ACADEMIC PROFILE

1. Name and full correspondence address:

Dr. Rashmi Ranjan Das
Associate Professor
Department of Mechanical Engineering
Indian Institute of Technology (ISM), Dhanbad
Jharkhand-826004

2. Email (s) and contact numbers (s):

Email (s): ramakanta.pratima@gmail.com
drrrdas@iitism.ac.in
Contact numbers: Mobile: +91-8895556016
Office: 0326-223-5198
Residence: 0326-223-5199

3. Institution: Indian Institute of Technology (Indian School of Mines), Dhanbad
4. Date of Birth: 20/05/1979
5. Gender (M/F/T): Male
6. Category: General
7. Whether differently abled: No
8. Academic Qualification (Undergraduate onwards)

Sl No	Degree	Year	Subject	University/Institution	% of Marks
1.	B. E	2001	Mechanical Engg.	Berhampur University, Odisha	75.46% (Hons)
2.	M. Tech	2007	Mechanical Systems Design	IIT, Kharagpur	8.26/10 (First)
3.	Ph. D	2011	Fracture Mechanics	IIT, Kharagpur	----

9. M.Tech Thesis title, Guide's Name, Institute/Organization/University, Year of Award

M.Tech Thesis title: **Study of crack growth emanating from notches and holes**
Guide's Name: Prof. B. Pradhan, Dept. of Mechanical Engineering
IIT, Kharagpur
Institute: Indian Institute of Technology, Kharagpur
Year of Award: 2007

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

Ph.D Thesis title: **Adhesion Failure and Delamination of Bonded Tubular joints made with laminated FRP composites and Functionally Graded Materials**
Guide's Name: Prof. B. Pradhan, Dept. of Mechanical Engineering
IIT, Kharagpur
Institute: Indian Institute of Technology, Kharagpur
Year of Award: 2011

11. Work Experience (In chronological order)

Sl	Position held	Institute	From	To	Pay Scale
5.	Associate Professor	IIT, Dhanbad	13/04/2022	Till date	PB-4, LEVEL 13-A2 [Rs.139600—Rs.211300]
4.	Assistant Professor	IIT, Dhanbad	19/03/2019	12/04/2022	PB-4, LEVEL 13-A1 Rs. 131400/-
3.	Assistant Professor	IIT, Dhanbad	05/08/2015	18/03/2019	PB-3(15,600-39,100) Basic (32320/-) + GP (8000/-)
2.	Associate Professor	KIIT-U, BBSR	31/07/2011	31/07/2015	Pay scale: (15,600-39,100) GP: (8000/-)
1.	Assistant Professor	KIIT-U, BBSR	02/09/2010	30/07/2011	Pay scale: (15,600-39,100) GP: (7000/-)

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

Sl No	Name of Award	Award Agency	Year
1.	Best Research Paper Award	Association for Machines and Mechanisms (AMM), NaCoMM-2009, NIT Durgapur	2009

13. International Journal Publications **(SCI Indexed Journals)**

https://scholar.google.co.in/citations?hl=en&user=5CVg1l8AAAAJ

Sl	Author(s)	Title	Name of Journal	Vol.	Page	Year	Citation
16	Somanath Mohanty Rashmi Ranjan Das	Design of adhesion/cohesion fracture resistant FRP composite repair system for V-notched Al-6061-T6 Aircraft skin https://doi.org/10.1016/j.ijadhadh.2024.103771	International Journal of Adhesion and Adhesives **[Q2]: 3.2**	134	1-26	2024	
15	Somanath Mohanty Rashmi Ranjan Das	Influence of polymeric resin-infilling on onset and fracture growth along wing trajectory in open-flawed sandstone specimen https://doi.org/10.1016/j.tafmec.2023.103836	Theoretical & Applied Fracture Mechanics **[Q1]: 4.374**	125	1-36	2023	
14	Nayanjyoti Baishya Rashmi Ranjan Das	Finite Element based interfacial failure analysis of PVC and laminated FRP composite pipe socket joints subjected to internal	International Journal of Adhesion and Adhesives **[Q2]: 3.848**	120	1-14	2022	

		pressures https://doi.org/10.1016/j.ijadhadh.2022.103293					
13	Ranjan Kumar Behera Sambit Parida Rashmi Ranjan Das	Effect of using fibre reinforced epoxy adhesive on the strength of the adhesively bonded Single Lap Joints https://doi.org/10.1016/j.compositesb.2022.110358	Composites: Part B **[Q1]: 11.322**	248	1-12	2022	
12	Somanath Mohanty, Rashmi Ranjan Das	Laminated FRP composite patch design for arresting joint fractures (Adhesion/cohesion) in resin-infilled centrally inclined V-notched Al-6061-T6 plate https://doi.org/10.1016/j.tafmec.2022.103491	Theoretical & Applied Fracture Mechanics **[Q1]: 4.374**	121	1-34	2022	
11.	Umesh Kumar, RR Das	Fracture Analyses of Bonded Tubular FRP Composite K-joints with Braces Subjected to Balanced Axial Load https://doi.org/10.1007/s40430-022-03555-2	Journal of the Brazilian Society of Mechanical Sciences and Engineering **[Q2]: 2.220**	44 (6)	1-29	2022	
10.	Ranjan K Behera, S.K. Parida & R.R. Das	Effect of pre-embedded adhesion failures and surface ply delamination on the structural integrity of adhesively bonded single lap joints made with curved laminated FRP composite panels https://doi.org/10.1016/j.ijadhadh.2021.102887	International Journal of Adhesion and Adhesives **[Q2]: 2.671**	108	1-17	2021	**2**
9.	Umesh Kumar, RR Das	Adhesion failure analyses of laminated FRP composite made bonded tubular T-joints with axially compressed brace https://doi.org/10.1016/j.compstruct.2020.113386	Composite Structures **[Q1]: 5.138**	258	1-19	2020	1
8.	K. Bharti,	A novel optimization	Structures	28	2135-	2020	1

