engine, filling no: , 2025
11. **Ajit Behera, Priyabrata Mallick, Sustainability of the alloy at 1600 C operating temperature:** AMPREALLOY for turbine blade, Application no: IPIC26P0012, 23/03/2026.

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12. **Ajit Behera**, Shivam Shyammilan Gupta, Thermal actuated auto-rotating system using shape memory alloy in motor operation, Application no: IPIC26P0011, 16/03/2026.

PUBLICATIONS

Books

1. **Ajit Behera**, **TEXT BOOK**: “Advanced Materials”, 1st edition, **1350 pages**, ISBN: 978-3-030-80359-9, *Springer Nature*, **2022**, <https://www.springer.com/gp/book/9783030803582>
2. S. Thomas, **Ajit Behera**, T. Nguyen, Book titled "Nickel-Titanium Smart Hybrid Materials: From Micro- to Nano-structured Alloys for Emerging Applications", *Elsevier Publisher*, ISBN: 9780323911733, *500 pages*, **January 2022**, <https://www.elsevier.com/books/nickel-titanium-smart-hybrid-materials-from-micro-to-nano-structured-alloys-for-emerging-applications/thomas/978-0-323-91173-3>
3. Renu Kumari, J. Dutta Majumdar, and **Ajit Behera**, Book titled: Recent Advances in Manufacturing Process, **ISBN**: 978-981-16-3686-8, 1st edition, *Springer*, **2021**, <https://www.springer.com/gp/book/9789811636851#aboutAuthors>
4. **Ajit Behera**, T. A. Nguyen, R. Gupta, **Book** titled "Smart 3D Nanoprinting: Fundamentals and Applications", *CRC publisher*, Taylor and Francis Catalogue # 461966, **ISBN: 9781032038612**, **550 pages**, **2021**, <https://www.taylorfrancis.com/books/edit/10.1201/9781003189404/smart-3d-nanoprinting-ajit-behera-tuan-anh-nguyen-ram-gupta>
5. A. Kumar, **Ajit Behera**, T. A. Nguyen, M. Bilal, R. K. Gupta, Book titled: Antiviral and Antimicrobial Smart Coatings: Fundamentals and Applications, 1st edition, *Elsevier Publisher*, **2022**, ISBN: 9780323992916, <https://shop.elsevier.com/books/antiviral-and-antimicrobial-smart-coatings/kumar/978-0-323-99291-6>
6. R. Gupta, **Ajit Behera**, S. Farhad, T. A. Nguyen, Book titled "Advanced Flexible Ceramics: Design, Properties, Manufacturing, and Emerging Applications", *Elsevier Publisher*, **ISBN: 9780323988247**, **2023**, <https://www.sciencedirect.com/book/9780323988247/advanced-flexible-ceramics>.
7. R. K. Gupta, A. Motallebzadeh, S. Kakooei, T. A. Nguyen, **Ajit Behera**, Book titled: Advanced Ceramic Coatings: Fundamentals, Manufacturing and Classification, 1st edition, *Elsevier Publisher*, **ISBN: 9780323996594**, **2023**, <https://www.sciencedirect.com/book/9780323996594/advanced-ceramic-coatings>.
8. R. K. Gupta, A. Motallebzadeh, S. Kakooei, T. A. Nguyen, **Ajit Behera**, Book titled: Advanced Ceramic Coatings for Biomedical Applications, 1st edition, *Elsevier Publisher*, **ISBN: 9780323996266**, **2023**, <https://www.sciencedirect.com/book/9780323996266/advanced-ceramic-coatings-for-biomedical-applications>.
9. R. K. Gupta, A. Motallebzadeh, S. Kakooei, T. A. Nguyen, **Ajit Behera**, Book titled: Advanced Ceramic Coatings for Emerging Applications, 1st edition, *Elsevier Publisher*, **2023**, **ISBN: 9780323996242**, <https://shop.elsevier.com/books/advanced-ceramic-coatings-for-emerging-applications/gupta/978-0-323-99624-2>.
10. R. K. Gupta, A. Motallebzadeh, S. Kakooei, T. A. Nguyen, **Ajit Behera**, Book titled: Advanced Ceramic Coatings for Energy Applications, 1st edition, *Elsevier Publisher*, **ISBN: 9780323996204**, **2023**, <https://shop.elsevier.com/books/advanced-ceramic-coatings-for-energy-applications/gupta/978-0-323-99620-4>.
11. **Ajit Behera**, Dr. B. Swain and Dr. D. Nayak, Book titled: Surface Engineering of Biomaterials Synthesis and Processing Technique, CRC publisher, **2024**, **ISBN: 9781032552828**, <https://www.taylorfrancis.com/books/edit/10.1201/9781003429920/surface-engineering-biomaterials-ajit-behera-debasis-nayak-biswajit-kumar-swain>.
12. **Ajit Behera**, A. K. Nayak, R. K. Mohapatra, A. A. Rabaan, Book titled: Smart micro and nanomaterials for Drug Delivery, CRC publisher, **2024**, **ISBN: 781032555089**, <https://www.routledge.com/Smart-Micro--and-Nanomaterials-for-Drug-Delivery/Behera-Nayak-Mohapatra-Rabaan/p/book/9781032742601>.
13. **Ajit Behera**, A. K. Nayak, R. K. Mohapatra, A. A. Rabaan, Book titled: Smart micro and nanomaterials: For Pharmaceutical Applications, *CRC publisher*, **2024**, **ISBN: 9781003468431**.

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<https://www.routledge.com/Smart-Micro--and-Nanomaterials-for-Pharmaceutical-Applications/Behera-Nayak-Mohapatra-Rabaan/p/book/9781032742618>.

14. **Ajit Behera**, K. K Saxena, D. K. Rajak, S. Sehgal, Book titled: Multi-scale and Multifunctional Coatings and Interfaces for Tribological contacts, **CRC publisher, 2024**, ISBN: 9781032555379 , <https://www.routledge.com/Multi-scale-and-Multifunctional-Coatings-and-Interfaces-for-Tribological-Contacts/Behera-Saxena-Rajak-Sehgal/p/book/9781032555379>.
15. **Ajit Behera**, Jayanta Kumar Patra, Book titled: Advanced Nanomaterials in Bioimplant: Processing, structures, properties and applications, **Elsevier publisher, ISBN: 9780443273780, 2024**, <https://shop.elsevier.com/books/advanced-nanomaterials-in-biomedical-implants-processing-structures-properties-and-applications/behera/978-0-443-27378-0> .
16. **Ajit Behera**, T. A. Nguyen, Book titled: Multi-material additive manufacturing, **Elsevier publisher, 2024**, ISBN:9780443292286, <https://shop.elsevier.com/books/multi-material-additive-manufacturing/behera/978-0-443-29228-6>
17. Srikar Potnuru, **Ajit Behera**, HyukSu Han, P.H.V. Sessa Talpa Sai, Book titled: Intelligent Manufacturing and Energy Sustainability, Sixth International Conference on Intelligent Manufacturing and Energy Sustainability (ICIMES), **2024, Springer**, 978-981-96-4717-0, <https://link.springer.com/book/9789819647170>.
18. **Ajit Behera** and Shankar Sehgal, Book titled: Advanced Synthesis of Multi-scale and Multifunctional Coatings, **ASME book, 2025**, <https://asmedigitalcollection.asme.org/ebooks/book/2364/Advanced-Synthesis-of-Multi-scale-and>.
19. **Ajit Behera**, Manisha Priyadarshini, Book titled: Sustainability of Alloys and Polymers of Shape Memory Materials, **CRC publisher, 2025**, https://books.google.co.in/books/about/Sustainability_of_Alloys_and_Polymers_of.html?id=Khqt0QEACAAJ&redir_esc=y.
20. Ajay Kumar, P.L. Meenenze, **Ajit Behera**, Book titled: Micro- and Nano-Engineering at Surface and Interface, 1st edition, ISBN: 9780443335532, **Elsevier Publisher, 2026**, <https://shop.elsevier.com/books/micro-and-nano-scale-surface-and-interface-engineering/kumar/978-0-443-33553-2>.
21. **Ajit Behera**, Renu Kumari, Glen Andrew Porter, Priyatosh Sahoo, Book titled: Advances in Materials Processing for Industry 5.0, Lecture Notes on Multidisciplinary Industrial Engineering, **Springer, 2026**, <https://link.springer.com/book/9783032211385>.
22. **Ajit Behera**, Suman Chatterjee, Vishwanatha H M, Book titled: Materials Processing for Industry 5.0, **Cambridge Scholars Publishing, 2025** (In Production).
23. **Ajit Behera**, Samson Rwahwire, Book titled: Next Generation Aerospace Composite Materials, Elsevier Publisher, **2026**, ISBN: 9780443492662 (In Production)
24. **Ajit Behera**, Book titled: Shape Memory Technology: Materials Processing, Properties and Emerging Application, **ASME book, 2026** (Accepted).
25. **Ajit Behera**, Book titled: High Temperature Materials: Processing, characteristics and application, **ASME book, 2026** (Accepted).
26. **Ajit Behera**, Book titled: Additive Manufacturing for Metallurgist, **ASME book, 2027** (Accepted).

International journals:

1. S. K. Sahu, R. P. Dalai, N. B. Shaik, C. Yuangyai, and ***A. Behera**, Effect of post processing heat treatment on the cyclic high temperature hot corrosion behaviour of the laser powder bed fusion processed Inconel-718, **Advanced Engineering Materials, 2026**, <https://doi.org/10.1002/adem.202503186>
2. S. K. Sahu, S. Mohapatra, B. S. Meher, ***Ajit Behera**, and R. P. Dalai, Effect of heat treatment on the microstructure and mechanical properties of the laser powder bed fusion-processed Inconel 718 superalloy, **Journal of Materials Engineering and Performance, 2026**, <https://doi.org/10.1007/s11665-026-13616-5>

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3. K. Shunmugesh, A. Raphel, S. Hiremath, V. Vijeesh, **Ajit Behera**, H.M. Vishwanatha, Optimizing WAAM Process parameters using statistical tools and prediction of input parameters using machine learning models for depositing ER70S, *Journal of Materials Research and Technology*, Volume 41, March–April 2026, Pages 5320-5330, <https://doi.org/10.1016/j.jmrt.2026.02.109>.
4. S. K. Mahanta, J. Parida, B. C. Behera, ***Ajit Behera**, Effect of variation of Iron (15-21 wt. %) Content on Microstructure and Mechanical Properties of Nickel-Based Superalloy Prepared by Powder Metallurgy Technique, *Journal of Materials Engineering and Performance*, 2026, <https://doi.org/10.1007/s11665-026-13394-0>.
5. D. P. Sahoo, **Ajit Behera**, S. Murugan, Experimental investigation of temperature variations and heat stored during charging process in a novel thermal energy storage tank integrated to a diesel engine exhaust, *Energy Conversion and Management*, Volume 348, Part A, 2026, 120607, <https://doi.org/10.1016/j.enconman.2025.120607>.
6. R. P. Dalai, S. K. Sahu, D. K. Mishra, **Ajit Behera**, Structure-Property Relationship in an In Situ Core-Shell-Type Moiety Developed in Al-Ni-Ti Alloys, *Journal of Materials Engineering and Performance*, 2025, 34, 27292–27300, <https://doi.org/10.1007/s11665-025-11313-3>.
7. **Ajit Behera**, Smart material surface science and their emerging applications: Investigation and implementation for real time activities in industry 5.0, *Applied Surface Science Advances*, 13 Nov. 2025, 100897, <https://doi.org/10.1016/j.apsadv.2025.100897>.
8. V. Bramaramba, P. Shrivastava, R. Vinjamuri, **Ajit Behera**, S. Sen, Study of Wear Characteristics for Different Grades of Dual Matrix Structure Ductile Iron, *Trans Indian Inst Met* (2025) 78:215, <https://doi.org/10.1007/s12666-025-03684-x>
9. B. Swain, S. Mantry, S. S. Mohapatra, P. Mallick, **Ajit Behera**, Dependency of Solid Particle Erosion Behaviour of Plasma Sprayed NiTi Coating on Primary Gas Flow Rate, *Applied Surface Science Advances*, 2025, Volume 25, January 2025, 100681, <https://doi.org/10.1016/j.apsadv.2024.100681>.
10. T. Theivasanthi, **Ajit Behera**, An overview on single layer graphene production methods with high quality for large scale applications, *BioNanoScience*, 2025 15, 21, <https://doi.org/10.1007/s12668-024-01741-1>
11. R. Roshan, ***Ajit Behera**, Surface/Interface behaviour of atmospheric plasma sprayed NiTi alloy on stainless steel with the variation of critical plasma spray parameter, *Materials Science and Technology*, 2024;42(4):416-425. <https://doi.org/10.1177/02670836241302988>.
12. B. Mishra, S. k. Mohapatra, Ajit Behera, Multi-Response Optimization of Processing Parameters for Enhancement of ECAP Performance through Finite Element Analysis: A Grey-Based Taguchi Approach, *Engineering Research Express*, <https://doi.org/10.1088/2631-8695/ade1a1>
13. S. K. Sahoo, J. Majhi, S. C. Patnaik, **Ajit Behera**, Microstructure characterisation and dry sliding wear behaviour of Al-Si near eutectic and hypereutectic alloys reinforced with in-situ TiB₂ synthesized by stir casting route. *Discov Mater* 4, 87 (2024). <https://doi.org/10.1007/s43939-024-00163-w>.
14. J. Parida, S. C. Mishra, D. K. Satapathy, K. K. Behera, ***Ajit Behera**, Physical and Mechanical Characterization of Ti₅₀Ni(50–X)Fe_X Shape Memory Alloy Fabricated by Spark Plasma Sintering Process, *Metallurgical and Materials Transactions A*, 55, 4510-4524 (2024). <https://doi.org/10.1007/s11661-024-07562-x>.
15. Pradhan D D, Chakraverty A P, **Behera A**, Beura S, Mohanty U K. Mechanothermal assessment of outdoors aged hybrid glass fibre reinforced polymer composite filled with fly ash as industrial waste. *Journal of Reinforced Plastics and Composites*. 2024; doi: 10.1177/07316844241231522.
16. R. K. Mohapatra S. N. Das, S. K. Biswal, **Ajit Behera**, H. Belbsir, K. El-Hami, Experimental and rheological modelling on the stabilization of iron ore slurry using a biosurfactant extracted from

