

Name : Dr.Amit Kumar Rana
Designation : Associate Professor
Branch : Mechanical Engineering



Educational/Professional Qualification(s):

Qualification(s)	University
B.E. (Mechanical Engineering)	Jalpaiguri Government Engineering College (University of North Bengal)
M.E. (Mechanical.Engineering)	Jadavpur University, Kolkata
Ph.D (Mechanical Engineering)	IIEEST, Shibpur, Howrah

Experience in years:16 Yrs.

Academic:14.5 Yrs.

Professional Experience details:

Sl. No.	Organization	Position Held	Duration	
			From	To
1	The ICFAI University, Tripura, India	Associate Professor	2023	till date
2	The ICFAI University, Tripura, India	Assistant Professor	2020	2023
3	Academy of Technology, W.B.,India	Assistant Professor	2009	2020
4	B.P. Poddar Institute of Management and Technology, Kolkata, India	Lecturer	2008	2009

Industrial: 1.5 Yr.

Sl. No.	Organization	Position Held	Duration	
			From	To

1	Batliboi Environmental Engineering Ltd.	GET	2005	2006
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Administrative Experience:

Position	Organization	Duration
HOD, Department of Mechanical Engineering	Academy of Technology, Hooghly, India	2012 – 2019 (7 Yrs.)
Course Coordinator, Department of Mechanical Engineering	Academy of Technology, Hooghly, India	2011 - 2012
Chairman, Departmental Attendance monitoring and Counselling	Academy of Technology, Hooghly, India	7 Years
Member, Anti-Ragging committee	Academy of Technology, Hooghly, India	10 Yrs.
Member, Academic committee	Academy of Technology, Hooghly, India	2012 – 2019

Other Information:

a) Publication details.

International Journals

1. Amit Kumar Rana et al.,Elastic-plastic FE analysis for specimen J-resistance curve of 22NiMoCr37 steel, 2023(accepted)
2. Amit Kumar Rana et al.,2023,Low-cost Robot for smart healthcare services in Hospital(accepted)
3. **Amit Kumar Rana**, P.P. Dey. (2022) "Island-Matrix Inhomogeneous Deformation Behavior, Formation of Deformation Band, and BUT Forming of DP Steel". *IJMMME*, 12(1), 1-22 (SCOPUS)
4. **Amit Kumar Rana**, P.P. Dey. (2021) "Predicting Plastic Flow Behavior, Failure mechanisms and severe deformation Localisation of Dual-Phase Steel using RVE simulation". *International Journal of Automotive and Mechanical Engineering*, vol. 18, No.1, 8601-8611. (SCOPUS)
5. **Amit Kumar Rana**, S.K. Paul, P.P. Dey (2020) Effect of individual phase properties and volume fractions on the strain partitioning, deformation localization and tensile properties of DP steels, *Sāadhanā* , vol. 45, 235. (SCI)

6. **Amit Kumar Rana**, S. Datta, S. Kundu (2020) Deformation behaviour during deep drawing operation under simple loading path: A simulation study, *Materials Today: Proceedings*, vol. 26, pp. 750-755. (SCOPUS)
7. B. Sarkar, A. I. Khan, **A. K. Rana**, S. Kundu (2020) Quantification of the phase fraction in multiphase steel and 2D design using mini CNC plotter, *IOP Conf. Ser.: Mater. Sci. Eng.*810, 012066.(SCOPUS)
8. **Amit Kumar Rana**, S.K. Paul, P.P. Dey (2019) Effect of martensite volume fraction on cyclic plastic deformation behavior of dual phase steel: micromechanics simulation study, *Journal of Materials Research and Technology*, vol.8, No. 5, pp. 3705-3712. (SCI).
9. **Amit Kumar Rana**, J.Sethi, D.P.Tiwari, A.Sarkar, J.Santra, S.Kundu, P.P.Dey (2019) Investigation of Flow Behavior and Plastic Strain Distribution of Dual Phase Steel in Bending Under Tensile Loading, *Mater. Today:Proc.*vol.18, pp. 2662-2671. (SCOPUS)
10. **Amit Kumar Rana**, Sanjib Kumar Acharyya, Sankar Dhar (2019) A simplified procedure to prediction of ductile failure modes of a SA333 Gr.6 carbon steel pipe: Fracture instability and Plastic collapse condition, *Materials Today: Proceedings*,vol. 18, pp. 2893-2902. (SCOPUS)
11. **Amit Kumar Rana**, S.K. Paul, P.P. Dey (2019) Stress field in an isotropic elastic solid containing a circular hard or soft inclusion under uniaxial tensile stress, *Materials Today: Proceedings*, vol.11, No.2, pp.657-666. (SCOPUS)
12. **Amit Kumar Rana**, S.K. Paul, P.P. Dey (2018) Effect of martensite volume fraction on strain partitioning behavior of dual phase steel, *Physical Mesomechanics*, vol.21, No. 4, pp. 333-340. (SCI)
13. N. Ghosh, A. Malakar, K. Chakravarty, **A.K. Rana** (2018) A simulation study of forced vibration analysis of Solar Buoy structure,*International Journal of Mechanical and Production Engineering Research and Development*, Special Issue, pp. 105-110.(SCOPUS)
14. **A.K. Rana**, C. Guchait, S. Datta (2018) Simulation Study of Light Weight Crashworthiness of Car Bumper in Frontal Crash, *Journal of Emerging Technologies and Innovative Research*, vol. 5, No. 9, pp.735-749.(UGC care)