	L.A.K Swamidas, R.R. Das	approach for bonded tubular gap K-joints made of FRP composites https://doi.org/10.1016/j.istruc.2020.10.021	**[Q2]: 1.839**		2145		
7.	K. Bharti, L.A.K Swamidas, R.R. Das	Detailed investigation of adhesive fillet tubular T-joint of laminated FRP composite tube under axial compressive load https://doi.org/10.1007/s40194-020-00908-0	Welding in the World **[Q2]: 1.589**	64	1279-1292	2020	7
6.	RK Behera, SK Parida, RR Das	Effect of the aspect ratio of the pre-existing rectangular adhesion failure on the structural integrity of the adhesively bonded single lap joint https://doi.org/10.1080/01694243.2019.1629731	Journal of Adhesion Science and Technology **[Q3]: 1.365**	33(19)	2093-2111	2019	5
5.	RK Behera, SK Parida, RR Das	Three-dimensional adhesion failure analysis of the single lap joint having pre-embedded circular defects https://doi.org/10.1177/0309324719867002	The Journal of Strain Analysis for Engineering Design **[Q2]: 1.630**	54(5-6)	293-309	2019	5
4.	N.J. Baishya, R.R.Das, S.K. Panigrahi	Failure analysis of adhesively bonded tubular joints of laminated FRP composites subjected to combined internal pressure and torsional loading https://doi.org/10.1080/01694243.2017.1307498	Journal of Adhesion Science and Technology **[Q3]: 1.365**	31(19-20)	2139-2163	2017	10
3.	R.R. Das, B. Pradhan	Delamination damage analysis of laminated bonded tubular single lap joint made of FRP composite https://doi.org/10.1177/1056789513513199	International Journal of Damage Mechanics **[Q1]: 3.125**	23 (6)	772-790	2014	20
2.	R.R. Das, B. Pradhan	Finite element based design and adhesion failure analyses of bonded tubular socket joints made with laminated FRP composites	Journal of Adhesion Science and Technology **[Q3]: 1.365**	25	41-67	2011	24

		https://doi.org/10.1163/016942410X508073					
1.	R.R. Das, B. Pradhan	Adhesion failure analyses of bonded tubular single lap joints in laminated FRP composites https://doi.org/10.1016/j.ijadhadh.2010.02.008	International Journal of Adhesion and Adhesives **[Q2]: 2.671**	30 (6)	425-438	2010	47

14. International Journal Publications **(SCOPUS Indexed Journals)**

https://scholar.google.co.in/citations?hl=en&user=5CVg1l8AAAAJ

Sl	**Author(s)**	**Title**	**Name of Journal**	**Vol.**	**Page**	**Year**	**Citn**
7.	RK Behera, SK Parida, RR Das	3-D interfacial stress analysis of adhesively bonded curved laminated FRP composite single lap joint https://doi.org/10.1016/j.matpr.2020.02.426	Materials Today Proceedings **[SCOPUS]**	26 (2)	1948-1952	2020	--
6.	S.K. Panigrahi, R. R. Das	Study and Analysis of Damages in Functionally Graded Adhesively Bonded Joints of Laminated FRP Composites: A critical Review https://doi.org/10.1002/9781119526445.ch5	Reviews of Adhesion and Adhesives **[SCOPUS]**	4 (14)	152-165	2016	2
5.	R.R. Das N. J. Baishya V. Ranjan	Analysis of bonded tubular single lap joints subjected to varying pressure at a constant torsion	Journal of Mines, Metals and Fuels **[SCOPUS]**	64 (5,6)	208-213	2016	--
4.	R.R. Das A. Singla A. Srivastava	Thermo-mechanical interlaminar stress and dynamic stability analysis of composite spherical shells https://doi.org/10.1016/j.proeng.2016.05.058	Proceedia Engineering **[SCOPUS]**	144	1060-1066	2016	4
3.	R.R. Das A. Singla	Dynamic Stability and Interlaminar Stress Analysis of Cylindrical Shells Subjected to Elevated Thermal Field https://doi.org/10.1016/j.proeng.2016.05.157	Proceedia Engineering **[SCOPUS]**	144	468-473	2016	--
2.	R.R. Das	Failure analysis of	Proceedia	144	1047-	2016	12

	N.J. Baishya	bonded composite pipe joints subjected to internal pressure and axial loading https://doi.org/10.1016/j.proeng.2016.05.055	Engineering **[SCOPUS]**		1054		
1.	R.R. Das, N.J. Baishya	Fluid-Structure Interaction based Adhesion Failure analysis of Bonded Tubular Socket joints https://doi.org/10.1016/j.proeng.2016.05.113	Proceedia Engineering **[SCOPUS]**	144	1260-1269	2016	--

15. Books chapters:

SL	Author	Chapter Title/Book Name/DOI	Volume, Page, publisher	Year
3	R.R. Das	Failure Analysis of Structural Adhesive Joints with Functionally Graded Tubular Adherends **Structural Adhesive Joints: Design, Analysis and Testing** https://doi.org/10.1002/9781119737322.ch7	205-219 Willey online library	2020
2	RK Behera, SK Parida, RR Das	Three-dimensional FE Model for Stress Analysis of Adhesively Bonded Single Lap Joints with Hard Steel Adherend **Advances in Mechanical Processing and Design** https://doi.org/10.1007/978-981-15-7779-6_47	523-532 Springer	2020
1	S.K. Panigrahi. R.R. Das	Functionally Graded Adhesively Bonded Joints of Laminated FRP Composites, Progresses in Adhesions and Adhesives **Progress in Adhesion and Adhesives, II** 10.1002/9781119407485.ch6	2; 147-159,; Willey online library	2017

