

Name: Dr ARIJIT BANERJEE

Department: MECHANICAL ENGINEERING

Contact Nos.: 9339204602

Qualifications: PhD

Designation: ASSOCIATE PROFESSOR

VIDWAN ID: 193468

Experience (Teaching / Research / Industry, in years):

Teaching (full time): 9.5 years

Teaching (visiting): Two semesters at Jadavpur University

Teaching (visiting): Two months at Neotia Institute of Technology Management and Science

Research: It's during the time of PhD (7 years), Other than PhD: 8 months

Industry: Nil



Date of Joining at the Present Institution: 10/07/2015 (10th July, 2015)

Examinations Cleared: NET-CSIR/GATE : GATE

Qualifications Summary (Reverse chronological order):

Degree	Institute	From	To	Subjects
Doctoral (PhD)	Jadavpur University	2007	2014	Thesis Title: Numerical Simulation of Dispersion of Particles Using Multi-fluid Model.
JRF	Jadavpur University	2006	2007	BRNS Project Fellow
MME	Jadavpur University	2004	2006	Thesis Title: Visualisation of Energy Transport During Phase Change Using Generalized Heatline Formulation. Subjects: <ul style="list-style-type: none">• Computational Heat Transfer• Advanced Thermodynamics• Advanced Engineering Mathematics,• Advanced Computational Heat Transfer, Heat Exchangers,• Combustion Engineering,• Heat And Mass Transfer,• Convective Heat Transfer,• Analytical Methods In Heat Conduction• Advanced Thermodynamics• Fluid Power And Control• Electro-Hydraulic Systems And Control

BME	Jadavpur University	2000	2004	Subjects: <ul style="list-style-type: none"> • Engineering Mechanics: Statics • Engineering Mechanics: Dynamics • Advanced Dynamics of Machines • Kinematics of Machines • Materials Science I and II • Manufacturing Processes • Machining Technology and Metrology • Machine Tools • Strength of Materials • Thermodynamics I and II • Fluid Mechanics I and II • Fluid Machines I and II • Heat Transfer • Internal Combustion Engines • Steam Turbines • Energy Conversion Methods • Engineering Mathematics I, II, III, IV and V • Engineering Physics I and II • Industrial Engineering • Engineering Economics and Costing • Advanced Programming and Applications
Not completed	Jadavpur University	1999	2000	<ul style="list-style-type: none"> • From 1999-2000 studied in CONSTRUCTION TECHNOLOGY
HS	Salkia A S High School	1997	1999	Bengali, English, Mathematics, Physics, Chemistry, Biology.
Madhyamik	Sekenderpur Rai K P Pal Bahadur High School		1997	Bengali, English, Mathematics, Physical Science, Life Science, History, Geography, Chemistry.

Experience Summary (In chronological order):

Designation	Organization	Date From	Date To
Visiting Faculty	Department of Power Engineering, and Department of Information Technology, Jadavpur University.	01/07/2006	31/12/2006
Visiting Faculty	Department of Mechanical Engineering, Jadavpur University	01/07/2011	31/12/2011
Visiting Faculty	Neotia Institute of Technology Management and Science	03/02/2012	02/04/2012
Assistant Professor	Department of Mechanical Engineering, Neotia Institute of Technology Management	03/04/2012	09/07/2015

	and Science		
Associate Professor	Department of Mechanical Engineering, Dr. B. C. Roy Engineering College, Durgapur	10/07/2015	Continuing

Specialization/Research Interest:

Specialisation: Thermal or Heat Power

Research Interests: Thermodynamics, Heat Transfer, Fluid Dynamics and Numerical or Mathematical Techniques in broad. CFD, Phase Change, Two Phase Flows, Multiphase Flows, Thermodynamic Analysis, Second Law Analysis, Fluid Flow and Heat Transfer Solution Techniques in specific.

Awards & Recognitions

Best paper/ scholarship/Position in university exam / awards while at industry/ other organizations etc.

GATE scholarship for 2 years (2004 July-2006 June)

CSIR-SRF for 4 years. (2008 April - 2012 March)

Courses taught:

B.Tech: Specify the name of the subject/s (Theory first and then practical)

Theory papers:

Engineering Mechanics (ME101), Engineering Thermodynamics and Fluid Mechanics (ME201). Applied Thermodynamics (ME301), Heat Transfer (ME502), Strength of Materials (ME302), IC Engines and Gas Turbine (ME601), Power Plant Engineering (EEE605A). Thermal Power Engineering (ME(EE)411). Dynamics of Rigid Bodies, Engineering Mechanics (ES ME301, EE).