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- aloe barbadensis miller, *Bull. Chem. Soc. Ethiop.* **2024**, 38(3), 615-629, <https://dx.doi.org/10.4314/bcse.v38i3.6>.
17. **Ajit Behera**; A. Kumar; D. P. Sahoo; D. S. Patel; Y. Rahul; A. Behera; A. Kumar; P. Kumar, Effect of annealing temperature on nanoindentation and nano-scratching behaviour of magnetron sputtered NiTi films, *AIP Conf. Proc.* 3217, 040013, **2024**, <https://doi.org/10.1063/5.0235114>
 18. J. Singh; A. W. Hashmi; Ajit Behra; A. Kumar; N. Dogra; P. Kumar, Review of Mg alloys for bio-implants protected by the deposition of chemical conversion coatings, *AIP Conf. Proc.* 3217, 040009, **2024**, <https://doi.org/10.1063/5.0234599>
 19. R. P. Dalaia, S. P. Mohapatraa, D. Nayaka, D. K. Mishraa, ***Ajit Behera**, Microstructure, mechanical, and tribological relationship in Cu-12Al-Ni alloy with respect to the variation of Ni content, *Journal of Materials Engineering and Performance*, Vol. 33, 8554–8566, **2023**, <https://doi.org/10.1007/s11665-023-08538-5>
 20. Akash Mishra, **Ajit Behera***, A critical review on 4D printing and their processing parameters, *Int. J. Interactive Design and Manufacturing*, **2023**, 1-31, <https://link.springer.com/article/10.1007/s12008-023-01685-y>.
 21. J. Parida, S. C. Mishra, D. K. Satapathy, B. C.G. Marupalli, **Ajit Behera***, Shape Memory Behavior and Tribological Analysis of Heat-Treated NiTiFe Alloy, *Journal of Materials Engineering and Performance*, **2023**, <https://doi.org/10.1007/s11665-023-08928-9>
 22. Swadhin K. Patel, P. Dubey, R. Roshan, **Ajit Behera**, Elastic and transformation behaviour of equiatomic NiTi shape memory alloys fabricated at different sintering temperatures, *Materials Today Communications*, **2023**, <https://doi.org/10.1016/j.mtcomm.2023.107203>
 23. M. Priyadarshini, S. Pradhan, A. Barua, **Ajit Behera**, and S. Kanchan, Experimental Analysis of Wire-EDM on Sub-Cooled Low-Carbon Tool Steel using Hybrid MARCOS Method and Honey Badger Algorithm, *Surface Review and Letters*, **2023**, <https://doi.org/10.1142/S0218625X24500495>
 24. R. Roshan, Swadhin K. Patel, P. Mallick, ***Ajit Behera**, Solid particle erosion and scratch wear behaviour of NiTi smart alloy modified mild steel using atmospheric plasma spray technology at different substrate preheating temperatures, *Journal of Materials Engineering and Performance*, **2023**, <https://doi.org/10.1007/s11665-023-08583-0>
 25. J. Parida, S. C. Mishra, and ***Ajit Behera**, Effect of Fe addition on phase evolution, microstructure and properties of Ti50Ni50-XFeX alloy, *Materials Science and Technology*, Vol. 39, Issue 18, **2023**, <https://doi.org/10.1080/02670836.2023.2240102>
 26. J. Parida, S. C. Mishra, B. C. G. Marupalli, ***Ajit Behera**, Fabrication of nickel-titanium-iron shape memory alloys by powder metallurgy route and analyses of their physical and mechanical behavior, *Powder Metallurgy*, **2023**, <https://doi.org/10.1080/00325899.2023.2235143>
 27. J. Parida, S. C. Mishra, ***Ajit Behera**, Microstructure and Mechanical Properties of Ti50Ni(50-X)FeX Alloys Fabricated by Powder Metallurgy Process, *Metallurgical and Materials Transactions A*, **2023**, <https://doi.org/10.1007/s11661-023-07037-5>
 28. S. Pradhan, V P. Reddy, M. Priyadarshini, P. Singhal, A. Barua, **Ajit Behera**, C. Prakash, K. K. Saxena, Sayed M Eldin, Performance Investigation of Cryogenic Treated-Double Tempered Cutting Inserts in Dry Turning of Ti-6Al-4V Alloy, *Journal of Materials Research and Technology*, **2023**, <https://doi.org/10.1016/j.jmrt.2023.06.165>.
 29. S. Patro, K. Saxena, **Ajit Behera**, Effect of Annealing Temperature and Thickness of Magnetron Sputtered Ni/Ti Film on Its Microstructure and Nanoindentation Behavior, *Metal science and heat treatment*, **2023**, <https://doi.org/10.1007/s11041-023-00909-y>
 30. Vishwanatha H M, K. Saxena, A. Pramanik,; S. Dixit, **Ajit Behera**, Cryo-treatment and corrosion studies of Nickel-Titanium Shape Memory Alloy, *Journal of Process Mechanical Engineering*, **2023**, <https://doi.org/10.1177/09544089231159250>

08th April, 2026

31. Ayush Sinha, D. K. Rajak, N. B. Shaik, R. K. Mohapatra, K. K. Saxena, R. Singh, Jinyang Xu, **Ajit Behera**, A Review on 4D printing of Nickel-Titanium Smart alloy Processing, the effect of major parameters and their biomedical applications, *Journal of Process Mechanical Engineering*, **2023**, <https://doi.org/10.1177/09544089231154416>
32. R. K. Mohapatra, K. Dhama S. Verma, V. Kandi, A. K. Sarangi, V. Seidel, S. N. Das, **Ajit Behera**, H. S. Tuli, A. K. Sharma, The SARS-CoV-2 Omicron Variant and its Multiple Sublineages: Transmissibility, Vaccine Development, Antiviral Drugs, Monoclonal Antibodies, and Strategies for Infection Control – a Review, *Chemistry Select*, **2023**, <https://doi.org/10.1002/slct.202201380>
33. **Ajit Behera**, K. Saxena, C. Prakash, A. Pramanik, J. Haider, A. Basak and S. Shankar, Modeling and simulation of magnetron sputtered NiTi thin film deposition by SRIM/TRIM, *Surface Review and Letters*, **2023**, <https://doi.org/10.1142/S0218625X2340005X>
34. J. Parida, S. C. Mishra, ***Ajit Behera**, Synthesis and Characterization of Ti₅₀Ni(50-X)Fe_X alloy produced by mechanical alloying and pressure-less sintering, *Metals and Materials International*, 11 December **2022**, <https://doi.org/10.1007/s12540-022-01277-7>
35. Vishwanatha H M, C. Prakash, S. Hiremath, D. S. Chiniwar, Z. Singh, **Ajit Behera**, K. K Saxena, Modelling and simulation of lightweight hollow pins as a substitution for solid shear pins used for assembly joints in aerospace applications, *International Journal on Interactive Design and Manufacturing*, 31 October **2022**, <https://doi.org/10.1007/s12008-022-01081-y> .
36. V. Vijayan, H. M. Vishwanatha, M. K. Swetha, K. K. Saxena, K. K. Saxena, **Ajit Behera**, An investigation on the cause for the formation of blisters in the extruded aluminum channels for ladder application, *International Journal on Interactive Design and Manufacturing*, 08 November **2022**, <https://doi.org/10.1007/s12008-022-01093-8> .
37. R. Roshan, K. S. Arora, ***Ajit Behera**, Effect of substrate temperature on the surface and interface properties of NiTi Atmospheric Plasma Sprayed coating, *Surface Topography: Metrology and Properties*, **2022**, <https://doi.org/10.1088/2051-672X/ac9072>
38. N. E. Dan, P. B. Hussain, N. B. Shaik, B. Bakhavatchalam, R. K. Mohapatra, **Ajit Behera**, Improved Surface Morphology and Corrosion Resistance Performance of 2205 Duplex Stainless Steel by Low Temperature Gas Nitriding, *Journal of Bio- and Tribo-Corrosion*, 8, 100, **2022**, <https://doi.org/10.1007/s40735-022-00698-6>.
39. T. R. chary, S. potnuru, R. J. Immanuel, K. K. Saxena, D. Buddhi, **Ajit Behera**, Dissimilar metal welding on Mg AZ31 and AA 6061 alloys by using friction stir welding, *Int. J. on Interactive Design and Manufacturing*, May **2022**, <https://doi.org/10.1007/s12008-022-01036-3>.
40. S. K. Samal, Vishwanatha H M, K. K. Saxena, A. Behera, T. A. Nguyen, **Ajit Behera***, C. Prakash*, S. Dixit*, K. A. Mohammed, 3D-printed Satellite Brackets: Materials, Manufacturing and Applications, *crystals*, 25 July **2022**, 12, 1148. <https://doi.org/10.3390/cryst12081148>.
41. R. K. Mohapatra, R. K v Prathima, S. Mishra , As. K. Sarangi , M. K. Pradhan, P. K. Mohapatra, **Ajit Behera**, K. Dhama, Emerging novel sub-lineage BA.2.75: The next dominant omicron variant?, *International Journal of Surgery*, **2022**, <https://doi.org/10.1016/j.ijsu.2022.106835>.
42. Vishwanatha H M, C. Prakash, N. K. Kottana, S. Sengupta, K. K Saxena, **Ajit Behera**, S. Ghosh, Investigation on synergetic effect of non-contact ultrasonic casting and mushy state rolling on microstructure and hardness of Al-Si-Al₂O₃ nanocomposites, *Int J Interact Des Manuf*, **2023**, <https://doi.org/10.1007/s12008-022-00986-y>
43. Balram, Naveenkumar, Vgunda, Kuldeep Saxena, Msomiv, **Ajit Behera**, Surface modification of aluminum alloy 6061 by embedding B₄C particles via friction stir processing, *Materials Research Express*, **2022**, Materials Research Express, Vol. 9, No 5, 2022, <https://doi.org/10.1088/2053-1591/ac6da7>.
44. M. Priyadarshini, H. M. Vishwanatha, C. K. Biswas, P. Singhal, D. Buddhi, **Ajit Behera**, Effect of grey relational optimization of process parameters on surface and tribological characteristics of annealed AISI P20 tool steel machined using wire EDM, *International Journal on Interactive Design and Manufacturing*, **2022**, <https://doi.org/10.1007/s12008-022-00954-6>

08th April, 2026

45. L. Das, R. Nayak, K. K Saxena, J. Nanda, Sh. P. Jena, **Ajit Behera**, S. Sehgal, C. Prakash, S. Dixit, D. S. Abdul-Zahra, Determination of Optimum Machining Parameters for Face Milling Process of Ti6Al4V Metal Matrix Composite, *Materials*, 15, 4765, **2022**, <https://doi.org/10.3390/ma15144765>
46. B. Swain, S. K. Bhuyan, S. S. Mohapatra, D. K. Rajak, **Ajit Behera**, C. I. Pruncu, Adhesion strength investigation of plasma sprayed NiTi coating, *Engineering Failure Analysis*, Vol. 140, **2022**, 106368, <https://doi.org/10.1016/j.engfailanal.2022.106368>.
47. B. Swain, S. Chatterjee, S. S. Mohapatra, **Ajit Behera**, Microstructural Investigation, mechanical properties evaluation and parametric optimization of APS NiTi coating, *Journal of materials engineering and performance*, **2022**, <https://doi.org/10.1007/s11665-022-06834-0>
48. S. K. Patel, **Ajit Behera**, Evolution of Phases and their Influence on Shape Memory Effect by Varying Sintering Parameters of NiTi Alloys, *Metals and Materials International*, **2022**, <https://doi.org/10.1007/s12540-021-01166-5>
49. **Ajit Behera**, D. Nayak, Smart Material Surface Science and application (SMASSA): A most awaited journey in smart technology, *Applied Surface Science Advances*, Vol. 9, **2022**, 100242, <https://doi.org/10.1016/j.apsadv.2022.100242>
50. R. K. Mohapatra, S. Kuppili, T. Kumar Suvvari, V. Kandi, **Ajit Behera**, S. Verma, K. Zahan, S. K. Biswal, T. H. Al-Noor, M. M. El-ajaily, A. K. Sarangi, K. Dhama, SARS-CoV-2 and its variants of concern including Omicron: looks like a never ending pandemic, *Chemical Biology & Drug Design*, Volume99, Issue5, **2022**, 769-788, <https://doi.org/10.1111/cbdd.14035>.
51. A. Sinha, B. Swain, A. Behera, P. Mallick, S. K. Samal, Vishwanatha H M, **Ajit Behera**, A Review on the Processing of Aero-Turbine Blade Using 3D Print Techniques, *Journal of Manufacturing and Materials Processing*, **2022**, 6(1), 16, <https://doi.org/10.3390/jmmp6010016>.
52. M. Priyadarshini, Ajit Behera, C. K. Biswas, D. K. Rajak, Experimental Analysis and Mechanical Characterization of AISI P20 Tool Steel Through Heat-Treatment Process, *J Bio Tribo Corros*, 8:3, **2022**, <https://doi.org/10.1007/s40735-021-00607-3>.
53. B. Swain, M. Priyadarshini, S. S. Mohapatra, R. K. Gupta, **Ajit Behera**, Parametric optimization of atmospheric plasma spray coating using fuzzy TOPSIS hybrid technique, *Journal of Alloys and Compounds*, **2021**, Volume 867, 25, 159074, **2021**, <https://doi.org/10.1016/j.jallcom.2021.159074>.
54. B. Swain, A. R. Pati, P. Mallick, S. S. Mohapatra, **Ajit Behera**, Development of Highly Durable Superhydrophobic Coatings by One-Step Plasma Spray Methodology, *J Therm Spray Tech*, 30, 405-423, **2021**, <https://doi.org/10.1007/s11666-020-01132-4>.
55. B. Swain, P. Mallick, R. Gupta, S. S. Mohapatra, G. Yasin, N. A. Nguyen, **Ajit Behera**, Mechanical and Tribological Properties Evaluation of Plasma-Sprayed Shape Memory Alloy Coating, *Journal of Alloys and Compounds*, Volume 863, 15 May 2021, 158599, **2021**, <https://doi.org/10.1016/j.jallcom.2021.158599>.
56. B. C. G. Marupalli, **Ajit Behera**, S. Aich, A critical review on Nickel-Titanium thin film shape memory alloy fabricated by Magnetron Sputtering and influence of process parameters, *Transactions of the Indian Institute of Metals*, **2021**, <https://doi.org/10.1007/s12666-021-02418-z>.
57. B Swain and **Ajit Behera**, Effect of powder feed rate on adhesion strength and microhardness of APS NiTi coating: a microstructural investigation, *Surface Topography: Metrology and Properties*, **2021**, Vol. 9, No., <https://doi.org/10.1088/2051-672X/ac0a38>.
58. R. K Mohapatra, P. K Das, K. Sharun, R. Tiwari, S. R. Mohapatara, P. K. Mohapatra, **Ajit Behera**, T. Acharyya, V. Kandi, K. Zahan, S. Natesan, M. Bilal, K. Dhama, Negative and positive environmental perspective of COVID-19: air, water, wastewater, forest, and noise quality, *Egyptian Journal of Basic and Applied Sciences*, 2021, 8:1, 364-384, <https://doi.org/10.1080/2314808X.2021.1973182> .
59. R. K. Biswal, **Ajit Behera**, Assessing the grip of solar energy systems on environmental sustainability-A Review, *Micro and Nanosystems*, Vol. 14, No. 2, **2022**, DOI: [10.2174/1876402913666210908122052](https://doi.org/10.2174/1876402913666210908122052).

