BIO-DATA

1. **Name and full correspondence address**

Prof. Jayanta Das,
Associate Professor,
Department of Mechanical Engineering,
Indian Institute of Technology (Indian School of Mines), Dhanbad-826004, Jharkhand

2. **Email: jayantadas@iitism.ac.in, jayanta_mech_engg@yahoo.co.in**

3. **Institution :** Indian Institute of Technology (Indian School of Mines)
4. **Date Of Birth:** 02.08.1979
5. **Gender:** Male

6. Academic Qualification (Undergraduate Onwards)

Sl. No	Degree	Year	Subject	University/ Institution
1	B.E.	2004	Mechanical Engineering	Jadavpur University, Kolkata, India
2	Ph.D (Integrated)	2012	Mechanical Engineering	Jadavpur University, Kolkata, India

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

PhD Thesis Title: Real-Time Control of an Electrohydraulic Actuation System by Experimental Characterization and Simulation

Guide Name: 1. Dr. Saikat Mookherjee, Professor, Department of Mechanical Engineering, Jadavpur University ,Kolkata

2. Dr. Rana Saha, Professor, Department of Mechanical Engineering, Jadavpur University, Kolkata

Institute/Organization/University: Jadavpur University, Kolkata

Date of Registration: August 2005

Year of Award: 2012

9. Work experience (in chronological order).

S. No.	Post held	Name of the Institute	From	To	Payscale
1	Associate Professor	Indian Institute of Technology (Indian School of Mines), Dhanbad	12th April 2021	Present	13 A2 Basic : 161800
1	Assistant Professor	Indian Institute of Technology (Indian School of Mines), Dhanbad	10TH July 2012	11th April,2022	13 A1, Basic 143600
2	Assistant Professor	Heritage Institute Of Technology,Kolkata (UNDER WBUT)	5th September 2011	9th July 2012	PB III , Basic 15600, AGP: 6000
3	Assistant Professor	Megnad Saha Institute Of Technology,Kolkata(UNDER WBUT)	11th January 2011	4th September 2011	Consolidated Rs 20,000/-
4	Lecturer	Budge Budge Institute Of Technology,Kolkata(UNDER WBUT)	12th August 2010	10th January 2011	Consolidated Rs 10,000/-
5	MANAGEMENT TRAINEE	PHILLIPS CARBON BLACK LTD (RPG) GROUP	30th June 2004	07th June 2005	Consolidated Rs 15,000/-

11. **Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.**

S.No	Name of Award	Awarding Agency	Year
1	SRF	CSIR	2008-2010
2	ASSOCIATE MEMBER	The Institution of Engineers	October 2012

12. Publications (List of papers published in SCI Journals, in year wise descending order).

Sl. No.	Authors	Title of Paper	Name of Journal	Volume	Page	Year
1.	Gyan Wrat ,Prabhat Ranjan, Santosh Kr. Mishra , Joseph T Jose and J Das 4	Neural network-enhanced internal leakage analysis for efficient fault detection in heavy machinery hydraulic actuator cylinders	*Proc IMechE Part C: J Mechanical Engineering Science*		DOI: 10.1177/0954406224128930 9	2024
2.	Sawan Kumar,Sanjoy K. Ghoshal, J. Das	Model-Based Single-Fault Disambiguation Using Temporal Information and Genetic Algorithm: A Case Study on Hydraulic Drive System	*Arabian Journal for Science and Engineering*	49	11289 – 11307	2024
3.	Sawan Kumar, Sanjoy K. Ghoshal, J. Das	System identifcation and sizing of actuator of HEMM through response surface method of parameter estimation	*Journal of the Brazilian Society of Mechanical Sciences and Engineering*	44	255	2022
4.	Joseph T. Jose	Early detection and classification of internal leakage in boom actuator of	*Engineering Applications of Artificial*	106 (2021)	104492	2021