Practical papers:

Machine Drawing Using ProE, Mechanical Workshop Practice, Numerical Analysis and FORTRAN programming. Engineering Graphics (ME191 and ME292) Applied Mechanics Lab (ME393), Machine Drawing I (ME391), Workshop Practice II (ME392), Machine Drawing II (ME394), Applied Thermodynamics and Heat Transfer Lab (ME592), Seminar (ME581). IC Engines Lab. (ME692), Thermal Power Engineering Laboratory (ME(EE)481). BTech Project ME781 and ME882, Design of Mechanical Systems (ME881)

M.Tech: specify the name of the Subject/s

MTech Project Work

Online Mode of Teaching:

Online Video Classes Using Zoom.

Daily assessments using Google Forms through quizzes,

Uploading study materials through email and Google Drive (including self recorded video lecture, available relevant and appropriate video, PPT and PDF materials on internet, self prepared notes, elaborated and commented on PDF texts available on internet)

Publications:

Journal:

1. Sengupta, S., Ganguly, A., **Banerjee, A.**, Characteristics of complex interaction between two oppositely-moving laminar buoyant-plumes within slender vertical-channels. International Journal of Heat and Mass Transfer. Volume 173, July 2021, 121230.
DOI: 10.1016/j.ijheatmasstransfer.2021.121230.
Link: <https://mjl.clarivate.com/search-results?issn=0017-9310>

Conference:

1. **Banerjee, A.**, Ray, S., Mukhopadhyay, A., Visualization of Energy Transport During Phase Change Using Generalised Heatline Formulation. Proceedings of NCFMFP2006, 33rd National and 3rd International Conference on Fluid Mechanics and Fluid Power, December 7-9, 2006, IIT Bombay, India. Paper presented.
2. Guha, A., Manna, N.K., **Banerjee, A.**, Mukhopadhyay, A., Sen, S., Mukhopadhyay, D., Lele, H.G., Numerical Simulation of Premixing of Fuel Coolant Interactions (FCI) Using Cold Spheres. Proceedings of FMFP2007, 34th National Conference on Fluid Mechanics and Fluid Power, December 10-12, 2007, BIT Mesra, India.
3. **Banerjee, A.**, Ray, S., Mukhopadhyay, A., Solidification of a Pure Substance Around a Corner in a Square Enclosure, Proceedings of the 21st National & 10th ISHMT-ASME Heat and Mass Transfer Conference, December 27-30, 2011, IIT Madras, India.
4. **Banerjee, A.**, Manna, N.K., Mukhopadhyay, A., Sen, S., Numerical Simulation of Dispersion of Particles in Complex Flow-Passage. 40th National Conference on Fluid Mechanics and Fluid Power, December 12-14, 2013, NIT Hamirpur, India.
5. **Banerjee, A.**, Manna, N.K., Mukhopadhyay, A., Sen, S., Effects of Flow and Fluid Properties and Geometries on the Dispersion of Particles Stream in Quiescent Liquid. 40th National Conference on Fluid Mechanics and Fluid Power, December 12-14, 2013, NIT Hamirpur, India.
6. **Banerjee, A.**, Manna, N.K., Analysis of Two Phase MHD Couette Flow, 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, December 15-17, 2016, MNNIT Allahabad, India.
7. **Banerjee, A.**, Biswas, N., Manna, N.K., Mixed Convection in Four-Sided Lid-Driven Cavity, INCOM18: Proceedings of the 1st International Conference on Mechanical Engineering, Jadavpur University Kolkata India January 4 - 6, 2018, Paper No. 213. Paper presented.

Supervision of Ph.D/M.Tech / B.Tech Projects:**Projects:****BTech Projects**

Dr Arijit Banerjee	Improved Design of PVC Water Tank	ARADHANA SANDIL	12000713130	2015-16
		BRAJA KISHOR TIWARI	12000713132	
		CHANDAN DAS	12000713133	
		CHANDAN PAL	12000713134	
		DEBABRATA DOLOI	12000713135	
		DEBOJYOTI SARKAR	12000713136	
		PARTHA MONDAL	12000713137	

Dr Arijit Banerjee	Solar Water Purifier	MERAJ HAIDER	12000713055	2016-17
		MITHILESH KUMAR PANDEY	12000713056	
		MOHNISH KUMAR	12000713057	
		MOUMITA SAHA	12000713058	
		MRINMOY GHOSH	12000713059	
		MRITUNJOY SHAW	12000713060	

Dr Kanchan Chatterjee & Dr Arijit Banerjee	Solar-Powered Auto Irrigation System	ABHIJEET DAS	12000714001	2017-18
		ABHISHEK KUMAR	12000714002	
		ABHISHEK KUMAR	12000714003	
		ABHISHEK KUMAR GUPTA	12000714004	
		ABHISHEK RANJAN	12000714005	
		ADITYA BHATTACHARJEE	12000714006	
		AGRADIP BISWAS	12000714007	
		AJAY BHANDARI	12000714008	
		AKASH MAYANK	12000714009	
		AMAN KUMAR	12000714010	
		AMAN KUMAR	12000714011	
		AMIT KUMAR AMAN	12000714012	
AMIYATARU DEY MODAK	12000714013			