08th April, 2026

60. B. Swain, A. R. Pati, S. S. Mohapatra, **Ajit Behera**, Interchanging characteristic of plasma spray coating from superhydrophobic to hydrophilic under the applied electric field, *Surface Engineering*, **2021**, <https://doi.org/10.1080/02670844.2021.1959286>.
61. L. Barik, S. Samal, **Ajit Behera**, D. K. Rajak, C. Pruncu, Replacement of steel by NITINOL as coupling agent in automobile shaft, *ISSS Journal of Micro and Smart Systems*, 1-16, **2021**, <https://doi.org/10.1007/s41683-021-00075-4>.
62. B. Swain, P. Mallick, S. S. Mohapatra, **Ajit Behera**, D. K. Rajak & P. L. Menezes, Atmospheric Plasma Spray Coating of NiTi on Mild Steel Substrate: An Microstructural Investigation, *J Bio Tribo Corros*, **2021**, 7, 104, <https://doi.org/10.1007/s40735-021-00541-4>.
63. Nagoor B. Shaik, Kedar M. Mantrala, Balaji Bakthavatchalam, Qandeel F. Gillani, M. F. Rehman, **Ajit Behera**, Corrosion Behavior of LENS Deposited CoCrMo Alloy Using Bayesian Regularization-Based Artificial Neural Network (BRANN), *J Bio Tribo Corros*, **2021**, 7, 116, <https://doi.org/10.1007/s40735-021-00550-3>.
64. D. K. Rajak, A. Kumar, **Ajit Behera**, P. L. Menezes, Diamond-Like Carbon (DLC) Coatings: Classification, Properties, and Applications, *Applied Sciences*, **2021**, 11(10), 4445; <https://doi.org/10.3390/app11104445>.
65. P. Mohan, D. K. Rajak, P. I. Catalin, **Ajit Behera**, V. Amigó-Borrásá, A. B. Elshalakany, Influence of β -phase stability in elemental blended Ti-Mo and Ti-Mo-Zr alloys, *Micron*, Vol. 142, March **2021**, 102992, **2021**, <https://doi.org/10.1016/j.micron.2020.102992>
66. B. Swain, A. R. Pati, S. S. Mohapatra, **Ajit Behera**, Enhancement of Flow Boiling at Very High Initial Surface Temperature by Using Various Additives, *ASME. J. Thermal Sci. Eng. Appl.*, 1-20, TSEA-20-1471, **2021** , <https://doi.org/10.1115/1.4048837>
67. M. S. V. Ravi Kishor, **Ajit Behera**, D. K. Rajak, P. L. Menezes, P. I. Catalin, Manufacturing and Mechanical Characterization of Fly-Ash-Reinforced Materials for Furnace Lining Applications, *J. of Materi Eng and Perform*, **2020**, <https://doi.org/10.1007/s11665-020-05121-0>.
68. K. Barik, B. Swain, **Ajit Behera**, S. Chitransh, S. S. Mohapatra, The Experimental and Numerical Investigation on the Enhancement of Stagnation and Parallel Zones of Laminar Jet, *Thermal Science and Engineering Progress*, **19**, (2020) 1006495, <https://doi.org/10.1016/j.tsep.2020.100649>.
69. B. Swain, P. Mallick, S. Bhuyan, S. C. Mishra, S. S. Mohapatara, **Ajit Behera**, Mechanical properties of NiTi plasma spray coating, *Journal of Thermal Spray Technology*, 29:741–755, **2020**, <https://doi.org/10.1007/s11666-020-01017-6>.
70. **Ajit Behera**, Dipen Kumar Rajak, Reza Kolahchi, Maria-Luminița Scutaru, Catalin I. Pruncu, Current global scenario of Sputter deposited NiTi smart systems, *Journal of Materials Research and Technology*, Vol. 9, Issue 6, **2020**, 14582-14598, <https://doi.org/10.1016/j.jmrt.2020.10.032>.
71. M. Priyadarshini, **Ajit Behera**, C. K. Biswas, Effect of sub-zero temperatures on wear resistance of AISI P20 tool steel, *Journal of the Brazilian Society of Mechanical Sciences and Engineering* (2020) 42:212, <https://doi.org/10.1007/s40430-020-02298-2>.
72. D. M. Pardhi, D. Ş. Karaman, J. Timonen, W. Wu, Q. Zhang, S. Satija, M. Mehta, N. Charbe, P. M. Carron, M. Tambuwala, H. A. Bakshi, P. Negi, A. AAljabali, K. Dua, D. K Chaellappan, **Ajit Behera**, K. Pathak, R. B. W. karo, J. M. Rosenholm, Anti-bacterial activity of inorganic nanomaterials and their antimicrobial peptide conjugates against resistant and non-resistant pathogens, *International Journal of Pharmaceutics*, **2020**, <https://doi.org/10.1016/j.ijpharm.2020.119531>.
73. M. S. V. Ravi Kishor, D. P. Sahoo, D. K. Sahoo, **Ajit Behera**, S. Sarkar, Nano-scale analysis on spark plasma sintered fly-ash bricks and their comparative study with SiN-Zr refractory bricks, *Micro and Nanosystems*, vol. 12, issue 2, **2020**, DOI: [10.2174/1876402912666200313124418](https://doi.org/10.2174/1876402912666200313124418).
74. K. Barik, S. Chitransh, A. R. Pati, B. Swain, **Ajit Behera**, S. S. Mohapatra, The enhancement of laminar jet cooling effectiveness at very high surface temperature by using Al₂O₃ nanofluid as a coolant, *Heat Transfer*, Volume 49, Issue 3, May **2020**, Pages 1554-1567, <https://doi.org/10.1002/htj.21676>.

08th April, 2026

75. M. Priyadarshini, C. K. Biswas, **Ajit Behera**, Machining of sub-cooled low carbon tool steel by wire-EDM, *Materials and Manufacturing Processes*, Volume 34, Issue 12, **2019**, <https://doi.org/10.1080/10426914.2019.1662035>.
76. Lily, B. Swain, B. Munshi, S. S. Mohapatra, **Ajit Behera**, The SDS and Steel Surface Interaction Behaviour in case of High Mass Flux Spray Cooling from Very High Temperature, *Corrosion Science*, **2019**, <https://doi.org/10.1016/j.corsci.2019.06.007>.
77. B. K. Swain, S. Bajpai, **Ajit Behera**, Microstructural evolution of NITINOL and their species formed by atmospheric plasma spraying, *Surface Topography: Metrology and Properties*, Surf. Topogr.: Metrol. Prop. 7 (**2019**) 015006, <https://doi.org/10.1088/2051-672X/aaf30e>.
78. Lily, A. R. Pati, A. Panda, B. Munshi, S. S. Mohapatra, **Ajit Behera**, B. Saha, High mass flux spray quenching on an inclined surface: A novel methodology for the attainment of enhanced uniform cooling with unaltered surface morphology in transition boiling regime, *International Journal of Heat and Mass Transfer*, **2019**, 131, 11-30, <https://doi.org/10.1016/j.ijheatmasstransfer.2018.10.116>.
79. A. R. Pati, N. H. Bhatt, L. Das, S. Teja, S. Nayak, A. Kumar, A. Sahoo, B. Munshi, **Ajit Behera**, H. Sutar & S. S. Mohapatra, The discrepancy in the prediction of surface temperatures by inverse heat conduction models for different quenching processes from very high initial surface temperature, *Inverse Problems in Science and Engineering*, 2019, Vol. 27, Issue 6, <https://doi.org/10.1080/17415977.2018.1501369>.
80. M. Satapathy, P. Varshney, D. Nanda¹, S. S. Mohapatra, **Ajit Behera**, and A. Kumar, Fabrication of durable porous and non-porous superhydrophobic polymer composite coatings with excellent self-cleaning property, *Surface and Coatings Technology*, **2018**, 341, 31-39, <https://doi.org/10.1016/j.surfcoat.2017.07.025>.
81. N. Bhatt, A. R. Pati, L. Das, A. Kumar, **Ajit Behera**, B. Munshi, S. S. Mohapatra, High Mass Flux Spray Cooling with Additives of Low Specific Heat and Surface Tension: A Novel Process to Enhance the Heat Removal Rate, *Applied Thermal Engineering*, Volume 120, **2017**, 537-548, <https://doi.org/10.1016/j.applthermaleng.2017.03.137>.
82. **Ajit Behera**, S. Aich, S. Ghosh, Simulation of magnetron sputtered Ni/Ti thin film and the effect of annealing, *Emerging Materials Research*. Volume 6 Issue 2, **2017**, 1-6, <https://doi.org/10.1680/jemmr.16.00093>.
83. N. H. Bhatt, D. Chouhan, A. R. Pati, P. Varshney, Lily Das, A. Kumar, B. Munshi, **Ajit Behera**, S. S. Mohapatra, Role of water temperature in case of high mass flux spray cooling of a hot AISI 304 steel plate at different initial surface temperatures, *Experimental Heat Transfer*, **2017**, 30:5, 369-392, <https://doi.org/10.1080/08916152.2016.1269138>
84. **Ajit Behera**, R. Suman, S. Aich, S.S. Mohapatra, Sputter-deposited Ni/Ti double-bilayer thin film and the effect of intermetallics during annealing, *Surface Interface Anal.*, **2016**, Volume 49, Issue 7, July 2017, Pages 620–629, <https://doi.org/10.1002/sia.6201>.
85. P. K. Singh, P. K. Katiyar, A. L. Kumar, D. K. Mishra, **Ajit Behera**, “Agglomeration behaviour of solid waste materials of steel plants”, *Emerging Materials Research*, Vol. 5 Issue 1, **2016**, pp. 171-176, <https://doi.org/10.1680/jemmr.15.00014>.
86. P. Parida, S. C. Mishra, S. Sahoo, **Ajit Behera**, B. P. Nayak, Development and characterization of ethylcellulose based microsphere for sustained release of nifedipine, *Journal of Pharmaceutical Analysis*, 6(5), **2016**, 341-344, <https://doi.org/10.1016/j.jpha.2014.02.001>.
87. **Ajit Behera**, S. Aich, “Characterization and properties of magnetron sputtered nanoscale NiTi thin film and the effect of annealing temperature”, *Surf. Interface Anal.* 47, **2015**, 805-814, <https://doi.org/10.1002/sia.5777>.
88. **Ajit Behera**, S. C. Mishra, Asit Behera, J. P. Dhal, “Porosity analysis of plasma sprayed Mild Steel by application of soft Computing, *Journal of Materials*, Hindawi Publishing Corporation. **2013**, DOI:[10.1155/2013/150671](https://doi.org/10.1155/2013/150671).
89. **Ajit Behera**, S. C. Mishra, “Characteristic Study of fly-ash+quartz+illmenite Composite coating on Copper Substrate, *Emerging Materials Research*, 2, **2013**, 39-44, <https://doi.org/10.1680/emr.12.00025>.

08th April, 2026

90. Ajit Behera, S. C. Mishra, "Prediction and analysis of Deposition Efficiency of Plasma Spray Coating using Artificial Intelligence Method", *Open Journal of Composite Materials*, 2, 2012, 54-60 DOI:[10.4236/ojcm.2012.22008](https://doi.org/10.4236/ojcm.2012.22008).

91. Ajit Behera, S. C. Mishra, "A novel material used in Automotive Industry: Compacted Graphite Iron", *Emerging Materials Research*, 5, 2012, 271-274, DOI: [10.1680/emr.12.00002](https://doi.org/10.1680/emr.12.00002).

Book Chapters:

1. Saiswari Arghyarupa and **Ajit Behera, Chapter title:** Sensor and Actuator Materials in Advanced Industries, Springer, 2026, (in production).
2. P. Surekha, B. D. Lakshmi, S. K. Badampudi and **Ajit Behera, Chapter title:** Various Processing Routes of Advanced Materials and Their Behaviour, Springer, 2026 (in production).
3. Advika Kirtivardhan and **Ajit Behera***, **Chapter title:** Additive Manufacturing of AMPREALLOY (Ni-based Superalloy), Springer, 2026 (in production).
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5. Deepak Kumar Sahoo and **Ajit Behera, Chapter title:** Role of Composites in Industry 5.0, Springer, 2026 (in production).
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16. **Ajit Behera, Chapter title:** Shape memory materials: An introduction, **Book title:** Sustainability of alloys and polymers of Shape Memory Materials, CRC, 2026 (in production).
17. **Ajit Behera, R. K. Mohapatra, Chapter title:** Advances in Material for anti-COVID-19 activities, **Book title:** Advanced materials and conversion technologies for personal protective equipment used in the COVID-19 Pandemic, **2023** (Accepted).
18. Rashmi Rekha Sahoo, **Ajit Behera, Chapter title:** Development of multiayered nickel-titanium alloy using selective laser melting and their mechanical properties, **Book title:** Advanced Synthesis of Multi-scale and Multifunctional Coatings, ASME, **2025**, DOI: https://doi.org/10.1115/1.888711_ch6.
19. **Ajit Behera, Introduction, Book title:** Advanced Synthesis of Multi-scale and Multifunctional Coatings, ASME, **2025**, Doi:https://doi.org/10.1115/1.888711_fm
20. Sourav Chandra Behera, **Ajit Behera, Chapter title:** High performance AMPREALLOY coating on stainless steel, **Book title:** Advanced Synthesis of Multi-scale and Multifunctional Coatings, ASME, **2025**, DOI: https://doi.org/10.1115/1.888711_ch16.