	, J. Das , Santosh Kr. Mishra & Gyan Wrat	mobile hydraulic machines using SVM	*Intelligence, Elsevier*			
5.	Joseph T. Jose , J. Das & Santosh Kr. Mishra	Dynamic Improvement of Hydraulic Excavator Using Pressure Feedback and Gain Scheduled Model Predictive Control	*IEEE SENSORS JOURNAL,*	VOL. 21, NO. 17	18526	2021
6.	Prabhat Ranjan , Gyan Wrat Mohit Bhola , Santosh Kr. Mishra , J. Das	A novel approach for the energy recovery and position control of a hybrid hydraulic excavator	*ISA Transactions,* *Elsevier*	99 (2020)	387–402	2020
7.	Gyan Wrat , Mohit Bhola , Prabhat Ranjan , Santosh	Energy saving and Fuzzy-PID position control of electro-hydraulic system by leakage compensation through proportional flow control valve	*ISA Transactions,* *Elsevier*	101 (2020)	269–280	2020

	Kr Mishra , J. Das					
8.	Ajit Kumar , K. Dasgupta , Jayanta Das	Achieving constant speed of a hydrostatic drive using controlled operation of the pump and enhancing its energy efficiency	*ISA Transactions,* *Elsevier*	90 (2019)	189–201	2019
9.	K Dasgupta , Sanjoy K Ghoshal , Sujit Kumar and J Das	Dynamic analysis of an open-loop proportional valve controlled hydrostatic drive	*J Process Mechanical Engineering,Sage*	Volume: 233 issue: 6	1245-1256	2019
10.	Gyan Wrat, Prabhat Ranjan, Mohit Bhola, Santosh Kumar Mishra and J Das	Position control and performance analysis of hydraulic system using two pump-controlling strategies	*J Systems and Control Engineering,Sage*	Volume: 233 issue: 9,	page(s): 1093-1105	2018
11.	Santosh Kr. Mishra , GyanWrat, Prabhat Ranjan	PID controller with feed forward estimation used for fault tolerant control of hydraulic system	*Journal of Mechanical Science and Technology, Springer*	32 (8) (2018)	3849~3855	2018

	and J. Das					
12.	Sujit Kumar , K Dasgupta , SK Ghoshal and J Das	Dynamic analysis of a hydro-motor drive system using priority valve	*Proc IMechE Part E: J Process Mechanical Engineering,Sage*	Volume : 233 issue: 3,	page(s): 508-525	2018
13.	Sujit Kumar ,K. Dasgupta , J. Das	Determination of the optimum steady-state performance of an openloop and a closed-loop valve-controlled hydro-motor drive: a design approach	*The Brazilian Society of Mechanical Sciences and Engineering, Springer*	(2018) 40:151	151	2018
14.	J Das, Santosh Kumar Mishra, Rana Saha, Saikat Mookherjee and Dipankar Sanyal	Nonlinear modeling and PID control through experimental characterization for an electrohydraulic actuation system: System characterization with validation	*Journal of the Brazilian Society of Mechanical Sciences and Engineering, Springer,*	**39**, (2017)	pages 1177–1187	2017
15.	Santosh Kr. Mishra , Jay Prakash Tripathi , J. Das , Sanjoy K.	Application of Parallel Multi-model Simulation Method for Condition Monitoring of a Power Hydraulic System	*Arabian Journal for Science and Engineering,Springer*	**43**,	pages 4501–4515	2017

	Ghoshal					
16.	Jay Prakash Tripathi, Sanjoy K. Ghoshal, K. Dasgupta , J. Das	Bond graph modelling of a hydraulic cylinder-actuated planar manipulator	*Journal of the Brazilian Society of Mechanical Sciences and Engineering, Springer,*	**39**, (2017)	pages 4275–4287	2017
17.	Ajit Kumar, K Dasgupta and J Das	Analysis of decay characteristics of an accumulator in an open-circuit hydrostatic system with pump loading	*Proc IMechE Part I: J Systems and Control Engineering2017, U.K. Sage*	Volume: 231 issue: 4,	page(s): 312-326	2017
18.	Sarnendu Paul, Sanjoy K. Ghoshal, Subrata Samanta, Jayanta Das	Model-based single fault disambiguation and fault tolerant control for a hydraulic drive using receding horizon	*Journal of the Brazilian Society of Mechanical Sciences and Engineering, Springer,*	**39**, (2017)	pages 2405–2419	2017
19.	J. Das, Santosh Kr. Mishra, RamaShankar Paswan, Ajit Kumar, Sujit Kumar,R. Saha, S.Mookherjee	Characterization And Tracking Control Of A Nonlinear Electrohydraulic Valve-Cylinder System	*Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering2016, Sage Publications, U.K.*	Volume: 230 issue: 5,	page(s): 371-384	2016