16. International/National Conference Publications (2015-2018)

International/ National Conference	Title of the Seminars/Conferences	Venue (City, Country)	Title of Paper published/presented
International Conference	Eighth ISSS International Conference on Smart Materials, Structures & Systems. **Authors:** Dr R R Das and Umesh Kumar (Research Scholar)	IISc, Bangalore, India 2017	"FEM based delamination damage analysis of bonded FRP composite pipe joints"

International Conference	International Conference on Composite Materials and Structures- ICCMS 2017. **Authors:** Dr R R Das and Umesh Kumar (Research Scholar)	IIT, Hyderabad, India 2017	"Design of laminated FRP composite made damage tolerant pipelines for underground mining applications"
International Conference	International Conference on Composite Materials and Structures- ICCMS 2017 **Authors:** Dr R R Das and Kundan Bharti (Research Scholar)	IIT, Hyderabad, India 2017	"FEM based Design Optimization of a Mining Dragline Cluster"
International Conference	International Conference on Composite Materials and Structures- ICCMS 2017 **Authors:** Dr R R Das and Kumar Gourav (M. Tech)	IIT, Hyderabad, India 2017	"Analysis of Tubular FRP Composite Bonded Socket Joints With Functionally Graded Adhesive"
National Conference	Mining Equipments: New Technologies Challenges & Applications (MENTCA)-2018 **Authors:** Dr R R Das and Ghulam Moin (B. Tech)	IIT(ISM), Dhanbad, India 2018	"Stress and failure Analysis of an Excavator bucket-A Review"
National Conference	Mining Equipments: New Technologies Challenges & Applications (MENTCA)-2018 **Authors:** Dr R R Das and D.K. Barsaiyan (B.Tech)	IIT(ISM), Dhanbad, India 2018	" Finite Element Analysis and optimization of Excavator boom-A Review ss and failure Analysis of an Excavator bucket-A Review"
National Conference	Mining Equipments: New Technologies Challenges & Applications (MENTCA)-2018 **Authors:** Dr R R Das and Aditya Kumar (B.Tech)	IIT(ISM), Dhanbad, India 2018	" Finite Element Analysis based design and optimization of Excavator Arm-Review "
National Conference	Mining Equipments: New Technologies Challenges & Applications (MENTCA)-2018 **Authors:** Dr R R Das and Arijit Pradhan (B.Tech)	IIT(ISM), Dhanbad, India 2018	" Effect of lacing angle on stress concentration effects corresponding to cluster weld fillet of a BE 1370 Dragline"

17. International Conference Publications (2006-2014)

1. R.R. and Pradhan, B., "Study of crack growth emanating from notches and holes," *51st Congress of ISTAM, Andhra University College of Engineering, Visakhapatnam***,** December 18-21, 2006.

2. Shah, N.H., Das, R.R. and Pradhan, B., "Onset and growth of delamination damage characteristics in adhesively bonded tubular joints in laminated FRP composites," *52nd Congress of ISTAM, BNMIT Bangalore*, December 14 -17, 2007. Pp. 96-97.

3. Das, R.R. and Pradhan, B., "Mixed mode crack growth emanating from notches and holes," *52nd Congress of ISTAM, BNMIT Bangalore*, December 14 -17, 2007. Pp. 95.

4. Das, R.R. and Pradhan, B., "Onset and growth of adhesion failure in laminated FRP composite tubular lap and socket joints," *53rd Congress of ISTAM, Osmania University, Hyderabad*, December 27 – 30, 2008.

5. Arunasri B., Das, R.R. and Pradhan, B., "Adhesion failure of bonded single lap joints in FGM plates," *54th Congress of ISTAM, Netaji Subhash Institute of Technology, New Delhi*, December 18-21, 2008. Pp. 85.

6. Das, R.R. and Pradhan, B., "Initiation and propagation of delamination damages in adhesive bonded tubular socket joints in laminated FRP composites," *54th Congress of ISTAM, Netaji Subhash Institute of Technology, New Delhi*, December 18-21, 2008. Pp. 85-86

7. Das, R.R. and Pradhan, B., "Initiation and propagation of delamination damages in adhesive bonded tubular lap joints in laminated FRP composites," *54th Congress of ISTAM, Netaji Subhash Institute of Technology, New Delhi*, December 18-21, 2008. Pp. 91-92.

8. Das, R.R. and Pradhan, B., "Onset and growth of adhesion failures in adhesively bonded tubular socket joints in laminated FRP composites," *14th National Conf. on Machines and Mechanisms, NIT Durgapur*, December 17-18, 2009. Pp. 76-83. **(BEST STUDENT PAPER AWARD).**

9. Das, R.R. Tandon, H., and Bajpai, A., "FEM based analysis of bonded FRP composite made single lap joints subjected to tension, *National Conf. on Advances in Simulation and Optimization Techniques in Mechanical Engineering, KIIT-University, Bhubaneswar*, February 18-19, 2012. Pp. 1-8.

10. Das, R.R. Bajpai, A., and Tandon, H., "stress analyses of bonded flat joints made with laminated FRP composites under transverse loading, *National Conf. on Advances in Simulation and Optimization Techniques in Mechanical Engineering, KIIT-University, Bhubaneswar*, February 18-19, 2012. Pp. 1-8.