08th April, 2026

21. Dibya Spandan Patel, **Ajit Behera**, **Chapter title:** NITI multilayered thin film on Si-substrate for NEMS devices, **Book title:** Advanced Synthesis of Multi-scale and Multifunctional Coatings, ASME, **2025**, DOI:https://doi.org/10.1115/1.888711_ch17.
22. Aditya Pandey, **Ajit Behera**, Priyanshu Munda, **Chapter title:** Synthesis of smart coating, **Book title:** Advanced Synthesis of Multi-scale and Multifunctional Coatings, ASME, **2025**, https://doi.org/10.1115/1.888711_ch1
23. Akash Mishra, **Ajit Behera**, **Chapter title:** Nanotechnology against noise pollution, **Book title:** Nanotechnology to Monitor, Remedy, and Prevent Pollution, ISBN: 9780443156601, Elsevier, **2024** <https://doi.org/10.1016/B978-0-443-15660-1.00005-8>.
24. L. Tripathy, A. K. Sarangi, R. L. Bal, P. K. Singh, S. Mishra, **Ajit Behera**, R. K. Mohapatra, **Chapter title:** MXene-Based Emerging 2D Materials for Biomarkers (Electrodes), **Book:** MXene-Based Emerging 2D Materials for Biomedical Applications, CRC Press, 2025, ISBN9781003353287, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003353287-3/mxene-based-emerging-2d-materials-biomarkers-electrodes-lizaranee-tripathy-ashish-sarangi-rajiv-lochan-bal-puneet-singh-snehasish-mishra-ajit-behera-ranjan-mohapatra>
25. **Ajit Behera**, **Chapter title:** 3D-printed sensors, **Book title:** Sensors and Nanosensor Networks for Smart Hospitals, ISBN: 9780443247903, Elsevier, **2024**, <https://www.sciencedirect.com/science/article/abs/pii/B9780443247903000132>.
26. Akash Mishra, **Ajit Behera**, **Chapter title:** Properties of Multifunctional Thin Films for High-Temperature Applications, **Book title:** Multi-scale and Multifunctional Coatings and Interfaces for Tribological Contacts, CRC, **2023**, ISBN: 9781032635347, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781032635347-5/properties-multifunctional-thin-films-high-temperature-applications-akash-mishra-ajit-behera?context=ubx&refId=c84b22fb-f9f8-431d-99cb-442a4657949c>.
27. **Ajit Behera**, **Chapter title:** Introduction to Multifunctional Surfaces, **Book title:** Multi-scale and Multifunctional Coatings and Interfaces for Tribological Contacts, CRC, **2023**, ISBN: 9781032635347, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781032635347-1/introduction-multifunctional-surfaces-ajit-behera?context=ubx&refId=0341d297-1c23-47b6-889f-43f3eb97f8be>.
28. Amlan Pravujyoti Das, Akash Mishra, Priyabrata Mallick, **Ajit Behera**, **Chapter title:** Abradable Coating and their application, **Book title:** Multi-scale and Multifunctional Coatings and Interfaces for Tribological Contacts, CRC, **2023**, ISBN: 9781032635347, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781032635347-9/abradable-coatings-application-amlan-prabhujyoti-sahu-ajit-behera>.
29. **Ajit Behera**, R. K. Mohapatra, **Chapter title:** An artificial intelligence (AI) approach in medical science for predicting COVID-19 cases, **Book title:** Global Digital Transformation and the COVID-19 Pandemic, CRC Press, **2023**, https://books.google.co.in/books?id=z-8YEQAQBAJ&pg=PA109&lr=lang_en&source=gbs_toc_r&cad=2#v=onepage&q&f=false.
30. Vishal Agarwal and **Ajit Behera**, **Chapter title:** Smart ceramic thin films, **Book title:** Advanced Ceramic Coatings for Energy Applications, Elsevier, **2023**, ISBN: 9780323996204, <https://doi.org/10.1016/B978-0-323-99620-4.00005-1>.
31. Rakesh Roshan, **Ajit Behera**, **Chapter title:** Future perspectives of ceramic coatings, **Book title:** Advanced Ceramic Coatings for Energy Applications, Elsevier, **2023**, ISBN: 9780323996204, <https://doi.org/10.1016/B978-0-323-99620-4.00014-2>.
32. Asit Behera, Sushree Sangita Swain, Debasis Nayak, **Ajit Behera**, **Chapter title:** Introduction to Biomaterial Surface Engineering, **Book title:** Surface Engineering of Biomaterials, CRC Press, ISBN: 9781003429920, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003429920-2/introduction-biomaterial-surface-engineering-asit-behera-sushree-sangita-swain-debasis-nayak-ajit-behera?context=ubx&refId=8f97111c-25f5-4ea7-86ee-b25771fe2d91>
33. Debasis Nayak, **Ajit Behera**, **Chapter title:** Energy Biomaterial Surface, **Book title:** Surface Engineering of Biomaterials, CRC Press, ISBN: 9781003429920, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003429920-17/energy-biomaterial-surface-debasis-nayak-ajit-behera?context=ubx&refId=361d2e20-225d-46f5-9cf6-2ba4cf5a1f70>.
34. Akash Mishra, Amlan Prabhujyoti Sahu, Priyabrata Mallick, Ajit Behera, Heat treatment for biomaterial surface, CRC, **2024**, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003429920-23/heat-treatment-biomaterial-surface-akash-mishra-amlan-prabhujyoti-sahu-priyabrata-mallick-ajit-behera?context=ubx&refId=5b389535-75c7-4b11-b773-105954274738>.
35. **Ajit Behera**, **Chapter title:** Smart Materials Based Additive manufacturing, **Book title:** Practical Implementations of Additive Manufacturing Technologies, Springer, **2023**, DOI: 10.1007/978-981-99-5949-5, <https://www.springerprofessional.de/en/smart-materials-based-additive-manufacturing/26113728>.

08th April, 2026

36. P. Sahoo, V. K. Agarwalla, **Ajit Behera**, **Chapter title:** Smart ceramic coatings used in the automotive industry, **Book title:** The Handbook of Advanced Ceramic Coatings, Elsevier, **2023**, <https://doi.org/10.1016/B978-0-323-99659-4.00014-0>
37. Santosh Sampath, Srinivasan Alagappan, G. Sudha Priyanga, Ram K. Gupta, **Ajit Behera**, Tuan Anh Nguyen, **Chapter title:** Shape memory ceramics, **Book title:** Advanced Flexible Ceramics: Design, Properties, Manufacturing, and Emerging Applications, 2023, <https://doi.org/10.1016/B978-0-323-98824-7.00002-6>.
38. S. Mohan, M. Pasupuleti, **Ajit Behera**, L. Muthulakshmi, N. Hariharan, **Chapter 1-** The world of microbes and its medical significance, **Book title:** Antiviral and Antimicrobial Smart Coatings, Elsevier, **2023**, <https://doi.org/10.1016/B978-0-323-99291-6.00002-5>.
39. P. Sahoo, **Ajit Behera**, **Chapter title:** Plasma technology in antimicrobial nanocoatings, **Book title:** Plasma at the Nanoscale, Elsevier, **2022**, 207-219, ISBN 9780323899307, <https://doi.org/10.1016/B978-0-323-89930-7.00002-9>.
40. S. Sampath, **Ajit Behera**, S. Thomas, T. A. Nguyen, **Chapter title:** NiTi-based smart micro- and nanoalloys: an introduction, **Book title:** Nickel-Titanium Smart Hybrid Materials, Elsevier, **2022**, Pages 3-8, ISBN: 9780323911733, <https://doi.org/10.1016/B978-0-323-91173-3.00018-3>.
41. P. Sahoo, B. Swain, **Ajit Behera**, **Chapter title:** Thermal spraying of NiTi alloy, **Book title:** Nickel-Titanium Smart Hybrid Materials, Elsevier, 2022, Pages 247-269, ISBN: 9780323911733, <https://doi.org/10.1016/B978-0-323-91173-3.00001-8>.
42. **Ajit Behera**, **Chapter title:** Smart applications of NiTi shape memory alloy in biomedical industries, **Book title:** Nickel-Titanium Smart Hybrid Materials, Elsevier, 2022, Pages 327-354, ISBN 9780323911733, <https://doi.org/10.1016/B978-0-323-91173-3.00007-9>.
43. R. Manik, **Ajit Behera**, **Chapter title:** NiTi smart alloys in electronic and electrical equipment, **Book title:** Nickel-Titanium Smart Hybrid Materials, Elsevier, 2022, Pages 355-377, ISBN 9780323911733, <https://doi.org/10.1016/B978-0-323-91173-3.00009-2>.
44. S. Chatterjee, S. S. Mahapatra, **Ajit Behera**, **Chapter title:** NiTi joining with other metallic materials, **Book title:** Nickel-Titanium Smart Hybrid Materials, Elsevier, 2022, Pages 379-398, ISBN 9780323911733, <https://doi.org/10.1016/B978-0-323-91173-3.00002-X>.
45. B. Swain, S. S. Mohapatra, **Ajit Behera**, **Chapter title:** Plasma Spray Coating: A Weapon to Fight with Erosion and Corrosion Phenomena, **Book title:** Thermal Spray Coatings, **CRC Publisher**, 2021, eBook ISBN9781003213185, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003213185-13/plasma-spray-coating-biswajit-swain-mohapatra-behera?context=ubx&refId=a3c5774b-b0b2-4ece-9139-f34b120f72f0>.
46. **Ajit Behera**, **Chapter title:** Freeform Optics/Nonimaging: An Introduction, **Book title:** Nanotechnology for Light Pollution Reduction, **CRC Publisher**, ISBN: 97810031851092022, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003185109-2/freeform-optics-nonimaging-introduction-ajit-behera>.
47. **Ajit Behera**, **Chapter title:** Smart Nanomaterials Usage for Artificial Skydomes, **Book title:** Nanotechnology for Light Pollution Reduction, **CRC Publisher**, **2022**, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003185109-9/smart-nanomaterials-usage-artificial-skydomes-ajit-behera-mantu-kumar-mahalik>
48. **Ajit Behera**, **Chapter title:** Wireless Nanosensors Network for Light Pollution Control, **Book title:** Nanotechnology for Light Pollution Reduction, **CRC Publisher**, **2022**, <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003185109-11/wireless-nanosensors-network-light-pollution-control-ajit-behera-santos-kumar-das-ramakrishna-biswal>
49. R. K. Mohapatra, **Ajit Behera**, P. K. Das, O. P. Jena, **Chapter title:** An artificial intelligence (AI) approach in medical science for predicting COVID-19, **CRC Publisher**, 2022, (in production).
50. **Ajit Behera** and R. K. Mohapatra, **Chapter title:** Intelligent Nanomaterials for Medicine, **Book title:** Nanomaterials and Nanotechnology in Medicine, **Wiley publisher**, **2022**, <https://doi.org/10.1002/9781119558026.ch15>
51. A. Sinha, **Ajit Behera**, A. Behera, **Chapter title:** Nanotechnology in the space industry, **Book title:** "Nanotechnology-Based Smart Remote Sensing Networks for Disaster Prevention", **Elsevier**, **2021**, <https://doi.org/10.1016/B978-0-323-91166-5.00005-7>.
52. **Ajit Behera**, S. V. S. K. Deepak Kumar, A. Pattanaik, **Chapter Title:** Role of additives on metal coating substrate surface, **Book title:** Chemical Modification of Solid Surfaces by the use of Additives, **Bentham Science publisher**, **2021**, 176-191 (16), <https://benthambooks.com/book/9789815036817/chapter/198109/>.
53. D. K. Rajak, P. H. Wagh, A. Kumar, Ajit Behera, C. I. Pruncu, **Chapter title:** Advanced Polymers In Aircraft Structures, **Book title:** Materials, Structures & Manufacturing For Aircraft, **Springer publisher**, **2022**, https://doi.org/10.1007/978-3-030-91873-6_3.

08th April, 2026

54. **Ajit Behera**, **Chapter title:** Shape-controlled metal nanoparticles for fuel cell applications, **Book title:** Nanotechnology in Fuel Cells, *Elsevier publisher*, 2022, 349-360, <https://doi.org/10.1016/B978-0-323-85727-7.00014-X>.
55. **Ajit Behera**, **Chapter title:** Fuel cells recycling, **Book title:** Nanotechnology in Fuel Cells, *Elsevier publisher*, 2022, 361-373, <https://doi.org/10.1016/B978-0-323-85727-7.00011-4>.
56. J. A. Thangakani, C. D. Sheela, R. Dorothy, N. Renugadevi, J. Jeyasundari, S. Rajendran, **Ajit Behera**, **Chapter title:** Applications of copper alloy nanoparticles in automotive, **Book title:** Nanotechnology in the Automotive Industry, *Elsevier publisher*, 2021, ISBN: 9780323905244, Pages 269-285, <https://doi.org/10.1016/B978-0-323-90524-4.00014-1>.
57. A. Behera and **Ajit Behera**, **Chapter title:** Ti-based nanoalloy in automobile industry, **Book title:** Nanotechnology in the Automotive Industry, ISBN: 9780323905268, *Elsevier publisher*, 2021, Pages 255-268 <https://doi.org/10.1016/B978-0-323-90524-4.00013-X>.
58. D. K. Rajak, D. D. Pagar, **A. Behera**, P. L. Menezes, **Chapter title:** Role of Composite Materials in Automotive Sector: Potential Applications, **Book title:** Advances in Engine Tribology. Energy, Environment, and Sustainability. *Springer*, 2022, https://doi.org/10.1007/978-981-16-8337-4_10.
59. **Ajit Behera**, S. Aich and T. Thevasanthi “**Chapter Title:** Magnetron sputtering for development of nanostructured materials”, **Book title:** Design, Fabrication and Characterization of Multifunctional Nanomaterials, ISBN: 978-0-12-820558-7, *Elsevier publisher*, 2022, <https://doi.org/10.1016/B978-0-12-820558-7.00002-9>.
60. **Ajit Behera**, D. K. Rajak and K. Jeyasubramanian, “**Chapter Title:** “Fabrication of nanostructures with excellent self-cleaning properties”, **Book title:** Design, Fabrication and Characterization of Multifunctional Nanomaterials, ISBN: 978-0-12-820558-7, *Elsevier publisher*, 2022, <https://doi.org/10.1016/B978-0-12-820558-7.00014-5>.
61. **Ajit Behera**, S. Chattergy, **Chapter title:** Industrial scale up applications of nanomaterials recycling, **Book title:** Nanomaterials Recycling, *Elsevier publisher*, 2021, <https://doi.org/10.1016/B978-0-323-90982-2.00015-9>.
62. **Ajit Behera**, D. Sahini, D. Pardhi, **Chapter title:** Procedures for recycling of nanomaterials: a sustainable approach, **Book title:** Nanomaterials Recycling, *Elsevier publisher*, 2022, <https://doi.org/10.1016/B978-0-323-90982-2.00009-3>.
63. **Ajit Behera**, D. K. Rajak, and P. B. Hussain “**Chapter Title:** 3D printing and nanosensors”, **Book title:** "Nanosensors For Smart Manufacturing", *Elsevier publisher*, ISBN: 978-0-12-823358-0, 2021, 183-198, <https://doi.org/10.1016/B978-0-12-823358-0.00010-1>.
64. A. Behera, J. Pan, and **Ajit Behera**, “**Chapter Title:** Temperature nanosensors for smart manufacturing”, **Book title:** "Nanosensors for smart manufacturing", *Elsevier publisher*, ISBN: 978-0-12-823358-0, 249-272, 2021, <https://doi.org/10.1016/B978-0-12-823358-0.00013-7>.
65. J. Parida, S. C. Mishra, **Ajit Behera**, (2021) Heat Treatment Effect on the Corrosion Behaviour of Plasma Processed LM6 Alloy. In: Pal S., Roy D., Sinha S.K. (eds) Processing and Characterization of Materials. Springer Proceedings in Materials, vol 13. *Springer, Singapore*. https://doi.org/10.1007/978-981-16-3937-1_3.
66. A. Behera, B. Behera, D. K. Sahoo, A. Pattnaik, K. N. Barik, P. Mallick, S. Bhuyan, S. C. Mishra, **Ajit Behera**, Effect of Cold Work on Microstructure and Corrosion Properties of 304L Stainless Steel, Advances in Mechanical Processing and Design. Lecture Notes in Mechanical Engineering. *Springer*, 2021, https://doi.org/10.1007/978-981-15-7779-6_37
67. **Ajit Behera** and R. K. Mohapatra, "**Chapter Title:** Green Technology for Environmental Hazard Remediation”, **Book title:** Nanostructured materials for visible-light-photocatalysis, *Elsevier publisher*, 2022, <https://doi.org/10.1016/B978-0-12-823018-3.00022-1> .
68. R. K. Mohapatra, P. K. Das, D. C. Kabiraz, D. Das, **Ajit Behera**, M. Kudrat-E-Zahan, "**Chapter Title:** Generation, Transportation and Utilization of Indian Coal Ash”, **Book title:** Clean Coal Technologies. *Springer, Cham*, 2021, https://doi.org/10.1007/978-3-030-68502-7_11
69. B. Swain, S. Bhuyan, R. Behera, S. S. Mohapatra and **Ajit Behera**, **Chapter title:** Wear: A Serious Problem in Industry, *Intech Press*, 2020, DOI: 10.5772/intechopen.94211.
70. **Ajit Behera**, “**Chapter Title:** 3D print battery, **Book title:** "Nanobatteries and nanogenerators", *Elsevier publisher*, 11-30, ISBN: ors/song/978-0-12-821548-7, 2020, <https://www.elsevier.com/books/nanobatteries-and-nanogenerators/song/978-0-12-821548-7>

