Name of the faculty: Dr. Rahul Kanti Nath

Designation: Assistant Professor

Education: (UG,PG, PhD)

(UG) B. Tech in Mechanical Engineering

Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology

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Research Interest:

- **Welding Technology**
- **Materials Processing**
- **Polymer, Metal and Alloys, Composites**
- **Mechanical Properties**
- **Conventional Machining**
- **Non-Conventional Machining**
- **Automobile Engineering**

Membership of professional bodies: Associate Member (AM158283-9) of The Institute of Engineers (India)

Professional Experience:

August 2025- Present	**Assistant Professor** in Mechanical Engineering Department, Techno College of Engineering Agartala.
July 2025-August 2025	**Project Assistant**, DST-SERB-CRG Research Project, Mechanical Engineering Department, Agartala, Jirania, Tripura 799046
January 2025-June 2025	**Research Scientist**, HuT Labs, Amrita Vishwa Vidyapeetham. Amritapuri Campus, Clappana P,O., Kollam- 690525, Kerala, India.
March 2022 –December 2024	**Assistant Professor**, Department of Mechanical Engineering, RERF Group of Institutions (Affiliated to MAKAUT), Barrackpore, India.

Patents:

1. Glaszusammensetzung (Ag2O-MoO3-P2O5) zur Bestimmung der Auswirkungen von Silbersulfid auf die elektrische Leitfähigkeit und die dielektrische Relaxation, 2022, Gebrauchsmusters Nr. 20 2022 106 386, IPC C03C 3/16.
2. Transition-metal oxides-doped glass nanocomposites composition for a non-enzymatic glucose sensor and its preparation process thereof, Application No.202311065399 A
3. Microalgae-Based Multi-Source Renewable Energy Harvesting Carbon Capturable Artificial Tree. Application No. 202531001424

Publications:

Publishes Journal/ Conference papers/ Book/ Book Chapters :

Publications in SCI Indexed Journals

1.Rahul Kanti Nath, Pabitra Maji, John Deb Barma,; Joining of Advance Engineering Thermoplastic Using Novel Self-Heated FSW Tool, JOM, 2021, 73:1774–1785.

2.Rahul Kanti Nath, Vinayak Jha, Pabitra Maji, John Deb Barma,; A novel double-side welding approach for friction stir welding of polypropylene plate, The International Journal of Advanced Manufacturing Technology, 2021, 113:691–703.

3.Rahul Kanti Nath, Pabitra Maji, John Deb Barma,; Development of a Self-Heated Friction Stir Welding tool for welding of polypropylene sheets, Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2019, 41:553.

4.Pabitra Maji, Subrata Kumar Ghosh, Rahul Kanti Nath, Ranit Karmakar,; Microstructural mechanical and wear characteristics of aluminum matrix composites fabricated by friction stir processing, Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2020, 42:191.

5.Pabitra Maji, Rahul Kanti Nath, Ranit Karmakar, Pritam Paul, R.K. Bhogendro Meitei, Subrata Kumar Ghosh,; Effect of post processing heat treatment on friction stirwelded/processed aluminum based alloys and composites, CIRP Journal of Manufacturing Science and Technology, 2021, 35:96-105.

6.Pabitra Maji, Rahul Kanti Nath, Pritam Paul, R.K. Bhogendro Meitei, Subrata Kumar Ghosh,; Effect of processing speed on wear and corrosion behavior of novel MoS2and CeO2 reinforced hybrid aluminum matrix composites fabricated by friction stir processing, Journal of Manufacturing Processes, 2021, 69:1–11.

7.SVVN Siva Rao, Tharra Bhavani, Rahul Kanti Nath, Pabitra Maji, Subrata Kumar Ghosh, John Deb Barma,; Surface Modification by Electro Discharge Machining Using Powder Metallurgy Electrode: A Review, Surface Review and Letters, 2021, 28: 2030004.

8.Pabitra Maji, Rahul Kanti Nath, Ranit Karmakar, Dileep Madapana, R.K. Bhogendro Meitei, Subrata Kumar Ghosh,; Wear and Corrosion Behavior of Al7075 Matrix Hybrid Composites Produced by Friction Stir Processing: Optimization of Process Parameters, JOM, 2021, 73, 4397–4409.