11. Das, R.R. Roy, A., and Bh. V. S. Sasank, "FEM based numerical analysis of adhesively bonded lap joints subjected to impact," *International Conf. on Mathematical Modelling and Applied Soft Computing, CIT-Coimbatore***,** July 11-13, 2012.

12. Das, R.R. Raveen, A.R., Vishal, V., and Kujur, P.S., "FEM based numerical analysis of fractured isotropic and composite specimens," *International Conf. on Mathematical Modelling and Applied Soft Computing, CIT-Coimbatore***,** July 11-13, 2012.

13. Das, R.R. and Pradhan, B., "Finite Element based Delamination damage analyses of laminated FRP composite made bonded tubular socket joint," *International Conference on Manufacturing Excellence, Amity University, New Delhi*, March 29-30, 2012.

14. Das, R.R. and Pradhan, B., "Stress analyses of bonded tubular single lap joints made with functionally graded materials using finite element method," *Third Asian Conference on Mechanics of Functional Materials and Structures, IIT Delhi, New Delhi*, December 5-8, 2012. Pp. 453-456.

15. Das, R.R. and Pradhan, B., "Finite element method based stress analyses of bonded tubular socket joints made with functionally graded materials," *Fourth International Congress on Computational Mechanics and Simulation, IIT Hyderabad***,** December 9-12, 2012.

16. Kumar, C., Thatoi, D.N., and Das, R.R., "Stress analyses of bonded joints subjected to elevated thermal field," *Indian Conference on Applied Mechanics (INCAM), IIT Madras, Chennai***,** July 4-6, 2013.pp. 154-155.

17. Das, R.R., Chakraborty, A, Guchhait, A, and Shingla, A., "Onset and growth of cracks effecting dynamic stability of laminated cylindrical shells," *Fifth International Congress on Computational Mechanics and Simulation, CSIR Hyderabad***,** December 10-13, 2014. Pp. 1047-1056. ISBN:978-981-09-1139-3

18. Das, R.R., and Nayak, G.B., "Fracture analysis of laminated spherical shells made with FRP composites," *Fifth International Congress on Computational Mechanics and Simulation, CSIR Hyderabad***,** December 10-13, 2014. Pp. 1962-1971. DOI:10.3850/978-981-09-1139-3_300

18. M. Tech Project Guidance: Completed: 18; Continuing: 02

NAME	SPECIALISATION (PASSOUT YEAR)	THESIS TITLE	CGPA	AFFILIATION & OFFICIAL CONTACT DETAILS [ADDRESS, PHONE & EMAIL]	PHOTOGRAPH
KONAND GOSWAMI	MECHANICAL ENGINEERING: DESIGN (2025)	ONSET GROWTH AND ARRESTING OF FATIGUE INDUCED DELAMINATION DAMAGES IN FRP COMPOSITE PLATES	8.59	[CONTINUING]	
SUNIT SHEET	MECHANICAL ENGINEERING: DESIGN (2025)	FRP COMPOSITE REPAIR OF LOCALISED CORROSION DEFECTS IN METALLIC PIPELINES	8.03	[CONTINUING]	
ANAND KUMAR	MECHANICAL ENGINEERING: DESIGN (2024)	STRESS AND FAILURE ANALYSES OF FRP COMPOSITE REPAIRED STEEL PIPES WITH AXI-SYMMETRIC DEFECTS	8.28	POST GRADUAET ENGG TRAINEE TATA MOTOR LIMITED. ENGINEERING RESEARCH CENTRE (ERCU) , PUNE CONTACT DETAILS- 9693110242 kumaranand04421@gmail.com	
AJIT KUMAR	MECHANICAL ENGINEERING: DESIGFN (2024)	INVESTIGATING THE EFFICACY OF FRP COMPOSITE WRAPPING FOR STRENGTHENING TUBULAR T-JOINTS THROUGH COMPREHENSIVE STRESS AND FAILURE ANALYSIS	7.81	ENGINEERING ANALYST INFOSYS LIMITED CONTACT DETAILS -9446093894 ajit2343041@gmail.com	
ISHAN PRASAD BARAL	MINING MACHINERY ENGINEERING (2024)	EFFECT OF FRP COMPOSITE PATCH ON ANTI-WING FRACTURE ONSET AND GROWTH IN SURFACE FLAWED SANDSTONE	9.22	POST GRADUAET ENGG TRAINEE DEPARTMENT- SQD (SUPPLIER QUALITY DEVELOPMENT), VOLVO BUS INDIA CONTACT DETAILS – 8117882858, ishanprasadbaral@gmail.com, BANGALORE	
VISHAL KUMAR	MINING MACHINERY ENGINEERING (2024)	DESIGN OF POLYMER/FRP COMPOSITE REINFORCED BOLT SYSTEM FOR IMPROVED ROCK FRACTURE RESISTANCE	8.78	POST GRADUAET ENGG TRAINEE VOLVO TRUCKS INDIA CONTACT DETAILS – 8859711145, vk10101994@gmail.com, BANGALORE	
HARISH CHAND SAURABH	MINING MACHINERY ENGINEERING (2024)	ARTICULAR CARTILAGE-MENISCI CONTACT STRESS AND FAILURE ANALYSES FOR FUNCTIONALLY GRADED TIBIOFEMORAL JOINT	9.03	POST GRADUAET ENGG TRAINEE VOLVO TRUCKS INDIA CONTACT DETAILS – 7380342106 sauhar1289@gmail.com BANGALORE	