08th April, 2026

71. A. Kumar, A. K. Behura, D. K. Rajak, **A. Behera**, P. Kumar, R. Kumar, “**Chapter Title**: “Fundamental Concepts of Bamboo: Classifications, Properties and Applications”, **Book title**: “Bamboo Fiber Composites”, Composites Science and Technology, *Springer*, 2021, <https://doi.org/10.1007/978-981-15-8489-3> 3.
72. **Ajit Behera**, P. Parida and A. Kumar, “**Chapter Title**: NiTi thin film shape memory alloy and their industrial application, **Book title**: “Functional Materials and Advanced Manufacturing” *CRC Press*, 2020, DOI: 10.1201/9780429298042-9.
<https://www.taylorfrancis.com/books/e/9780429298042/chapters/10.1201/9780429298042-9>.
73. S. K. Patel, B. Swain, **Ajit Behera**, **Chapter Title**: “Advanced Processing of Superalloys for Aerospace Industries, **Book title**: “Functional and Smart Materials”, *CRC Press*, 2020, <https://doi.org/10.1201/9780429298035>, eISBN: 9780429298035.
<https://www.taylorfrancis.com/books/e/9780429298035/chapters/10.1201/9780429298035-6>
74. S. D. Kumar, J. Ghose, S. K. Jha, **Ajit Behera**, A. Mandal, **Chapter Title**: "Optimization and Simulation of Additive Manufacturing Processes: Challenges and Opportunities, **Book title**: "Additive Manufacturing Applications for Metals and Composites", *IGI Publisher*, 2020, page 23, DOI: [10.4018/978-1-7998-4054-1.ch010](https://doi.org/10.4018/978-1-7998-4054-1.ch010).
75. **Ajit Behera**, **Chapter Title**: "Processes and Application in Additive manufacturing: Practices in aerospace, automobile, medical and electronic industries, **Book title**: "Additive Manufacturing Applications for Metals and Composites", *IGI Publisher*, page 25-47, 2020, DOI: [10.4018/978-1-7998-4054-1.ch002](https://doi.org/10.4018/978-1-7998-4054-1.ch002).
76. **Ajit Behera**, P. Mallick and S. S. Mohapatra, "**Chapter Title**: Nanocoatings for anticorrosion: An introduction ", **Book title**: Corrosion Protection at the Nanoscale, *Elsevier publisher*, ISBN no: 978-0-12-819359-4, Pages 449-457, 2020, <https://doi.org/10.1016/B978-0-12-819359-4.00013-1>.
77. **Ajit Behera** and P. Mallick, **Chapter Title**: Application of nanofibers in aerospace industry **Book title**: Fiber-Reinforced Nanocomposites: Fundamentals and Applications, *Elsevier publisher*, ISBN: 978-0-12-819904-6, 2020, <https://doi.org/10.1016/B978-0-12-819904-6.00020-7>.
78. **Ajit Behera**, B. Swain, and D. K. Sahoo, **Chapter Title**: Fiber reinforced ceramic matrix nanocomposites, **Book title**: Fiber-Reinforced Nanocomposites: Fundamentals and Applications, *Elsevier publisher*, ISBN: 978-0-12-819904-6, Pages 359-368, 2020, <https://doi.org/10.1016/B978-0-12-819904-6.00016-5>.
79. **Ajit Behera**, S. Patel, M. Priyadarshini, **Chapter Title**: Fibre reinforced Metal Matrix Nano-composites, **Book title**: Fiber-Reinforced Nanocomposites: Fundamentals and Applications, *Elsevier publisher*, ISBN: 978-0-12-819904-6, Pages 147-156, 2020, <https://doi.org/10.1016/B978-0-12-819904-6.00007-4>.
80. S. K. Patel, B. K. Swain, **Ajit Behera** and S. S. Mohapatra, **Chapter Title**: Metallic Glasses: A Revolution in Material Science, **Book title**: Metallic Glasses, ISBN: 978-1-78985-488-6, *InTech Press*, 2020, DOI: [10.5772/intechopen.90165](https://doi.org/10.5772/intechopen.90165)
81. **Ajit Behera**, S. S. Mohapatra, D. K. Verma, **Chapter Title**: “Nanomaterial: Fundamental Principle and Application”, **Book title**: Nanotechnology and Nanomaterial applications in food, health and biomedical science, 2019, *CRC press*, ISBN: 9781771887649, <https://www.taylorfrancis.com/chapters/edit/10.1201/9780429425660-4/nanomaterials-fundamental-principle-applications-ajit-behera-soumya-sanjeeb-mohapatra-deepak-kumar-verma>.
82. **Ajit Behera**, S. S. Mohapatra, **Chapter title**: “Challenges in Recovery of Valuable and Hazardous Elements from Bulk Coal Fly ash and Options for Increasing Fly ash Utilization”, **Book title**: Coal Fly Ash Beneficiation- Treatment of Acid Mine Drainage with Coal Fly Ash, 2017, *InTech Press*, ISBN 978-953-51-5228-6, <https://www.intechopen.com/chapters/55912>.

International Conferences

1. Debi Prasad Sahoo, **Ajit Behera**, S. Murugan, Experimental Study of Latent Heat Thermal Energy Storage System with Restricted Flow of Exhaust Gas Coupled to a Stationary Diesel Engine, *Advances in Fluid Mechanics and Fluid Power* - 12th International and 52nd National Conference on Fluid Mechanics and Fluid Power (FMFP2025). 2026.
2. J. Parida, S. C Mishra, **Ajit Behera**, Fabrication of TiNiFe alloy produced by mechanical alloying and conventional sintering, *Materials Today: Proceedings*, 2023, <https://doi.org/10.1016/j.matpr.2023.05.563>.
3. S. K. Sahu, D. K. Mishra, **Ajit Behera**, R. P. Dalai, An overview on the effect of heat-treatment and cooling rates on Ni-based superalloys, *Materials Today: Proceedings*, 2021, <https://doi.org/10.1016/j.matpr.2021.07.146>.
4. R. Manik, **Ajit Behera**, Thermal encoding using shape memory alloy, *Materials Today: Proceedings*, 2020, <https://doi.org/10.1016/j.matpr.2020.04.529>

08th April, 2026

5. S. K. Patel, B. Behera, B. Swain, R. Roshan, D. Sahoo, **Ajit Behera**, A review on Ni-Ti alloys for biomedical applications and their Biocompatibility, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.538>
6. S. K. Patel, B. Swain, R. Roshan, N. K. Sahu, **Ajit Behera**, A brief review of shape memory effects and fabrication processes of NiTi based alloys, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.539>
7. B. Swain, P. Mallick, S. Patel, R. Roshan, S. S. Mohapatra, S. Bhuyan, M. Priyadarshini, B. Behera, S. Samal, **Ajit Behera**, Failure analysis and materials development of gas turbine blades, **2020**, <https://doi.org/10.1016/j.matpr.2020.02.859>.
8. J. Parida, S. C. Pattnaik, S. C. Mishra, **Ajit Behera**, Effect of heat treatment on wear behaviour of Al-7 wt%Si-X wt% Mg alloys, **2020**, <https://doi.org/10.1016/j.matpr.2020.02.828>
9. A. Sai Kanishka, E. Gopinath, K. Sai Tharun, **Ajit Behera**, Srikar P, Homogenized Mixture (Ni-Al-hBN) Plasma Sprayed on Mild Steel by varying Spray velocity, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.708>
10. B. Behera, P. Mallick, B. Swain, S. K. Patel, R. Roshan, **Ajit Behera**, Surface modified mild steel and copper using homogenized fly-ash + quartz + ilmenite by plasma technology, **2020**, <https://doi.org/10.1016/j.matpr.2020.04.526>
11. Priyabrata Mallick, Bikram Behera, Swadhin Kumar Patel, Biswajit Swain, Rakesh Roshan, **Ajit Behera**, Plasma spray parameters to optimize the properties of abrasion coating used in axial flow compressors of aero-engines to maintain blade tip clearance, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.835>.
12. B. Behera, **Ajit Behera**, Splat analysis of plasma-sprayed (Al+Ni+h(BN)) homogenised mixture for improvement of abradable resistance on the aero-engine inner casing surface, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.836>
13. M. Priyadarshini, **Ajit Behera**, C. K. Biswas, B. Swain, S. Patel, Multi-objective optimization of WEDM process by hybrid methodology, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.321>
14. S. Das, V. Karthik, S. K. Pabi, Asit Behera, S. K. Patel, B. Swain, R. Roshan, **Ajit Behera**, Enhancement of thermal conductivity of Cu-Cr dispersed nanofluids according to multiscale modelling, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.330>.
15. M. Priyadarshini, **Ajit Behera**, B. Swain, S. Patel, Multi-objective optimization of EDM process for Titanium alloy, *Materials Today: Proceedings*, **2020**, <https://doi.org/10.1016/j.matpr.2020.03.492>.
16. M. Priyadarshini, C. K. Biswas, **Ajit Behera**, Grey-Taguchi optimization of Wire-EDM parameters for P20 tool steel, ICMRE'19: Proceedings of the 5th International Conference on Mechatronics and Robotics Engineering, 2019, Pages 5-8, <https://doi.org/10.1145/3314493.3314506>.
17. M. Priyadarshini, C. K. Biswas, **Ajit Behera**, Wire Electro Discharge Machining of P20 Tool Steel, *Materials Today: Proceedings*, Volume 5, Issue 11, Part 3, **2018**, Pages 25519-25523, DOI: [10.1016/j.matpr.2018.10.358](https://doi.org/10.1016/j.matpr.2018.10.358).
18. B. Swain, A. Patnaik, S. K. Bhuyan, K. N. Barik, S. K. Sethi, S. Samal, S. C. Mishra, **Ajit Behera**, Solid particle erosion wear on plasma sprayed mild steel and copper surface, *Materials Today: Proceedings*, Volume 5, Issue 9, Part 3, **2018**, Pages 20403-20412, DOI: [10.1016/j.matpr.2018.06.415](https://doi.org/10.1016/j.matpr.2018.06.415).
19. A. Pattanaik, S. K. Bhyan, A. Chakraborty, S. C. Mishra, **Ajit Behera**, Dry Sliding Wear Behaviour of Micro oven Treated Fly Ash Reinforced Epoxy Composite using Extended Taguchi Approach Optimization, National Conference on Processing and Characterization of Materials, IOP Publishing, Conf. Series: *Materials Science and Engineering* 178, **2017**, 012004, DOI: [10.1088/1757-899X/178/1/012004](https://doi.org/10.1088/1757-899X/178/1/012004)
20. A. Pattanaik, S. K. Bhuyan, S. K. Samal, **Ajit Behera**, S. C. Mishra, "Dielectric properties of epoxy resin fly ash composite", IOP Conf. Series: *Materials Science and Engineering*, 115, **2016**, 012003 DOI: [10.1088/1757-899X/115/1/012003](https://doi.org/10.1088/1757-899X/115/1/012003).
21. **Ajit Behera**, S. Aich, Asit Behera, A. Sahu, Processing and characterization of magnetron sputtered Ni/Ti thin film and their annealing behaviour to induce shape memory effect, *Materials Today: Proceedings*, 4th International Conference on Materials Processing and Characterization, *Materials Today: Proceedings* 2 (**2015**) 1183-1192, <https://doi.org/10.1016/j.matpr.2015.07.030>

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22. A. Sahu, **Ajit Behera**, Semi-solid processing and tribological characteristics of Al-Cu Alloy, *Materials Today: Proceedings*, 4th International Conference on Materials Processing and Characterization, 2 (2015) 1175-1182, <https://doi.org/10.1016/j.matpr.2015.07.029>.
23. **Ajit Behera**, A. Behera, S. C. Mishra, S. Pani, P. Parida, Air jet erosion test on plasma sprayed surface by varying erodent impingement pressure and impingement angle, 4th National Conference on Processing and Characterization of Materials, IOP Conf. Series: *Materials Science and Engineering*, 75 (2015) 012004, DOI:[10.1088/1757-899X/75/1/012004](https://doi.org/10.1088/1757-899X/75/1/012004).