20.	Jayanta Das, Santosh Kumar Mishra, Rana Saha, Saikat Mookherjee and Dipankar Sanyal	Actuation dynamic modeling and characterization of an electrohydraulic system	*Proc IMechE Part I: J Systems and Control Engineering2016, U.K. Sage*	Volume: 230 issue: 6,	page(s): 537-550	2016
21.	B. K. Sarkar, J. Das, R. Saha, S. Mookherjee, and D. Sanyal	Approaching Servoclass Tracking Performance by a Proportional Valve-Controlled System	*Transactions on Mechatronics, IEEE/ASME*	Volume :18 , Issue: 4, Aug. 2013	Page: 1425-1430	2014

13. **Details of patents: Nil**

14. Books /Reports /Chapters/General articles etc.

Sl. No.	Title	Author's Name	Publisher	Year of publication
1	Control of an Electrohydraulic Actuation System	J.Das	**ISBN:** 978-3-659-31292-2, Lap Lambert Academic Publishing, Germany,	2012

15. Any other Information

1. **Coordinator of short-term course "MEASUREMENT, CONTROL AND SIMULATION THROUGH LABVIEW SOFTWARE**" organized in Indian School of Mines, Dhanbad (25th-29th August 2014)

2. **Convener of 3rd National Conference on Mining Equipment: New Technologies, Challenges & Applications, (MENTCA-18) during 9 – 10 February, 2018**

3. Co-CI of 1 & Member of 2 courses "Five-week extensive training program for management trainees of Coal India Ltd. (Excavation Cadre).

4. Co-Coordinator of **Maintenance and Troubleshooting of Hydraulic systems used in HEMM** 22nd August – 26th August 2016 (5 day short course) held at IIT (ISM), Dhanbad

(i) Research funding from external agencies:

Sl. No.	Name of PI/Co-PI etc.	Sponsoring Authority	Topic/ Field	Status	Sanctioned amount (Rs.) Lakhs
1.	Prof. Jayanta Das-PI	DST	Design and development of Series-Parallel hydraulic hybrid energy efficient excavator having displacement controlled actuators	Completed on 23.02.19 Sanction Date: 24.02.2016	**22.2**
2	Prof. Jayanta Das-PI	TEQIP II	Study of different Parameters in Hydraulic circuit due to leakage	Completed: 08.112016 Sanction Date: 09.11.2015	**3.36**
3	Prof. Jayanta Das- PI	DST (FIST)	Power hydraulic Lab Development	Completed on :27.03.2024 Sanction Date: 28.03.2019	**165**

(ii) Ph.D./M.Tech supervision (completed/ongoing): Guided 7 PhD students and 11 PG students

Consultancy work details (Completed/ongoing):

Sl. No.	Name of PI/Co-PI etc.	Sponsoring Authority	Topic/ Field	Date of Sanction & Duration	Total value (excluding taxes)	Completed/ Ongoing /Initiated
1.	Prof.Jayanta Das- Co-CI	M/S HEC RANCHI	**Automation and Vetting of design of hydraulic circuit of excavator**	August 2017	**33,00,000**	Completed
2.	Prof.Jayanta Das-Member	M/S HEC RANCHI	**FEA analysis of boom arm and bucket and drawing vetting**	August 2017	**13,75,000**	Completed
3.	Prof.Jayanta Das-Member	M/S HEC RANCHI	**Testing of Prototype and confirming design parameters of excavator**	August 2017	**5,50,000**	Ongoing
4.	Prof. Jayanta Das – Co-PI	BCCL,WCL,MCL,RSML, SECL, NMDC	**Maintenance and Troubleshooting of Hydraulic systems used in HEMM, 22nd August to 26th August 2016.**	CONS/3285/16-17	**7,41,788**	Completed