RITISH KUMAR JARODIA	MINING MACHINERY ENGINEERING **(2023)**	EPOXY/FRP COMPOSITE BASED COATING PARAMETER OPTIMIZATION FOR SURFACE FRACTURED ROCK STRUCTURES	**7.46**	PROJECT MANAGER, **GRAZITTI INTERACTIVE.** PANCHKULA, HARYANA M.NO. 9872179997 ritishjarodia@gmail.com	
SHIVAM SINGH	MINING MACHINERY ENGINEERING **(2023)**	EFFECT OF ROCK FLAW ORIENTATION ANGLE AND RESIN INFILL ON WING CRACK TRAJECTORY UNDER MIXED MODE COMPRESSION LOADING	**7.03**	PHYSICS LECTURER FOR IIT AND NEET ENTRANCE IN **ALLEN CAREER INSTITUTE PVT. LTD.** BHUBANESWAR 8267927737, shivamald04.97@gmail.com	
SANJEEV KUMAR	MINING MACHINERY ENGINEERING **(2020)**	EFFECT OF ROCK FLAW ORIENTATION ANGLE ON WING CRACK INITIATION AND BRANCHING IN ABSENCE AND PRESENCE OF EPOXY RESIN INFILL	**9.26**	**RESEARCH SCHOLAR** DEPARTMENT OF MECHANICAL ENGINEERING (IIT ISM DHANBAD) CONTACT NO. 9122696457 ksanjeev626@gmail.com	
JAYANT JOSEPH BARLA	MINING MACHINERY ENGINEERING **(2019)**	EXPERIMENTAL & NUMERICAL EVALUATION OF STRAIN ENERGY RELEASE RATE DURING CRACK PROPAGATION	**8.5**	ASSISTANT MANAGER (EQUIPMENT MAINTENANCE), **TATA STEEL** FLAT 27A/ 3RF LOWER CAMP COLONY, TATA STEEL, JODA WEST, DIST -KENDUJHAR, JODA, ODISHA PIN – 758034 CONTACT - 9199592401	
MIRZA KASIM	MINING MACHINERY ENGINEERING **(2019)**	STRUCTURAL OPTIMISATION OF HYDRAULIC SHOVEL BUCKET USING FINITE ELEMENT ANALYSIS	**9.4**	ASSISTANT MANAGER – **RELIANCE POWER, SASAN,** WAIDHAN, MADHYA PRADESH 486886	
ROHIT MAHATO	MINING MACHINERY ENGINEERING **(2019)**	EFFECT OF POLYMERIC ADHESION ON ARRESTING METALLIC FRACTURE	**8.47**	ASSISTANT MANAGER- **THRIVENI EARTHMOVERS PVT. LTD.,** AT- TOPADIHI , P.O. - GUALI PS- RUGUDIHI , DT- KEONJHAR, STATE-ODISHA , PIN- 758035	
KUMAR GOURAV	MINING MACHINERY ENGINEERING **(2018)**	ANALYSIS OF FRP COMPOSITE MADE BONDED TUBULAR SOCKET JOINTS WITH FUNCTIONALLY GRADED ADHESIVE	7.7	**RESEARCH ASSOCIATE** IIT ISM DHANBAD DEPARTMENT OF MANAGEMENT AND INDUSTRIAL ENGINEERING , CONTACT DETAILS:- 7004621341 kgkgaurav@gmail.com	
PRAHLAD KUMAR	MINING MACHINERY ENGINEERING **(2017)**	STRESS AND FAILURE ANALYSIS OF FRP COMPOSITE PIPES AND JOINTS FOR MINING APPLICATIONS		**RESEARCH SCHOLAR** DEPARTMENT OF MECHANICAL ENGINEERING (IIT ISM DHANBAD) CONTACT NO. 9019729019 9555993536. kumarprahlad4@gmail.com	

AMAR NARAYAN	MINING MACHINERY ENGINEERING **(2017)**	STRESS MINIMISATION IN BONDED FRP PIPE JOINTS FOR MINING APPLICATIONS			
TAUHID MOHAMMAD	MINING MACHINERY ENGINEERING **(2017)**	FEM BASED DESIGN OPTIMISATION OF A MININGN DRAGLINE CLUSTER			
ASHUTOSH SINGLA	MECHANICAL ENGINEERING: DESIGN **(2016)**	THERMO-MECHANICAL DELAMINATION DAMAGE ANALYSIS OF LAMINATED FRP AND FUNCTIONALLY GRADED CURVED SHELLS			
VIKAS RANJAN	MECHANICAL ENGINEERING: DESIGN **(2015)**	STRESS AND FAILURE ANALYSIS OF LAMINATED FRP COMPOSITE MADE BONDED TUBULAR JOINTS			
BRAJA MOHAN HEMBRAM	MECHANICAL ENGINEERING: DESIGN **(2014)**	DYNAMIC RESPONSE OF LAMINATED FRP COMPOSITE MADE CRACKED SHELL STRUCTURES SUBJECTED TO FREE VIBRATION			

19. Ph. D Guidance: 05 (Completed) + 06 (ongoing)

Sl No	Thesis title	Broad Area of Research	Status of the Work Done
01	Finite Element Method Based Stress and Failure Analysis of FRP Composite Structural Joints Subjected to Mechanical Loading **[Kundan Bharti]**	**FRP composite Tubular joint optimization**	**Completed [Degree Awarded: 2021]**
02	Adhesion failure and Delamination damage analyses of single lap joints made with isotropic and Laminated FRP composite flat and curved panels **[Ranjan Kumar Behera]**	**Metal/FRP composite joint fracture** (Flat joints)	**Completed [Degree Awarded:2021]**
03	Adhesion and cohesion fracture analyses of Laminated FRP composite made bonded Tubular T/Y/K joints **[Umesh Kumar]**	**FRP composite joint fracture** (Tubular T/Y/K joints)	**Completed [Degree Awarded:2021]**
04	Design of FRP composite Pipes Wraps and strips for Adhesion fracture strengthening of bonded PVC pipe joints [**Nayanjyoti Baishya**]	**PVC pipe joint fracture** (Tubular Socket/lap joints)	**Completed [Degree Awarded provisionally:2023]**
05	FRP Composite Patch/Reinforcement	**Metal/rock fracture**	**Completed**