National Conferences:

1. S. D. Kumar, S. Dewangan, S. K. Jha, S. K. Parida, **Ajit Behera**, 3D and 4D printing in industry 4.0: trends, challenges and opportunities, <https://books.aijr.org/index.php/press/catalog/book/108/chapter/870>
2. Kumari, R., **Behera, A.**, Bharti, P., Sethi, D.K. (2022). Tribological Performance of Heat Treated 0.6% C Steel. In: Kumari, R., Majumdar, J.D., Behera, A. (eds) Recent Advances in Manufacturing Processes. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-16-3686-8_14.
3. A. Dey, D. Roy, **Ajit Behera**, S. Aich, S. Ghosh, Multi-scale modeling of effect of substrate bias on Crystallinity of NixTi1-x thin films deposited using Magnetron Sputtering Technique, *52th National Metallurgists' Day and 68th annual technical meeting*, 2014 College of Engineering, Pune (COEP), 12-15 November (2014).
4. **Ajit Behera**, S. Aich, Nanostructured single- and double-bi-layered NiTi thin film shape memory alloy, *52th National Metallurgists' Day and 68th annual technical meeting*, College of Engineering, Pune (COEP), 12-15 November (2014).
5. **Ajit Behera**, S. Aich, Microstructural analysis of magnetron sputtered Bi-layered Ni-Ti thin film shape memory alloy, *51st National Metallurgists Day*, IIT (BHU), Varanasi, 12-15 November, (2013).
6. S. Aich, **Ajit Behera**, S. Ghosh, "Simulation of Phase transformation behavior of NiTi doped with Cu during loading using classical molecular dynamics", *50th National Metallurgists' Day*, (2012).
7. **Ajit Behera**, S. C. Mishra, Low Cost Heusler Ferromagnetic Shape Memory Alloy, National Conference on Processing and Characterization of Materials, Department of Metallurgical & Materials Engineering, 2-3 December, National Institute of Technology, Rourkela (2011).
8. **Ajit Behera**, Asit Behera, S. C. Mishra, Cryogenic Technique for Processing Steel Treatment, National Conference on Processing and Characterization of Materials, Department of Metallurgical & Materials Engineering, 2-3 December, National Institute of Technology, Rourkela, (2011).
9. P. Parida, **Ajit Behera**, S. K. Swain and S. C. Mishra, "Characterization of nanoparticle through SEM, FTIR, XRD, & DSC", National Conference on Processing and Characterization of Materials, Department of Metallurgical & Materials Engineering, 2-3 December 2011, National Institute of Technology, Rourkela, (2011).
10. P. Parida, D. Dash, **Ajit Behera** and S. C. Mishra, "Preparation and characterization of Graft biopolymer to improve sustained release property", National Conference on Processing and Characterization of Materials, Department of Metallurgical & Materials Engineering, 2-3 December 2011, National Institute of Technology, Rourkela, (2011).
11. **Ajit Behera**, S. C. Mishra, Demand on Magic Metal, UGC Sponsored National Workshop on Innovative Experiments in Physics, 9-10 January 2012, Neelashaila Mahabidyalaya Rourkela, January 2012.
12. **Ajit Behera**, S. Swain, S. C. Mishra, The Natural Composite: spheroidal Graphite Iron, UGC Sponsored National Workshop on Innovative Experiments in Physics, 9-10 January 2012, Neelashaila Mahabidyalaya Rourkela, January 2012.
13. Asit Behera, **Ajit Behera**, "Microstructural Study of Compacted Graphite Iron Used In Automotive Industry", National Conference on Recent Advances in Science for Technology, RAST-2012, Organized by department of physics, mathematics and chemistry, Veer Surendra Sai University of Technology, Burla, February 27-28, 2012.
14. **Ajit Behera**, S. C. Mishra, "Analysis of Martensitic Transformation in Ni-Mn-Sn FSMA", *National Conference on Recent Advances in Science for Technology*, RAST-2012, Organized by department of

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physics, mathematics and chemistry, Veer Surendra Sai University of Technology, Burla, February 27-28, **2012**.

15. **Ajit Behera**, S. C. Mishra, S. Rout, "Assurance of Quality Improvement for Tool Steel by Cryo-processing", National Conference on Recent Advances in Science for Technology, RAST-2012, Organized by department of physics, mathematics and chemistry, Veer Surendra Sai University of Technology, Burla, February 27-28, **2012**.
 16. Asit Behera, **Ajit Behera**, S. C. Mishra, "New Solution for Property Improvement of Automobile Parts", Advances in simulation & optimization Techniques in Mechanical Engineering, Organized by School of Mechanical Engineering, KIIT University, 18-19 february, **2012**.
 17. **Ajit Behera**, S. C. Mishra, "Property Optimization of Ferromagnetic Shape Memory Alloys with respect to Cost", Advances in simulation & optimization Techniques in Mechanical Engineering, Organized by School of Mechanical Engineering, KIIT University, 18-19 february, **2012**.
 18. **Ajit Behera**, S. C. Mishra, "Application of Fly-ash Composite in Plasma Surface Engineering", National Seminar on Waste To Wealth, Organized by Indian Institute off Metals-Bhubaneswar Chapter and SGAT-Bhubaneswar, 14-15 Dec, **2012**.
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SPONSORED RESEARCH PROJECT (R&D Projects)

1. **Project Title:** "Self Energize House by Using Advanced Materials for Energy Harvest and Energy Supply, IEI, 2025-2026 (Completed).
2. **Project Title:** "Exploring the ways and means for maximize utilization of LD sludge, ESP dust form Sinter Plant and Blast Furnace area in Cement Industry by replacing the conventional raw materials", Sponsor: **SAIL** (Jan2019 - Jan 2022) (Completed).
3. **Project Title:** "Smart Materials fabrication by 4D printing additive manufacturing technique", Sponsor: **Maruthi Engineering India** (2019-2021) (Completed).
4. **Project Title:** "Additive Manufacturing of Aluminium based alloys and composites", **CRS Grant** (2020-2022) (Completed).
5. **Project Title:** "Fabrication of Shape Memory alloy (SMA) using additive manufacturing and product utilization in automobile and Micro-electro-mechanical-system (MEMS) industries", Sponsor: **Maruthi Engineering India** (2019-2024) (Completed).

CONSULTANCY PROJECT

1. **Project Title:** "Heavy metal analysis of NTPC fly-ash", Sponsor: **National Thermal Power Corporation Limited (NTPC)**, 2020 (Completed).
2. **Project Title:** "Strengthening the fly-ash brick for f/c lining", Sponsor: **General Electric (GE)**, 2020 (Completed).
3. **Project Title:** "Enhancement of existing of DRI Plant, SMS Plant, Capacitive Power Plant & Pellet Plant", Sponsor: **M/S SHRI MAHAVIR FERRO ALLOYS PVT. LTD** (Completed).
4. **Project Title:** "Coke oven sludge analysis", Sponsor: **SAIL, RSP** (Completed).
5. **Project Title:** "Quality test of effluent treatment plant discharge", Sponsor: **IDL Explosives Limited** (Completed).
6. **Project Title:** "No Increase in Pollution Load" Certificate for Capacity Enhancement of induction furnace", Sponsor: **TPSL, Jharsuguda, Odisha** (Completed).
7. **Project Title:** "Analysis of Solid hazardous waste (fluoride based) generated from short blast dust", Sponsor: **Preet Group, Chattishgarh** (Completed).
8. **Project Title:** "The performance evaluation of ESP, bag filter, online CEMS & Surveillance Cameras: Testing of input and analysis of output", Sponsor: **TPSL, Jharsuguda** (Completed).
9. **Project Title:** "Analysis of enhancement of production capacity of DRI unit, Induction furnaces with NIPL", Sponsor: **Patnaik Steels and Alloys Ltd.** (Completed).
10. **Project Title:** "Performance evaluation of ETP, STP, CEQMS, flow meters", Sponsor: **NTPC** (Completed).

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- 11. Project Title:** "Import balance and consumption analysis of Ammonium Nitrate requirements of M/S IDL Explosive Limited", Sponsor: **IDL Explosive Pvt. Ltd.**(Completed).
- 12. Project Title:** "Import balance and consumption analysis of Ammonium Nitrate requirements of M/S IDEAL Industrial Explosives Ltd.", Sponsor: **IDEAL Industrial Explosives Ltd.**
- 13. Project Title:** "Import balance and consumption analysis of Ammonium Nitrate requirements of M/S Black Diamond Explosives Pvt. Ltd.", Sponsor: **Black Diamond Explosives Pvt. Ltd.**(Completed).
- 14. Project Title:** "Import balance and consumption analysis of Ammonium Nitrate requirements of M/S Solar Industries India Ltd.", Sponsor: **Solar Industries India Ltd.** (Completed).
- 15. Project Title:** "Testing and elemental analysis of M/s. Polychem provided materials", Sponsor: **Polychem Pvt. Ltd.** (Completed).
- 16. Project Title:** "Performance Evaluation of WPC/APC measures and online monitoring systems of MGM Minerals Ltd (Steel Division -II)", Sponsor: **MGM Minerals Ltd., (Steel Division - II)** (Completed).
- 17. Project Title:** "Performance Evaluation of WPC/APC measures and online monitoring systems of MGM Minerals Ltd (Steel Division -I)", Sponsor: **MGM Minerals Ltd., (Steel Division - I)** (Completed).
- 18. Project Title:** "Performance Evaluation of WPC/APC measures and online monitoring systems of Sponge Udyog Pvt. Ltd.", Sponsor: **Sponge Udyog Pvt. Ltd.**(Completed).
- 19. Project Title:** "Performance Evaluation of WPC/APC measures and online monitoring systems of M/S Suraj Products Ltd.", Sponsor: **Suraj Products Ltd.** (Completed).
- 20. Project Title:** "Performance Evaluation of WPC/APC measures and online monitoring systems of Ms. Pooja Sponge Private Limited", Sponsor: **Pooja Sponge Private Limited** (Completed).
- 21. Project Title:** "Chemical analysis of Australian Hard and Soft Coal provided by SAIL, RSP", Sponsor: **SAIL, RSP** (Completed).
- 22. Project Title:** "Performance evaluation of the APC, WPC, CEMS, and Surveillance cameras", Sponsor: **M/S Shri Mahavir Ferro Alloy Pvt. Ltd.** (Completed).
- 23. Project Title:** "Performance evaluation of the APC, WPC, CEMS, and Surveillance cameras", Sponsor: **M/S Envirocare Infrasolution Pvt. Ltd.** (Completed).
- 24. Project Title:** "Case Study of Iron Ore tailings & Disposal procedure of Iron Ore Tailing", Sponsor: **M/S Shri Mahavir Ferro Alloy Pvt. Ltd.** (Completed).
- 25. Project Title:** "Case Study of Iron Ore tailings & Disposal procedure of Iron Ore Tailing", Sponsor: **M/S AKS Expo-Chem Pvt. Ltd.** (Completed), 2024.
- 26. Project Title:** "Review and finalization of Pre-Feasibility Report, vetting of Pre-feasibility report and issue of NIPL certificate for Proposed for Capacity enhancement of Coke production from 0.78 MTPA to 0.85 MTPA by installation of 8 additional ovens in the existing Stamp Charge By-product Recovery Coke Oven Battery (COBP#2) in the existing Coke Oven Complex", Sponsor: **M/s Jindal Coke Limited.at village: Danagadi, District: Jajpur, Odisha** (Completed).
- 27. Project Title:** "Case Study of Iron Ore tailings & Disposal procedure of Iron Ore Tailing", Sponsor: **M/S AKS Expo-Chem Pvt. Ltd.** (Completed), 2025.
- 28. Project Title:** "Planning and report for the Waste Utilization, Pollution Control and Rain Water Harvest", Sponsor: **M/s Eastern Alloys Pvt Ltd., 2026.**

CONFERENCES, WORKSHOP, SHORT TERM COURSE CONDUCTED

1. Co-ordinator of "**High entropy alloys: A paradigm shifts in Materials Engineering Metallurgical and Materials Engineering**", 06-10th Apr 2026, Organized by Dept. of Metallurgical & Materials Engineering, NIT Rourkela.
2. Convener of "**38th National Convention of Metallurgical and Materials Engineering and National Conference on Capacity Building in Process Metallurgy**", 26th-27th July, 2025,

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Organized by IEI in association with Dept. of Metallurgical & Materials Engineering, NIT Rourkela.

3. Convener of “**39th National Convention of Electronics & Telecommunication Engineers and National Seminar on Internet of Things (IoT) reconnecting the world**”, Organized by IEI in association with Dept. of EC, NIT Rourela, 14-15th Feb, 2025.
4. Convener of “**National Conference titled "National Conference on Design Strategies for Noise and Vibration Control (DS-NVC 2024)"**”, 25th-26th May, 2024, Organized by Dept. of Industrial Design and Metallurgical & Materials Engineering, IEI Rourkela and NIT Rourkela.
5. Convener of “**National Conference on Artificial Intelligence and Machine Learning in Materials Engineering for Environment (AIMLMEE-2024)**” 18th-19th May, 2024, Organized by Electronics and communication engg. and Metallurgical & Materials Engineering, IEI Rourkela and NIT Rourkela.
6. Convener of the workshop “**Occupational Health and Workspace Acoustics**”, Organized by IEI and Dept. of Industrial Design, NIT Rourkela, 25-26th July, 2024.
7. Convener of “**1st National Conference on Indian Defense System and role of National Cadet Corps (NDSNCC-2023)**”, 26th-27th May, 2023.
8. Convener of “**2nd International Conference on Processing and Characterization of Materials (ICPCM-2019)**”, 12th-14th December, 2019
9. Convener of 5-days short term course on “**Process Metallurgy and its environmental impact**”, 21-25th Feb, 2019.
10. Convener of Five days’ short term course on “**Advances in Materials**”, 21st-25th March, 2019.
11. Convener of Five days’ workshop on “**High Temperature Materials (HTM-2019)**”, 18th-22nd April, 2019.
12. Convener of Five days TEQIP-III sponsored National workshop on “**Aero-craft Processes and Aero-Materials**”, 23rd-27th, May 2019.
13. Co-convener of workshop on “**Yoga and Life style management**” organized by extra-academic-activity, NCC, NIT Rourkela, 31st Aug-01st Sept, 2019.
14. Co-Convener of “**4th National Conference on Processing and Characterization of Materials (NCPCM-2015)**”, 12th-13th Dec, 2015.
15. Convener of National Seminar on “**Action & Attitude towards environmental protection**”, organized by extra-academic-activity, NCC, NIT Rourkela, 30th-31st July, 2022
16. Treasurer, “**Metallo Carnival**” organized by Indian Institute of Metals, Rourkela, 09th-10th Nov, 2022.

INVITED TALK/KEYNOTE SPEAKER/ SESSION CHAIR IN VARIOUS CONFERENCES/WORKSHOP/ SHORT TERM COURSE

- **Invited speaker** in Materials, Modelling, Manufacturing, and Measurements” NCM4 2026 13th-15th March 2026, Organized by Dept. of Metallurgical and Materials Engineering, VSSUT Burla, India, presented a topic on “**Materials for Advanced Constructive Manufacturing Processes**”.
- **Invited speaker** in Faculty Development Program on “Exploring the Frontiers of Additive Manufacturing” Organized by School of Mechanical Engineering, Manipal Institute of Technology, Udupi, Karnataka; presented a topic on “**Challenges and Opportunities in Metal Additive Manufacturing**”.
- **Chief Guest** and **Invited speaker** in Frontiers in Metal Additive Manufacturing: From Principles to Applications” from February 10 to 12, **2026**, organized by Dept. of Mechanical Engg., Nitte (deemed to be) University, Presentation Topic: **Challenges and Opportunities in Metal 3D and 4D Printing**.
- **Invited speaker** in Department of Mechanical Engineering Organizing “Technology Readiness Level (TRL), Manufacturing Readiness Level (MRL), Innovation Readiness Level (IRL), IP Commercialization, Tech-Transfer” on 4 Feb 2025, Presentation Topic: **Ni-based superalloy and a way to commercialize the turbine blade through a start-up**.