b) Details of Seminar/Workshop/Conference.

International conferences

1. **A.K.Rana** et al., Investigation of Flow Behavior and Plastic Strain Distribution of Dual Phase Steel in Bending Under Tensile Loading, 9th International Conference on Material Processing and Characterization 2019 (ICMPC-2019), pp.33, 08-10 March 2019, GRIET Hyderabad, India.

2. **Amit Kumar Rana**, S. Acharyya, S. Dhar. A simplified procedure to prediction of ductile failure modes of a SA333 Gr.6 carbon steel pipe: Fracture instability and Plastic collapse condition, 9th International Conference on Material Processing and Characterization 2019 (ICMPC-2019), pp.33, 08-10 March 2019, GRIET Hyderabad, India.
3. **Amit Kumar Rana**, S.K. Paul, P.P. Dey. Analysis of stress field around a soft inclusion under uniaxial tensile stress, 2nd International Conference on “Emerging Materials: Characterization & Applications (EMCA 2017)” pp, March 15-17, NIT, Durgapur, W.B.

i) National Conferences

1. **Amit Kumar Rana**, S.K. Paul, P.P. Dey. Elastic stress field around a soft inclusion under uniaxial tensile stress” Research Scholars Colloquium (RSC 2016), 23 - 24 August, 2016, ISBN: 978-93-80813-44-8, pp. 73-74, Indian Institute of Engineering Science and Technology, Shibpur, Howrah.
2. **A.K. Rana**, S. Chakraborty, S. Datta. Simulation Study of Solid Bumper Beam under Frontal Impact Load” National Conference on Advanced Materials, Manufacturing and Metrology (NCAMMM - 2018) on 16-17, February, 2018, ISBN: 978-93-87480-56-8, pp.12-16, at CSIR-CMERI, Durgapur.
3. **A.K. Rana**, A. K. Singh, A. Maitra, B. Mukherjee, A. Bhuiya, S. Datta, Simulation of Deep Drawing Deformation Behaviour under Simple Loading Path: A Study, National Conference on Advanced Materials, Manufacturing and Metrology (NCAMMM - 2018) on 16-17, February, 2018, ISBN: 978-93-87480-56-8, pp.12-16, at CSIR-CMERI, Durgapur.

ii) Participation in FDP/Seminar/Workshop

- Attended Five days multidisciplinary FDP from 3.07.2023 to 07.07.2023 on Recent trends in technology conducted by EE and ECE Dept. IUT
- Attended Two weeks FDP on “Additive Manufacturing and 3D Printing (AM & 3DP) jointly organized by Electronics and ICT Academies at IIT Roorkee, MNIT Jaipur, NIT Patna and PDPM IITDM Jabalpur during July 18-29, 2022.
- Attended Workshop on National Intellectual Property training program organized by Intellectual Property Office, Govt. of India on June 14, 2022.
- Attended Workshop on National Intellectual Property training program organized by Intellectual Property Office, Govt. of India on June 15, 2022.