	Design for Fracture Strengthening of Resin infilled V-Notched Al-6061-T6 Plate and Open flawed Sandstone **[Somnath Mohanty]**	(Epoxy infilling, FRP composite patch design)	**[Defense Seminar over: 31-10-23]**
06	Improving damage tolerance of metallic, rock and composite structures through fracture resistant epoxy coatings and FRP patches **[Sanjeev Kumar]**	**Design of damage tolerant coatings**	Ongoing
07	Damage tolerant design of tubular joints strengthened through external stiffeners and FRP composite wrapping [**Krishna Kumar Verma]**	**Continuing**	Ongoing **[Research proposal Seminar on 09-11-2023]**
08	**Sujit Kumar Giri**	Course work phase	Ongoing
09	**Deep Chatterjee**	Course work phase	Ongoing
10	**Atul Kumar**	Course work phase	Ongoing
11	**Indranil Das**	Course work phase	Ongoing

20. Consultancy/R&D Projects

Sl	Title	Sponsoring agency	Price (in Lakhs)	Status
1.	Improving Fracture Resistance of Rocks through Adhesive bonding for underground mining Applications	Ministry of Mines, New Delhi	Rs. 14.73 Lakhs	Completed 31-03-2022
2.	Finite Element Analysis for structure of Boom, Arm and Bucket & Drawing vetting	Heavy Engineering Corporation (HEC), Ranchi	Rs. 13.75 Lakhs	Completed (2019)
3.	Third Party Quality Control & Quality Assurance for Civil,Electrical, Mechanical & All other allied Works for Redevelopment of GPRA Colony at Nauroji Nagar, New Delhi **[Co-PI]**	NBCC INDIA LIMITED	Rs. 1,92,00,000/-	Completed (2019)
4.	Ball mill size calculation for lime stone grinding under wet conditions" for BHEL, Hyderabad.	BHEL, Hyderabad.	Rs. 22 Lakhs + Taxes	Completed (2017)
5.	Fracture and Non-linear behaviour Analyses of Laminated composite and functionally graded curved panels under elevated Thermal Field **[Co-PI]**	AICTE, New Delhi	Rs. 13.35 Lakhs	Completed (2014)

6.	Fluid Structure Interaction based fracture analyses of laminated FRP composite made dragline cluster joints	FRS, IIT (ISM), Dhanbad	Rs. 10.00 Lakhs	Completed (2017)

21. Executive Development Programmes / Short term courses Organized: 04

Sl no	Name of PI/ Co-PI etc	Sponsored/ non-sponsored. If sponsored name of Sponsoring Authority	Topic/Field	Date of Sanction	Total value (excluding taxes)	Amount Released
1	1. Dr R R Das (PI) 2. Prof. A.K. Mukhopadhyay (Co-PI)	Sponsored by: 1. MCL **(5)*** 2. NALCO **(3)** 3. NLC **(3)** 4. CCL **(3)** 5. Balasore Alloys Ltd, Odisha **(1)** 6. Odisha Mining Corporation (OMC) **(2)** No of participants: **17**	"Material Science Engineering, Failure Analysis & Maintenance of Mechanical components used in Mining Industries" during 15-01-2018 to 19-01-2018 held at EDC, IIT(ISM), Dhanbad **CONS/3730/2017-18**	17-12-2017	432,202/-	1. Proforma invoices has been sent to the sponsoring companies, @ 30,000/- per participants (including taxes). 2. Rs. 30,000/- has been received from BAL 3. Others in progress
2	1. Prof. T.K. Chatterjee (PI) 2. Dr R R Das (Co-PI)	Sponsored by: Coal India Limited (CIL), Kolkata No of participants: **09**	"Five weeks intensive programme for executives of Excavation cadre of CIL" during 12-12-2016 to 13-01-2017 held at EDC, IIT(ISM), Dhanbad **CONS/3472/2016-17**	25-12-2016	9,56,204/-	9,56,205/-
3	1. Prof. K. Dasgupta	Sponsored by:	"Five weeks	28-10-2016	19,12.409/-	19,12,410/-

	(PI) 2. Dr R R Das (Co-PI)	Coal India Limited (CIL), Kolkata No of participants: **18**	intensive programme for executives of Excavation cadre of CIL" during 07-11-2016 to 09-12-2016 held at EDC, IIT(ISM), Dhanbad **CONS/3436/2016-17**			
4	1. Prof. K. Dasgupta (PI) 2. Dr R R Das (Co-PI)	Sponsored by: Coal India Limited (CIL), Kolkata No of participants: **20**	"Five weeks intensive programme for executives of Excavation cadre of CIL" during 08-08-2016 to 09-09-2016 held at EDC, IIT(ISM), Dhanbad **CONS/3362/2016-17**	29-07-2016	21,25,000/-	21,24,900/-

22. Special lectures delivered: 01

1. Delivered a special lecture as a **Chief Speaker** on, " Composite materials: a future technology for design of mining equipment components" in **TECHNATHON-II**, GENNEXT E&M Workshop organized by **Eastern Coalfields Limited (HQ), W. Burdwan** on 29-01-2018.

2. Invited to "**Becoming**" The youth conference organized by the Alumni Association of **IIT Delhi** as a **keynote speaker**. Delivered a lecture on "**How to be concentric**" at Dogra Auditorium, IIT Delhi on 22nd January 2023.