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- **Invited speaker** in Department of Mechanical Engineering Organizing 5-day FDP program on “Empowering Innovation: A Training Program on 3D Printing for Aspiring Technologists and Entrepreneurs” 2nd-6th February 2026, at FTBI, NIT Rourkela; Presentation Topic: *Processing of Smart Alloy and Commercializing Actuators*
- **Invited speaker** in Department of Mechanical & Automobile Engg, Christ (Deemed to be University), Mysore Road, Bengaluru, Karnataka, Presentation Topic: *Metal 4D Printing for the Industrial Revolution*, 13.12.2025
- **Resource Speaker** in Regional Institute of Education (NCERT, University of Mysore Campus, Mysuru) Presentation Topic: 1) *Book Proposal writing; and 2) Practical tips for Book Writings*, 10.12.2025
- **Resource Speaker** in “Rare Earths, Advanced Materials & Critical Minerals”, ATAL Online 6 Day Faculty Development Programmes, Organized by Govt. College, RajAmundry, A.P, 15-20 SEP 2025, Presentation Topic: *Applications of Advanced material in cutting edge technologies*.
- **Distinguished Speaker** in Five Days Workshop on “Metal Additive Manufacturing: Recent Progress and Future Opportunities”, Department of Mechanical Engineering, NIT Rourkela during 7th-11th July, 2025, Presentation Topic: *Current Scenario in Metal 4D Printing*.
- **Session Chair** in “International Conference on Intelligent Manufacturing and Energy Sustainability (ICIMES-2024)”, Malla Reddy College of Engineering and Technology (MRCET), Hyderabad, India, June 21-22, 2024.
- **Invited speaker**, “Indo-abroad project SPARC-II workshop, at IIT Kgaragpur on the topic “*Shape Memory Technology and Emerging applications*” on 19-21/03/2025”
- **Invited speaker**, “*Metal 4D Printing: State-of-art*” in a workshop “3D Printing: A Technology With its Diverse Potential in Multidisciplinary Sectors (3DPTECH)”, 19th-25th February 2024”, organized by the Dept. of Mechanical Engineering, NIT Rourkela <https://www.nitrkl.ac.in/docs/Workshop/ME/14122023182612267B.pdf>.
- **Keynote speaker**, “*Shape Memory Alloy and their application*” in “1st International Conference on Artificial Intelligence, Advanced Materials, and Mechatronics Systems (AIAMMS-2023)”, School of Engineering and Technology, JECRC University, Jaipur, India, November 3-4, 2023, <https://conference.jecrcuniversity.edu.in/aiamms23/index.html>.
- **Invited speaker**, “*Metallurgical aspects on 4D Print technology and applications*”, in Five Days National Workshop on 3D Printing: State-of-Art and Future Prospects (3DP-2023), 15th-19th July, 2023, Department of Mechanical Engineering, National Institute of Technology, Rourkela.
- **Session Chair** in “International Conference on Intelligent Manufacturing And Energy Sustainability (ICIMES-2023)”, Malla Reddy College of Engineering and Technology, Hyderabad, India, June 23-24, 2023, <https://www.icimes.in/>.
- **Invited speaker**, “*Smart memory alloys*”, Session 5 - Smart and Future Materials, Advanced Materials for Defence & Aerospace, 2022, 8-9 April 2021, Centre for Joint Warfare Studies (CENJOWS).
- **Session Chair** in “International Conference on Intelligent Manufacturing and Energy Sustainability (ICIMES-2021)”, Malla Reddy College of Engineering and Technology, Hyderabad, India, June 18-19, 2021.
- **Keynote speaker** in International Webinar on “*Smart Material: Temperature-induced Shape Memory Alloys*”, IRAJ International Conference, 04.04.2021, <http://webinar.iraj.in/>
- **Technical Speaker** on “*Global Utilization status of Fly ash*”, “National Seminar on Waste to Wealth, Effective Utilization of Solid Waste of Steel Plants”, 27/02/2021, Organized by The Institution of Engineers (India) in association with SAIL - Rourkela Steel Plant.
- **Guest speaker** on “*Global utilization of Fly ash*”, Seminar on “Fly ash user meet”, 02/02/2021 Darlipalli, Odisha
- **Invited speaker** on “*NiTi shape memory alloys*”, Short Term Training Programme on “Smart Materials and Systems: Theory and Applications”, sponsored by AICTE, 02/11/2020-07/11/2020, Dept. of Mechanical Engineering, C. V. Raman Global University, Bhubaneswar, Odisha.
- **Invited speaker** on “*Shape Memory Alloys: current and future industrialization*” webinar sponsored by AICTE, One Week Online Short Term Training Programme on “Recent Advances in Materials and Manufacturing (RAMM-2020)”, , sponsored by AICTE, Organized by the Department of Mechanical Engineering, GVPC Engineering, New Delhi, 7th-12th September, 2020.

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- **Guest lecture**, One Week-Faculty Development Programme-National Webinar On, “Advances welding technology”, Department of Mechanical Engineering, Jain University, from 04th-08th Aug, **2020**
 - **Invited speaker** on “*Application of SMA in space Industries*”, webinar sponsored by TEQIP-III on “Advances in Materials Processing and Characterization (AMPC-2020)”, organized by the Department of Metallurgical and Materials Engineering, IGIT Sarang, 28th August-1st September **2020**.
 - **Guest lecture** on “*Joining of smart materials with steel*”, in one week faculty development program on “advanced welding technology”, in Dept. of Mechanical Engineering at JAIN University, 4th-8th Aug, **2020**.
 - **Invited speaker** on “*Role of Various Smart Materials in industrial application*”, in Short Term Course sponsored by TEQIP-III on “Advances in Materials and Processing (AMP-2020)”, organized by Indira Gandhi Institute of Technology, Sarang, 24th-28th February **2020**.
 - **Keynote speaker** on “*Shape Memory Alloys Processing and Applications*”, in “National Conference on Advanced Materials Technology and Processing” Organized by NIT Jamshedpur, 30th-31st Aug **2019**.
 - **Keynote speaker** on “*NiTi Smart Alloys*” in “conference on science of engineering materials”, Organized by North Odisha University, Keonjhar, 3rd-4th April, **2019**.
 - **Invited speaker** on “Smart materials with smart technology” in the conference “Recent advances in materials science and Technology (RAMST-19)” Organised by Govt. College of Engineering, Keonjhar, 30th-31st March, 2019.
 - **Invited speaker** on “*Application of Plasma Technology in Chemical Engineering*”, Workshop on Application of chemical engineering in natural resources (AChENRI) Organized by Indira Gandhi Institute of Technology, Sarang, 18th July, 2018.
 - **Invited speaker** on “*Fly-ash generated from integrated steel plant: Waste to valuable products*”, International Conference on “Industrial Impacts on Environment and Sustainable Development (IIESD-2018) Organised by Govt. College of Engineering, Keonjhar, 15-16th April, 2018.
 - **Invited speaker** on “*NiTi-based shape memory alloys*”, Workshop on New Trends in Process Metallurgy, Material Processing and Characterization (NTPMPPMC-2018) organized by VSSUT, Burla, 19-23rd March, 2018.
 - **Invited speaker** on “*Smart material: Shape memory alloys*” organized by The Institute of Engineers (IE-India), Rourkela chapter, 01.02.2018.
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SHORT TERM COURSES/WORKSHOP/CONFERENCE ATTENDED

- Presented in 76th Annual Technical Meeting (ATM) of Indian Institute of Metals (IIM-ATM 2022) and the International Symposium on “Accelerated Materials Development and Additive Manufacturing: Scientific and Technological Perspectives (AMDAM)” at Hyderabad, Telangana, Organized by IIM Hyderabad Chapter, 13th- 16th Nov, **2022**.
- Presented in int. conf. on **12th International Conference on Plasma Science & Applications**, University of Lucknow, India, 11th-14th Nov, **2019**.
- Presented in 55th National Metallurgists' Day (NMD) and the 71st Annual Technical Meeting (ATM), BITS Pilani, K K Birla Goa Campus, **2017**.
- Attended QIP Short Term Course (STC) and Continuing Education Programme (CEP) on “**Steel Technologies**” (Date: 02-09 March, **2017**) Organized by Department of Metallurgical Engineering, Indian Institute of Technology, Varanasi-221005.
- “**Experimental Techniques in Extractive Metallurgy**”, organized by IIT Banaras Hindu University, July 8-10, **2016**.
- “**4th International conference on Thermo-Mechanical Simulation and Processing of Steels**”, RDCIS, SAIL, Ranchi, February 10-12, **2016**.
- “**Author workshop**” jointly organized by springer and IIT Kharagpur, 12th February, **2015**.
- “**Web scale discover services single window access to library e-resources**”, organized by central library, IIT Khargpur, 10th January, 2014.
- “**SciFinder and its new features**” held at IIT Kharagpur, 9th January, **2014**.
- “**iiParadigms europe**”, Workshop Organized by iGroup Infotech India Pvt. Ltd. At Indian Institute of Technology, Khargpur, 8th January, **2014**.

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- IEEE workshop on “**MEMS, Microfluidics, Microsystems with Hands-on training in device simulation & Microfabrication process**”, 4-6th July, 2013, at IIT Khargpur.
 - “**Publishing connect**”, workshop conducted by Elsevier in association with IIT Kharagpur, at central library IIT Khargpur, 25th November, **2013**.
 - “**Entrepreneurship Awareness Camp**”, Organized by Indian Society for Technical Education at Indira Gandhi Institute of Technology, 28-30th January, **2009**.
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EXTERNAL EXAMINER OF:

ANNA University

- **External Examiner**, PhD thesis and defense viva-voce, Center for nanoscience and technology, Anna University, Yr. **2018**.
- **External Examiner**, PhD thesis and defense viva-voce, Center for nanoscience and technology, Anna University, Yr. **2019**.

NIT Suratkal

- **External Examiner**, PhD thesis and defense viva-voce, Department of Mechanical Engineering, National Institute of Technology Karnataka, Suratkal, **2022**

NIFFT Ranchi

- **External Examiner**, M.Tech Viva-voce and thesis evaluation, National Institute of Foundry and Forge Technology, Ranchi, Yr. **2018**.

Visvesvaraya Technological University (VTU), Karnataka

- **External Examiner**, PhD thesis and defense viva-voce, Mechanical Engineering and Science, Visvesvaraya Technological University (VTU), Karnataka, Yr. **2022**
- **External Examiner**, PhD thesis and defense viva-voce, Mechanical Engineering and Science, Visvesvaraya Technological University (VTU), Karnataka, Yr. **2023**
- **External Examiner**, PhD thesis and defense viva-voce, Mechanical Engineering and Science, Visvesvaraya Technological University (VTU), Karnataka, Yr. **2025**

Bhabha Atomic Research Centre (BARC), Mumbai

- **External Examiner**, PhD thesis and defense viva-voce, Physical and Mathematical Sciences, HBNI, Atomic & Molecular Physics Division, Bhabha Atomic Research Centre, Mumbai, Yr. **2023**

JAIN University, Bangaluru,

- **External Examiner**, PhD thesis, Department of Mechanical Engineering, Faculty of Engineering and Technology, JAIN (Deemed-to-be-University), Bangaluru, Yr. **2025**

CUTM University, Andhra Pradesh

- **External Examiner**, PhD thesis, Department of Mechanical Engineering, CUTM University, Andhra Pradesh, Yr. **2025**
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DISSERTATION GUIDANCE

Ph. D. Guidance

1. **Rashmi Rekha Sahoo**, Institute PhD Scholar, (**Supervisor: Prof. Ajit Behera**, Co-Supervisor: Prof. S. Murugan) Area of Research: Additive Manufacturing of Ni₅₀Ti₅₀ and investigation to induce the smart properties and thermal behaviour (Enrolment Date: 23 July 2024) (**On-going**)
2. **Bimal Kumar Gouda**, PhD executive scholar (Supervisor: **Prof. Ajit Behera**, Co-Supervisor: Prof. Alok Satpathy) Area of Research: Surface Modification and Enhancement of Wear Behavior of Friction Exposed Surface in the Machine (Enrolment Date: 22 July 2024) (**On-going**)
3. **Bijoya Bhoi**, PhD executive scholar (Supervisor- **Prof. Ajit Behera**, Co-supervisor- Prof. S. Sarkar) Area of Research: Industrial solid waste utilization (Enrolment Date: 24 Aug 2020) (**On-going**)
4. **Saroj Ku. Sahu**, Indian Exchanged scholar (Supervisor- R. Dalai VSSUT-Burla, Co-supervisor- **Prof. Ajit Behera**) Area of Research: Preparation of Ni-based superalloys and their physical characterization. (**On-going**)
5. **Priyabrata Mallick**, PhD executive scholar (Supervisor- **Prof. Ajit Behera**) Area of Research: Plasma processing Technology (Enrolment Date: 24 Aug 2020) (**On-going**)

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6. **Debi Sahoo** PhD executive scholar (Supervisor- Prof. S. Murugan, Co-supervisor- **Prof. Ajit Behera**) Area of Research: Heat recovery from hot spring and use in thermal storage material (Enrolment Date: 01 Jan 2020) (**On-going**)
7. **Deepak Ku Sahoo**, Roll No: 517mm9008-Sponsored scholar (Supervisor- **Prof. Ajit Behera**) Area of Research: Utilization of alternate materials for clinker and cement manufacturing, (Enrolment Date: 03 Jan 2018) (**On-going, No. of publication=04**)
8. **Binayak Mishra**, Roll No: 1881142-Research Scholar (Supervisor- Prof. Sambit Kumar Mohapatra from KIIT Bbsr; Co-supervisor- **Prof. Ajit Behera**), Area of Research: Numerical and Experimental Study of Equal Channel Angular Pressing of Al-6063 Aluminium Alloy (**Completed with No. of publication=02**)
9. **Jagadish Parida**, Roll No: 519MM1002-Institute scholar (Supervisor- Prof. S. C. Mishra, Co-Supervisor- **Prof. Ajit Behera**) Area of Research: Influence of additive element on shape memory effect of NiTi smart alloy, (Enrolment Date: 29 Jul 2019) (**Completed with No. of publication=04**)
10. **Rakesh Roshan**, Roll No: 519MM1004-Institute scholar (Supervisor- **Prof. Ajit Behera**) Area of Research: NiTi high performance materials, (Enrolment Date: 29 Jul 2019) (**Completed with No. of publication=04+02 Scopus index Conf. Paper**)
11. **Swadhin Patel**, Roll No. 517MM1002-Institute scholar (Supervisor- **Prof. Ajit Behera**) Area of Research: Evolution of Shape Memory Effect and Superelasticity in NiTi Shape Memory Alloys at High Temperature, (Enrolment Date: 24 Jul 2017) (**Completed with No. of publication=06+02 Scopus index Conf. Paper**)
12. **Biswajit Swain**, Roll No. 516MM1011-Institute scholar (Supervisor- **Prof. Ajit Behera**) Area of Research: Analysis of microstructure, mechanical and superhydrophobic properties of atmospheric plasma sprayed NiTi alloy, (3rd Jan 2017-8th Jun 2022) (**Completed with Publication=11 SCI Journals+02 Scopus index Conf. Paper+ 03 Book Chapter+01 CRC Book**)
13. **Manisha Priyadarshini**, Roll No. 515ME1008-Institute scholar (Supervisor- Prof. C. K. Biswas, Co-supervisor- **Prof. Ajit Behera**) Area of Research: Wire Electro Discharge Machining of Cryotreated P20 tool steel, (06 Jan 2016-31 Dec 2021) (**Completed with Publication=04 SCI +01 Scopus Journal+05 Scopus index Journal+ 01 Book Chapter**)
14. **Prakash Mohan**, β -phase stability and the mechanical properties of Ti-Mo alloy in addition with Zr and Fe, *PhD exchange student from UPV, Valencia, Spain* (Supervisor- Prof. Vicente Amigó Borrás). (**completed**) (No. of publication from my lab. =01 SCI journal from my lab at NIT Rkl)