9.P Maji, SK Ghosh, Rahul Kanti Nath, P Paul, RKB Meitei,; Characterization of novel molybdenum disulfide and cerium dioxide reinforced hybrid aluminum matrix composites fabricated by friction stir processing, Materialwissenschaft und Werkstofftechnik, 2022, 53:705-722.

10.Pritam Paul, Subrata Kumar Ghosh, Rahul Kanti Nath, Pabitra Maji, Prabhat Kumar,; Recent advances in surface modification of engineering materials by TIG cladding process: A Review, Surface Review and Letters, 2024.

Publications in other Journals

1.Rahul Kanti Nath, Pabitra Maji, Atosh Kumar Sinha, Ranit Karmakar, Pritam Paul, Effect of different electrode angles as well as weld direction on the bead geometry of submerge arc welding process, Materials Today: Proceedings, 2022, 49: 1793-1798.

2.Pabitra Maji, Ranit Karmakar, Rahul Kanti Nath, Pritam Paul, An overview on friction stir welding/processing tools, Materials Today: Proceedings (online 13 January 2022).

3.Rahul Kanti Nath, Pabitra Maji, John Deb Barma, Effect of tool rotational speed on friction stir welding of polymer using self-heated tool, Production Engineering (online 28 February 2022).

4.Sabyasachi Mukherjee, Rahul Kanti Nath, Puspendu Chandra Chandra, Sutanu Samanta, Manapuram Muralidhar, Fabrication of Aloe vera nanopowder by high energy ball mill process, , Materials Today: Proceedings, 2023, 80:1579-1584.

5.Rahul Kanti Nath, John Deb Barma, Nitish Singh, An experimental investigation of the effect of tool rotational speed on the force, torque and mechanical behaviour of friction stir welded PVC sheets, 2019, 577: 012108.

6.Rahul Kanti Nath, Ajay Biswas, Regression Analysis of Submerged Arc Welding Process Parameters with Respect to Different Electrode Angle as Well as Welding Direction, 201, 5: 46-50.

Conference Presented

1.Effect of MoS2 and CeO2 powder addition by friction stir processing on wear and corrosion properties of Al7075 alloy, National Conference on Research and Developments in Material Processing, Modelling and Characterization 2020 (RDMPMC 2020), 26th - 27th August, 2020.

2.Effect of Different Electrode Angle as Well as Weld Direction on the Bead Geometry of Submerge Arc Welding Process, Global Conference on Recent Advances in Sustainable Materials (GC-RASM 2021), 29th – 30th July, 2021.

3.An Overview on Friction Stir Welding/ Processing Tools, The International Conference on Artificial Intelligence & Energy Systems (AIES 2021), 8th – 9th December, 2021.

4.Development of composites using bamboo waste and polymers for industrial application, National Conference on Research and Developments in Material Processing, Modelling and Characterization 2020 (RDMPMC 2020), 26th - 27th August, 2020.

5.An experimental investigation of the effect of tool rotational speed on the force, torque and mechanical behaviour of friction stir welded PVC sheets, International Conference on Advances in Materials and Manufacturing Applications (IConAMMA-2018) 16th –18th August 2018., Bengaluru, India

6.Fabrication of Aloe vera nanopowder by high energy ball mill process, Second Global Conference on Recent Advances in Sustainable Materials 2022.

Book Chapters

1.Pabitra Maji, Ranit Karmakar, Rahul Kanti Nath, RK Bhogendro Meitei, Subrata Kumar Ghosh, Effect of MoS2 and CeO2 powder addition by friction stir processing on wear and corrosion properties of Al7075 alloy, Next Generation Materials and Processing Technologies: Select Proceedings of RDMPMC 2020, Springer Nature, 2021, 11:147.

2.Atosh Kumar Sinha, Rahul Kanti Nath, John Deb Barma, Mitali Saha, development of composites using bamboo waste and polymers for industrial application, Next Generation Materials and Processing Technologies: Select Proceedings of RDMPMC 2020, Springer Nature, 2021, 11:41.

Book

1.Trends in Materials Science & Mechanical Engineering, Orange Books Publication, ISBN: 978-93-6554-959-1.

Achievements (if any): Young Scientist Awards

Hobbies: Travelling