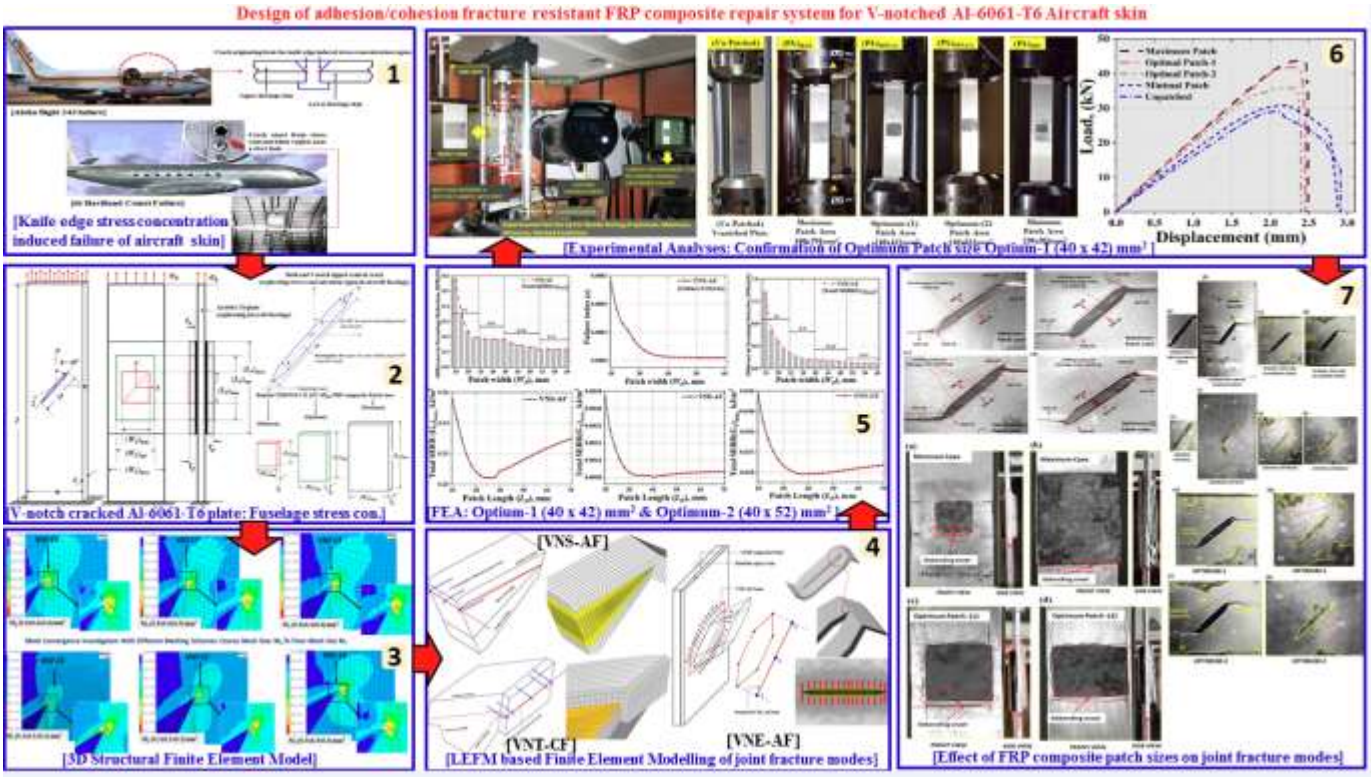
You tube link of the talk delivered: https://www.youtube.com/watch?v=mfafIsZT7tM&t=973s

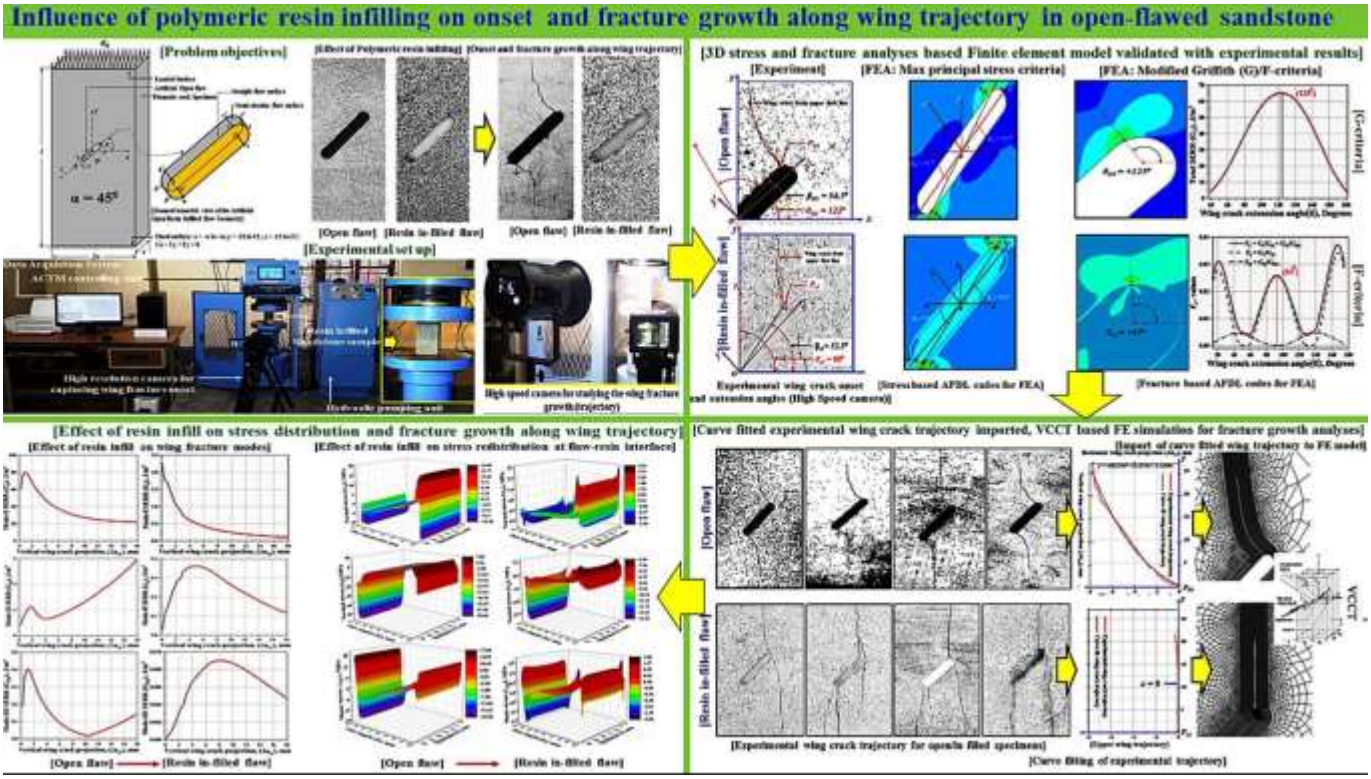
23. **Administrative responsibilities:**