M. Tech Guidance

15. **Saiswari Arghyaru** (722MM1006), (Supervisor-Prof. Ajit Behera), Comparison of properties of AMPREALLOY fabricated by Additive Manufacturing and powder metallurgy technique (**On-going**)
14. **Sourav Chandra Behera** (223MM1434), (Supervisor-Prof. Ajit Behera), Physical and Mechanical characterization of 3D-printed AMPREALLOY bulk structure, (**Completed with 02 publication**)
13. **Dibya Spandan Patel** (720MM1022) (Supervisor-Prof. Ajit Behera), NiTi Nanodeposition of Si-semiconducting surface for MEMS application, (**Completed with 01 publication**)
12. **Vishal Agarwal** (718MM1028) (Supervisor-Prof. Ajit Behera), Stopping and Range of Ions in Matter (SRIM) simulation of NiTi SMA, (**Completed with 01 publication**)
11. **Amit Kumar** (220mm1481) (Supervisor-Prof. Ajit Behera), Characterization of temperature induced NiTi smart alloys, (**Completed**)
10. **Shivani Nayak** (220mm1483) (Supervisor-Prof. Ajit Behera), Processing and characterization of NiTi thin film shape memory alloys, (**Completed**)
9. **Saswat Kumar** (Roll No. 219MM1409) (Supervisor-Prof. Ajit Behera) Additive manufacturing by selective Laser melting (**Completed with 03 publication**)
8. **Ayush Sinha** (Roll no: 716MM1119), (Supervisor-Prof. Ajit Behera) Characterization of 3D print honeycomb structured air-fuel nozzle of aircraft. (**Completed with 04 publication**)

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7. **Bikram Behera** (Roll No. 218mm1475), (Supervisor-Prof. Ajit Behera) Deposition of (Al+Ni+BN) homogenised mixture to improve abradable resistance on aero-turbine inner cover materials, **2020 (Completed with 04 publication)**.
 6. **M S V Ravi Kishore** (Roll No. 216MM2448), (Supervisor-Prof. Ajit Behera) Area of Research: Fly ash brick for high temperature metallurgical furnaces, **2019 (Completed with 03 publication)**
 5. **Pinky Gochhayata**, Exchanged Scholar, (Supervisor-Prof. I. Tripathy, IGIT-Sarang, and Co-Supervisor-Prof. Ajit Behera) Repeated aging of Ni-based superalloys and effect on grain and grain boundary, 2019 (Completed)
 4. **Manikant Prasad** (Roll No. 217MM1260) (Supervisor-Prof. Ajit Behera) Synthesis and characterization of Nickel-Titanium shape memory alloy thin film, **2018 (Completed with 01 publication)**
 3. **Pruthwiraj Behera** (Roll No. 713MM1111), (Supervisor-Prof. Ajit Behera) Area of Research: Nickel-Titanium multi-layered thin film for Micro-Electro-Mechanical-systems, **2018 (Completed)**
 2. **Satya Prakash Rout**, Exchanged Scholar, (Supervisor-Prof. I. Tripathy, IGIT-Sarang, and Co-Supervisor-Prof. Ajit Behera) Effect of temperature and pressure on diffusivity at the interface of NiTi-Steel, **2018 (Completed)**
 1. **Ravishankar Suman** (Roll No. 712MM1130), (Supervisor-Prof. Ajit Behera) Area of Research: Multi-layered Nickel-Titanium shape memory alloys using sputtering technique, **2017 (Completed with 01 publication)**.
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MEMBERSHIP IN PROFESSIONAL BODIES

- Life Member- **Institute of Engineer (IE)**, Membership No: M1779014
 - Life Member- **Indian Institute of Metals (IIM)**, Membership No: R02-LM-55711
 - Life Member- **Materials Research Society (MRS)**, Membership No: LMB2789
 - Life Member- **Indian Thermal Analysis Society (ITAS)**, Membership No: LM581
 - Life Member- **Plasma Science Society of India (PSSI)**, Membership No: LM-1647
 - **International Association of Advanced Materials (IAAM)**, Membership No: 875281912288
 - **American Institute of Aeronautics and Astronautics (AIAA)**, Membership No: 984006
 - Life Member- **Indian Institute of Mineral Engineers (IIME)**, Membership No: LM-1343
 - American Chemical Society (ACS), Member Number: 31797756
 - Association of Asia Pacific Physical Societies, Division of Plasma Physics (AAPPS-DPP): Member ID=2572
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COMMITTEE MEMBER IN INTERNATIONAL ORGANIZATION

- **Advisory Committee member**, “5th International Conference on Civil Engineering Trends and Challenges for Sustainability”, NMAM Institute of Technology, Dec 19th-20th, 2023, Nitte, Karnataka, <https://ctcs2023.in/>.
- **Co-Chairman of the session**, “Artificial Intelligence and IoT in Agriculture and Food Industry 4.0 (AIIAF-2023)” organized by The Institution of Engineers (India), Rourkela Local Centre in association with the Dept. of Food Process Engineering and Computer Science and Engineering, NIT on August 12-13, 2023.
- **Technical committee member**, 35th National Convention of Metallurgical and Materials Engineers and National Conference on Low-grade Ore and Waste: Challenges and Remedies (LOW: CR-2023), 21-22 January 2023, organized by The Institution of Engineers (India), Durgapur local center, Under the Aegis of Metallurgical and Materials Engineering Divisions Board, IEI.
- **Advisory Committee member**, 4th International Conference on Civil Engineering Trends and Challenges for Sustainability (CTCS-2022), 22nd-23rd December 2022, Organized by Nitte Mahalinga Adyanthaya Memorial Institute of Technology (NMAMIT), <http://www.ctcs2022.in/>
- **Scientific Committee member** in “Third International Conference on Advances in Material Science, 8-9 December 2022 organized by Technology Research and Innovation Centre, India and hosted at the DVVP College of Engineering, Ahmednagar, Maharashtra, India, www.icams.in.

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- **Advisory Board member** in SCOPE database, <https://scopedatabase.com/about-scopedatabase>.
 - **Advisory Board member** in 3rd International Conference on Recent Advances in Mechanical Engineering Research and Development (ICRAMERD-22), 24th-25th Sep **2021**, Dept. of Mechanical Engineering, ITER, Siksha 'O' Anusandhan University, <https://www.icramerd.com/committees>.
 - **Advisory Committee Member**, International Conference on Innovation in Design and Manufacturing Engineering (ICIDME-2021), GIET University, 22nd -23rd Jan, **2021**, www.giet.edu/conf/.
 - **Scientific Committee member** in “International Conference on Advances in Material Science” (ICAMS 2020) scheduled on 03rd Oct, **2020** at DVVP College of Engineering, Ahmednagar, Maharashtra, India. <https://technologycentre.co.in/icams/>.
 - **Core-committee Members**, Advanced Engineering Materials Research Foundation (AEMRF), <http://www.aemrf.com/>.
 - **Scientific Committee Member**, International Conference on Efficient Engineering Systems 2020 (ICEES) is organized by the Association of Engineering Researchers in Virtual Mode finishes on 30 June **2020**, <http://icees.online/committee.php>.
 - **Technical committee members**, The 2nd International Conference on manufacturing, material science and engineering, CMR Institute of Technology, Hyderabad. 7th-8th Aug, **2020** (ICMMSE 2020) <https://icmmse.in/technical-committee/>.
 - **Organizing Committee** for the 3rd International conference on Academic Science and Engineering (ICASAE-2020), 14th - 15th Feb, **2020**, Punjab, <https://icasae.in/index.php>.
 - **Scientific advisory committee board member**, International Conference and Exhibition on Nanotechnology, 08th-10th June, **2020**, Seoul, South Korea.
 - **Advisory committee member** in “Recent Advances in material Science and Technology (RAMST-19)”, organized by Metallurgical & Materials Engineering, Govt. College of Engineering, Keonjhar, 2nd-3rd March, **2019**.
 - **International advisory board** in the conference “National conference on innovative structural materials” organized by Advanced Engineering Materials Research Foundation (AEMRF) 24th-25th Dec, **2018**, Bhubaneswar.
 - **International advisory board** in “International Conference on Industrial Impacts on Environment and Sustainable Development” (IIESD-2018) Organized by Govt. College of Engineering, Keonjhar, 15-16th April, **2018**.
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GUEST OF HONOUR/ SESSION CHAIR IN CONFERENCES

- **Chief Guest** and Invited speaker in Frontiers in Metal Additive Manufacturing: From Principles to Applications” from 10th - 12th, February **2026**, organized by Dept. of Mechanical Engg., Nitte (deemed to be) University, Presentation Topic: Challenges and Opportunities in Metal 3D and 4D Printing.
- **Session Chair** and **Guest of Honor** in the Station-Level Professional Circle, NTPC Darlipali (Odisha).
- **Chief Guest** on “World OZONE Day-2019” on 16/09/2019, organized by pollution control board, Rourkela.
- **Technical speaker** and **Guest of Honor** on the theme “Fly ash utilization” in Ash User Meet, 6th August **2019** at NTPC Limited, Darlipali Super Thermal Power Project (2X800MW), Sundargarh.
- Addressed the theme “Youth and Technology” as a main guest in Rourkela on “National Youth Day”, 12.01.2018.
- Addressed the theme "The World Ozone Day" as Guest of honor in SAIL, RSP, Rourkela, **2018**.
- Technical Committee, 35th National Convention of Metallurgical and Materials Engineers & National Conference on Low-grade Ore and Waste: Challenges and Remedies (VLOW: CR - 2023)
- **Session chair**, 3rd International Conference on Recent Advances in Mechanical Engineering Research and Development, Siksha 'O' Anusandhan University, 12th-13th Aug, **2022**, <https://www.icramerd.com/committees>.
- **Session chair**, International Conference on Advances in smart materials, chemical and biochemical engineering (chemsmart-22) department of chemical engineering national institute of technology Rourkela, 16-18th Dec, 2022, <https://www.chemsmart22.org/home>.

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- Guest of Honor in “Rare Earths, Advanced Materials & Critical Minerals”, ATAL Online 6 Day Faculty Development Programmes, organized by Govt. College, Rajahmundry, A.P, 15-20 SEP 2025.

ADMINISTRATIVE RESPONSIBILITIES

Army wing Associate NCC Officer (Rank: Captain)	May '18-Nov'25
Member of the committee for administrative and technical staff training under TEQIP-III	Dec' 17-Dec'20
Departmental Academic Committee (DAC)	July' 18-continuing
PIC-Library (MM Dept.)	July' 18- July' 23
Fund Allocation committee member (MM)	July'20- July 22
Faculty advisor for M. Tech 1st year	July' 15- July' 16
Central Library Purchase Committee member	July' 19- July 21
PIC of Mystique Club	Mar' 19-July 24
CO-Treasurer, NIT Rourkela Alumni Association	Mar' 19-Mar 21
CO-Treasurer, Indian Institute of Metals (IIM, Rourkela Chapter)	Oct' 20-Mar 24
Technical committee member (The Institution of Engineers)	July 21-July 23
FTBI steering committee members	July'22-July'24
Faculty Advisor, UG/PG (2022-2026) Batch	July'22- July'26
Faculty Advisor, Chess Club, NIT Rourkela	Aug'23-Aug' 24
Faculty Advisor, Vivekananda Club, NIT Rourkela	Aug'23-Aug'24

OUTREACH ACTIVITY RESPONSIBILITIES

Honorary Secretary , The Institution of Engineering, Rourkela Center	Oct' 23- Oct'25
Advisory committee member of the GIET, Bhubaneswar, GIET University, Gunupur-765022	July' 20- July' 25
Core Trust Member in Manaba Seba Kendra, Rourkela	Dec' 17- July' 25
Member in Scientific Temper Society, Rourkela	July' 18- July' 25
Youth Director, Rotary International Club, Rourkela central	Jan, 24- Continuing
Member of Anusandhan Prakosh, Odisha Pachim Prant	Oct' 23- July' 25
State General Secretary , Training, ABGP	Mar' 24-Continuing
PI in Unnat Bharat Abhiyan (UBA) , Rourkela Center	Apr'24- July' 25
Member in Margdarshan Scheme	Dec'23-Continuing

LABORATORIES HANDLED

- Thermal Analysis laboratory
- Mineral Dressing laboratory
- Basic Oxygen Furnace Sludge Processing laboratory
- Additive manufacturing laboratory

EXTRA-CURRICULAR ACCOLADES

- NCC Army wing refresher course SD-PT-I (20th Nov to 19th Dec 2023 at OTA, Kamptee, Nagpur, Maharashtra, India (Captain Rank).
- NCC Army Wing Pre-commission (PRCN) Course: NCC-SD-170 (26th Jul to 23rd Oct 2021) at OTA, Kamptee, Nagpur, Maharashtra, India (Lieutenant Rank).
- Conducted various NCC training camps like ALC, EBSB, ATC, CATC camp etc.
- Recipient of Grade '**C**' **Certificate** at NCC.
- **Gold Medal**, in senior category penchak silat, (Martial Arts)
- "**Blue Belt**" achiever in Martial Arts (Suko-Kai-International)
- Active participant of **Blood Donation** Campaigns (5th times up to 2020).

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PERSONAL INFORMATION

Date of Birth: 28th May 1987

Hobbies: Playing Badminton, Listening to Music

Languages Known: English, Hindi, Oriya, and Bengali.

Ajit Behera