Dr Arijit Banerjee	Smart Solar Car	AADITYA SUMAN	12000715001	2018-19
		ABHIJEET UPADHYAY	12000715002	
		ABHINAY KUMAR	12000715003	
		ABHISHEK ANAND	12000715004	
		ABHISHEK KUMAR	12000715005	
		ABHISHEK KUMAR SINGH	12000715006	
		ABHISHEK PRASAD	12000715007	
		ABHISHEK SINGH	12000715008	
		ADITYA KUMAR SINHA	12000715009	
		ADNAN SALIM	12000715010	
		AJAY RANJAN	12000715011	
		ALOK RANJAN	12000715012	

		AMITAVA PAUL	12000715013	
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Dr Arijit Banerjee	Termite Hill Air-conditioning	ANKAN MONDAL	12000717019	2019-20
		ABHISHEK SINGH	12000717020	
		ABHISHEK GANGULY	12000717021	
		ABHISHEK CHATTERJEE	12000717022	
		ABHISHEK BANERJEE	12000717023	
		SUDIP KUMAR PANDIT	12000717131	

Dr Arijit Banerjee And Prof. Rakesh Biswas	Computational Analysis of Natural Convection Heat Transfer and Fluid Flow in Rectangular Enclosures Using Ansys Fluent	SOUVIK SAMANTA	12000717042	2020-21
		SHASHANK TRIPATHY	12000717056	
		SHUBHAM KUMAR	12000717052	
		SUMITAVA PAUL	12000717031	
		SHUBHAM KESHRI	12000717053	
		ASHUTOSH KUMAR GHOSH	12000717107	
		CHINMAY	12000717104	
		AYUSH RAJ	12000718026	
		SOURAV KUMAR	12000717045	
		ANIMESH ROY	12000717118	
		BISHWAJIT MANDAL	12000717105	
		J KESAVA MURALI MANOHAR	12000717097	

MTEch Projects:

Dr. Arijit Banerjee	Design of a Recuperator for a micro Gas Turbine Application.	Amit Viswakarma	12012417007	2018-19
Dr. Arijit Banerjee	Drive a reciprocating air compressor by engine crankshaft.	Suman Banerjee	12012417001	

Dr. Arijit Banerjee	Investigation of Fluid and Solid Interaction during flowing of fluid over an obstacle in a channel.	Sourav Dey	12012418001	2019-20
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Dr. Arijit Banerjee	Increasing the Efficiency of an IC Engine by Reducing Vibration, Preventing Cavitation and Various Others Aspects	Suvendu Das	12062419003	2020-21
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Invited Lectures: Nil

Topic of the lecture, Name of the event, organized by, Date

Participation in seminar/conference/symposium/workshop/discussion meeting

Name of the event	duration	Year	Organized by
One day Seminar on Nano-Sattelite	One day (November 04, 2015)	2015	Dr. B. C. Roy Engineering College,
Five days workshop on "Advances in Mechanical Engineering" (Under the aegis of TEQIP II)	5 days (July 25- 29, 2016)	2016	Heritage Institute of Technology with TEQIP
1st International Conference on Mechanical Engineering	3 days (January 4 – 6, 2018)	2018	Jadavpur University
Webinar on Psychological Counseling	Two Hours (18th May, 2020)	2020	MAKAUT in collaboration with Mental Health Foundation, Kolkata.
Webinar on "Opportunities in Solar - Becoming #aatmanirbhar"	One and a Half hours (23rd June, 2020)	2020	Tata Power Skill Development Institute (TPSDI-Maithon)
Workshop on " Recent Trends in Thermo-Fluids"	5 Days (22.02.2021 to 26.02.2021)	2021	Department of Mechanical Engineering, NIT Sikim under the aegis of TEQIP 3, MoE, Government of India
Webiner on "Moderate Discussions with the Research and Educational Institutions- Fireside Chat with Experts through Online Platform on the theme- Research Opportunities in Wind Energy Technology "	One day 2nd August 2021	2021	National Institute of Wind Energy (NIWE), Chennai, with the support of Ministry of New and Renewable Energy (MNRE), Government of India.
A five days workshop: AICTE Incorporating Universal Human Values in Education (An AICTE Initiative)	5 days (8th Nov-12th Nov 2021)	2021	AICTE