- Five Day online Faculty Development Program (FDP) on Artificial Intelligence & Machine Learning held during June 28- July 02, 2021 organized by IcfaiTech, ICFAI University Jaipur.
- Five Day online Faculty Development Program (FDP) on Recent Trends in Mechanical Engineering, held during July 20- July 24, 2021 organized by IcfaiTech, ICFAI University Jaipur.
- Webinar on “Renewable Energy and Electric Vehicles” held on 13th April, 2021 organized by Department of Electrical and Electronics Engineering, The ICFAI University Tripura.
- GU-SME Expert talk Series on Ant Colony Optimization for Cell Formation Problem held on 23 January, 2021 organized by School of Mechanical Engineering, Galgotias University, Greater Noida, U.P.
- National conference on Innovation in sustainable Energy and Technology (ISET INDIA 2020), Energy Institute, Bengaluru, December, 3-4, 2020.
- Tribology Frontiers Workshop, Dept. of Mech. Engg., IEST Shibpur, August 3-4, 2016.
- High Impact Teaching Skills workshop, WIPRO MISSION10X, AOT Hooghly, June 7-11,2011.

iii) Seminar/Workshop organized

- Convener, one day Webinar on “Tribology of Electroless Nickel Coatings” held on 17th December, 2020 organized by Department of Mechanical Engineering, The ICFAI University Tripura.
- Convener, Workshop on “Recent Trends in Sustainable Energy and Industrial Technologies” held during 15th-19th March, 2021 organized by Department of Mechanical Engineering, The ICFAI University Tripura.
- Convener, one day Webinar on “Recent Trends Advances in Mining Machinery and Power Hydraulics” held during 16th April, 2021 organized by Department of Mechanical Engineering, The ICFAI University Tripura.
- Convener, one day Webinar on “Job Prospects and B.Tech. Projects” held on 6th July, 2021 organized by Department of Mechanical Engineering, The ICFAI University Tripura.
- Coordinator, one day Webinar on “Computational optimization techniques for performance enhancement in welding” held on 16th September, 2021 organized by Department of Mechanical Engineering, The ICFAI University Tripura.

- Convener, five days offline workshop on “Mechatronics system design and prototype development” held during 21st-25th February, 2022 organized by Department of Mechanical Engineering, The ICFAI University Tripura.
- Convener, two days’ workshop on “Digital Fabrication” held during 1st – 2nd September, 2022
- Convener, five days’ workshop on “Skill development using 3D Printing” held during 14th– 18th November, 2022
- Convener, one day Seminar on “Nanomaterials: Introduction and Applications in GreenEnergy Harvesting” held 19th April, 2023
- Member, five Days Multidisciplinary Faculty Development Program (FDP) On“Sustainable Engineering: Integrating Multidisciplinary Approaches for a Greener Future”Date: 17th July, 2023 - 21st July, 2023, Venue: Auditorium, IUT
- Convener, National Workshop on “Hydraulic Systems and Application in Indian Industry " Date: 19th July, 2023 (Wednesday), Venue: Auditorium, IUT

(c) Presentations

- Presentation in 15th ICMPC, 2023, Northumbria University, Newcastle, UK
- Technical presentation at ISET INDIA2020
- Presentation at ICMPC-2019

(d) Current professional involvement/experience

- Teaching and research
- Section Editor, IUT Journal of Advance Research and Development (JARD)
- In-charge, MSME Design centre, IUT
- Member, BOS for Curricula building, ME Dept., IUT
- Departmental Special Project Coordinator, ME Dept., IUT
- Faculty In-charge for placement, ME Dept., IUT
- Mentor, SIP
- Guide, Special Project
- Guide, Theme Project
- Coordinator for establishing new laboratories in the department; namely Materials Science and Digital Fabrication
- NAAC related works
- Designed course in LMS, IUT platform.
- Mentor-Mentee and Event related activities
- Member, Academic Counselling Committee (ACC), ME Dept., IUT

- Associated as reviewer for International Journal of Automotive and Mechanical Engineering
- Associated as reviewer for Surface Topography: Metrology and Properties
- Associated as reviewer for Modelling and Simulation in Materials Science and Engineering
- Associated as reviewer for Engineering Research Express
- Submitted projects proposal for Research Fund

(e) Courses taught at IUT

- Kinematics of Machinery
- Design of Machine Elements
- Engineering Mechanics
- Dynamics of Machinery and vibrations
- Automation and Robotics
- Engineering Graphics (Board Drawing and CAD)
- Machine Drawing
- Dynamics of Machinery and vibrations Lab.
- Digital Fabrication (3D Printing, CAD)
- Metrology Theory
- Metrology Practical
- Thermodynamics
- Refrigeration and Air Conditioning Theory
- Refrigeration and Air Conditioning Practical
- I.C. Engines Theory
- I.C. Engines Practical
- Special Project
- Rubber Technology
- GATE Classes

(f) Professional membership of reputed bodies if any.

Member of Professional bodies: Institution of Engineers India (MIE)