Sl	Responsibility	Duration
1	Departmental in charge for Vocational and Industrial Training	2016 till 2019
2	Faculty advisor for 3rd year B. Tech Mining Machinery Engineering	2016 till 2019

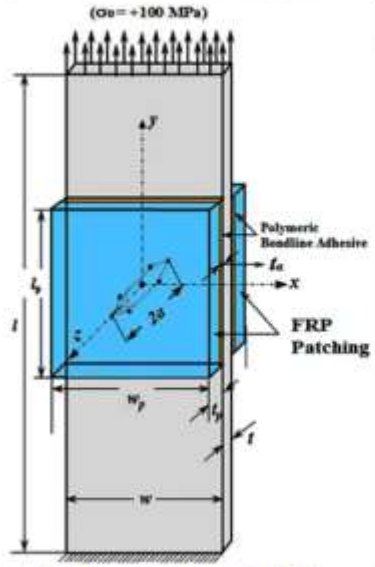
3	Departmental Advisory Committee (DAC) Secretary, for Dept. of MME	2017 till 2019
4	International Relationship Cell, Member	2019 till 2020
5	Departmental IT in charge	2020 continuing
6	Departmental admin for I-STEM	2019 continuing
7	Departmental Faculty Screening Committee (DFSC), Member	2021 continuing

GRAPHICAL ABSTARCT OF FEW RECENT RESEARCH WORKS





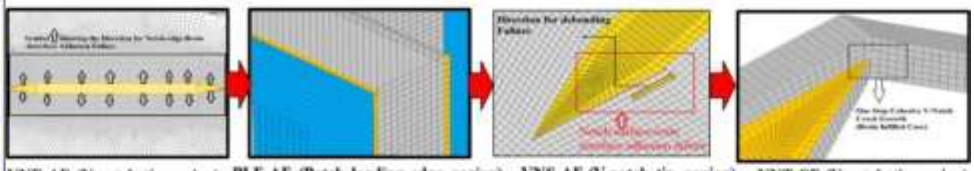
Laminated FRP composite patch design for arresting joint fractures (Adhesion/cohesion) in resin-infilled centrally inclined V-notched Al-6061-T6 plate



[FRP composite repaired V-notched Al-6061-T6 specimen]

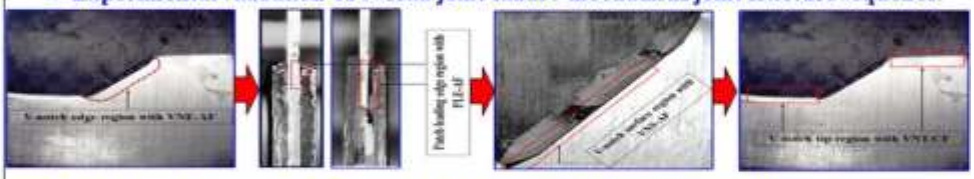
FRP patch design through Linear Elastic Fracture Mechanics based FE Model

Identification of joint fracture onset locations and overall joint fracture mechanism (Sequence of joint fractures) through 3D stress/failure based FE analyses.

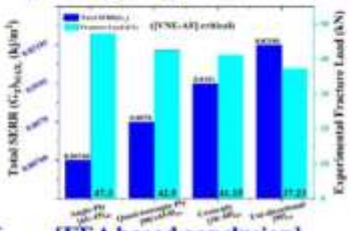


VNE-AF (V-notch tip region) PLE-AF (Patch leading edge region) VNS-AF (V-notch tip region) VNT-CF (V-notch tip region)

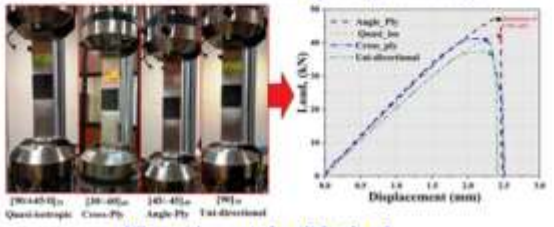
Experimental validation of overall joint failure mechanism/joint fracture sequence.



FEA based optimum FRP patch stacking sequence for improved damage tolerance of joint region against adhesion/cohesion fractures (verified through experiment)



[FEA based conclusion]



[Experimental validation]