Participation in faculty development programmes

Name of the faculty development programmes	Online / Face-to-face	From Date – To Date	Duration	Year	Organized by	Achievement
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Heat Exchangers: Fundamentals and Design Analysis (NPTEL-AICTE FDP)	Online	July-Oct 2018	12 week course equivalent to 1.5 week FDP	2018	NPTEL-AICTE	Elite (66%)
Energy Conversion and Waste Heat Recovery (NPTEL-AICTE FDP)	Online	July-Oct 2018	12 week course equivalent to 1.5 week FDP	2018	NPTEL-AICTE	Elite (81%)
Introduction to Research (NPTEL-AICTE FDP)	Online	Aug-Sept 2018,	8 week course equivalent to 1 week FDP	2018	NPTEL-AICTE	Elite (77%)
Fundamentals of Combustion Part 2 (NPTEL-AICTE FDP)	Online	Aug-Sept 2018,	8 week course equivalent to 1 week FDP	2018	NPTEL-AICTE	Elite (68%)
FDP on " Behavioral Remodelling and Use of ICT Tools for Classroom Delivery of Teachers" (E&ICT Academy IITG)	Face-to-face	14.01.2019-19.01.2019	6 days	2019	by Electronics & ICT Academy, IIT Guwahati, Assam Organized in Association with Dr. B. C. Roy Polytechnic .	89%
Moodle- An ICT Based Learning Management System (LMS) To Conquer The Academic Lockdown	Online	21.04.2020 to 25.04.2020	5 Days	2020	ECE Dept BCREC jointly with Spoken Tutorials IIT Bombay.	Completed 25.04.2020
Advanced Fluid Mechanics (NPTEL-AICTE FDP)	Online	Sep-Dec 2020	12 week course equivalent to 1.5 week FDP	2020	NPTEL-AICTE	Elite+Silver (83%) Topper 2%
Patenting Technology and Process innovations Related to Renewable Energy,	Online	17.02.2021 to 22.02.2021	6 Days	2021	Department of Power Engineering and School of Nuclear Studies & Application,	Completed

					Jadavpur University as part of the TEQIP-III	
Fundamentals and Applications of Computational Fluid Dynamics in Fluid-Thermal Systems	Online	13.03.2021 to 17.03.2021	5 Days	2021	Organised by: Department of Mechanical Engineering, NIT Silchar, Assam - 788010. Sponsored by AICTE	Completed
FDP on 3D Printing and Design	Online	17.08.2021 - 21.08.2021	5 Days	2021	Dr. B. C. Roy Engineering College, Durgapur	Completed

Organization of events (Dr. B. C. Roy Engineering College)

- Organizing member of one day seminar on **Nano-Sattelite**, Dr. B.C. Roy Engineering College, 4th November, 2015.
- Organizing Member of IEEE- **National Conference on Emerging Trends on Sustainable Technology and Engineering Applications (NCETSTEA2020)** (session management committee and publicity committee)-7-8 February 2020, Dr. B. C. Roy Engineering College, Durgapur.
- Joint coordinator of 8 days Faculty Development Programme on "**Mentoring Pedagogy & Teaching for Higher Education**" (29 June - 06 July, 2020) by Electronics & ICT Academy, IIT Guwahati, Assam Organized in Association with Departments of Electrical Engineering and Mechanical Engineering, Dr. B. C. Roy Engineering College, Durgapur.
- Horizon16 and Horizon17 as Joint Convener, Horizon18, Horizon19 and Horizon20 as Coordinator.
- BCREC Sports 2019 and 2020.
- Coordinator of Webinar on **Steam Turbine Cycle: Basic Construction and Thermal Calculation** (Resource Person Mr. Suman Mukherjee, Manager, Thermal Engineering, Siemens Ltd. 15th May 2020, 3:00 pm - 4:30 pm).
- Coordinator of Webinar on **Interview Preparation & Soft Skills for Budding Engineers** (Resource Person: Mr. Gopi Krishna Penjiara, Manager Procurement, Dept. of Atomic Energy, ECIL Unit, 17th May 2020, 3:00 pm - 4:30 pm).
- Coordinator of "**An Interactive Session with Prof. Santaneel Ghosh**" (Professor, Department of Engineering and Technology, Southeast Missouri State University, USA) organized by the Department of Mechanical Engineering, Dr. B. C. Roy Engineering College and his whole day visit at the institute(15th January, 2020).

Participation in administrative committees (selected)

Mentor, Lab in-charge of Thermal Engineering Lab, MOOCs departmental coordinator, Online exam coordinator, Tech Fest departmental coordinator, Library member from ME department, Member of Sports committee, GATEForum departmental SPOC, BCREC Journal- BCREC Engineering & Science Transaction (BEST) Editorial Board member, BCREC academic committee member, member of PMIL cell.

Project Ideas Submitted to Govt. Agencies/ On-going Projects / Research Ideas under preparation & execution: Under preparation

Membership of professional bodies:

The American Society of Mechanical Engineers (**ASME**) (Membership ID: Number 000102267689)
International Association of Engineers (**IAENG**) : Membership Number 280845