

Dr. Hirak Ranjan Das



Assam Royal Global University, Guwahati – 781035
Deputy Director, Innovation, Incubation & Entrepreneur Cell
Advanced Level Innovation Ambassador
Incharge Institution's Innovation Council under MoE
SPoC ARIIA Ranking
Startup/Innovation Coordinator.
Phone +91 78968 04278
Email hirakdas22@gmail.com/hirak.das@rgi.edu.in
Website <https://shorturl.at/hsRX0>
DOB: 04 May 1979
Passport No. V1114946

OBJECTIVE

To inspire and empower students, fostering an entrepreneurial mindset through technology-driven innovation. Continuously enhance creativity and stay up to date, setting goals and working collaboratively with students to achieve them. Drive motivation for entrepreneurship and innovation, while conducting research in the field of innovation and design thinking.

DETAILS OF PATENT PUBLISHED

- MARKER PEN MADE OF BIODEGRADABLE MATERIALS (202231045258) 08 August 2022, Published 09 Sept 2022.
- A PORTABLE DEVICE TO CUT SOFT SHEETS IN CIRCULAR SHAPE WITH ADJUSTABLE RADIUS (202231021448) Filed 11 April 2022, Published 22 Jul 2022.

MEMBERSHIP AND LICENSE

Amateur Ham Radio Membership

EDUCATION

Degree	Institution	Date of Completion	%
Ph.D. (EE)	Assam Science and Technology University, Assam, Guwahati, India	2020	N/A
Masters (ME)	Assam Engineering College, GU	2012	75%
B.E (ME)	Assam Engineering College, GU	2001	72%

Ph.D. (topic) Numerical and experimental investigations of macro flow dynamics due to wind over earth fixed structures. Dated 14 Sept 2020.

ACHIEVEMENTS

- **Nodal Officer Biksit Bharat**, Govt. of India of The Assam Royal Global University.
- **Resource person** for awareness program under Design, a subcomponent of MSME Innovation scheme to be held on NIT Silchar.
- **Cluster Expert** for Maringthuk Cluster in Ukhrul, Manipur, serving on Project Screening Committees for the Fund for Regeneration of Traditional Industries (SFURTI) under the Ministry of Micro, Small, and Medium Enterprises, Govt. of India.
- **SPoC** for Regional Meet, Institution's Innovation Council 2024 organized by MoE, Govt of India on January 9.
- Two projects have been selected for the **YUKTI Innovation Challenges Award 2023**, organized by MoE's Innovation Cell, Govt of India.
- **SPoC for Smart India Hackathon 2023** organized by MoE, Govt of India on December 19-20.
- **NEC Mentor for Entrepreneurship Cell, IIT Bombay** in 2023.
- Invited as a **resource person** to a student induction program on the topic "Innovative Tech Startups projects for the Beginners" organized by Nalbari Polytechnic College, Nalbari on 12 September 2023.
- Invited as a **resource person** for workshop on the topic "Developing an entrepreneurial mindset: Prototype process design and development" organized by Pragjyotish College, Guwahati on 29 August 2023.
- External member of Institution's Innovation Council of Kamrup Polytechnic College.
- Received "**Best Mentor Award**" in "Green Innovation Ecosystem" organized by the NERAMAC on 29 June 2022.

- Invited to distribute a few culturally valuable items designed by me on the occasion of the distribution ceremony organized by WEBRADIO at the Guwahati Press Club, Ambari, Guwahati on 24 June 2022.
- Invited to distribute Unique cutter on the occasion of the distribution ceremony organized by NERAMAC at the Guwahati Press Club, Ambari, Guwahati on 24 May 2022.
- Received award as Best Categories Exhibitors among the Private University North-East Research Conclave held at IITG organized by IITG and Technology and Climate Change Dept. & Dept. of Education, Govt. of Assam from 20-22 May 2022.
- SPOC for Smart India Hackathon 2022.
- Received mentorship for **ATAL Tinkering lab** within the state for the year 2022.
- Received **Scroll of application for outstanding performance for the year 2021** from Assam Royal Global University in the year 2022.
- Successfully innovated and developed Unique Cutter device and marketed by **NERMAC** in the year 2022.
- License for operating **Amateur Ham Radio**.
- Established **Royal Innovation Incubator under IIC** which is now certified by **ARIIA under MIC/AICTE in the year Jan 2022**.
- Established **Institution's Innovation Council under MIC/AICTE** at Assam Royal Global University in the year 2019 and received 3 Star rating in the year 2021.
- **Innovation Ambassador** of Institution's Innovation Ambassador under **Ministry of Education & MIC/AICTE**.
- Evaluator of **Toycathon 2021** organized by Ministry of Education and AICTE.
- Received grant from MHRD National Cheng Kung University Hospital (NCKUH), Taiwan for organizing short-term course on 3D Printing and its Biomedical Engineering Applications 2020.
- Received grant for organizing a conference on Wind disasters Problems ahead in Northeast from AICTE.

SUBJECT SPECIALIZATION

- Design Thinking.
- Computer Aided Simulation and Engineering (CAD/CAE).
- Computational Fluid Mechanics (CFD).
- 3D Modelling and Printing.

EXPERIENCE

Indovation Manager | AICTE, MIC, Govt. of India 22 May 2024- till dated
IPR and Technology Transfer, East region

Deputy Director | Royal Global University 13 Jan 2023-21 May 2024
Innovation, Incubation & Entrepreneur Cell
Center In-Charge **Institution's Innovation Council under MoE Govt of India**
Advanced Innovation Ambassador: Innovation and Design Thinking IIC – RGU
Nodal officer **ARIIA**

Associate Professor | Royal Global University 8 March 2022-12 Jan 2023
Coordinator Royal Innovation Incubator
Center In-Charge **Institution's Innovation Council under MoE Govt of India**
Innovation Ambassador: Innovation and Design Thinking IIC – RGU
Nodal officer **ARIIA**

Assitent Professor | Royal Global University 13 July 2011-7 March 2022
Classes for Department of Mechanical Engineering.













Project Engineer | Vascon Pvt. Ltd. 02 June 2008- 9 July 2011
Designing of steel structures using CAD and implementation of the design on site.

Structural Detailer | Cadmetric Consulting. 05 June 2006-28 May 2008
Designing of steel structures using CAD and implementation of the design on site.

Faculty | Arena Multimedia. 20 Jan 2004-19 Jan 2006
Teaching of different CAD software's.

Production Engineer | Unique Consultancy & Services. 03 Nov 2001-15 Jan 2003
Designing of steel structures using CAD and implementation of the design on site.

SKILLS & ABILITIES

	Hard skills		Soft skills
Product Knowledge		CATIA, CREO	
Leadership		ANSYS	
Communication		Product Design	
Ideas and Innovation		3DS Max	
Self-Motivation		AutoCAD	
Entrepreneurship		Microsoft Office	

PROJECT HANDLED

- Designing and implementation of **Biogas plant** for The Assam Royal Global University in the year 2023.
- Designing and fabrication of **Hot Press Machine** for making of biodegradable plates in the year 2023.
- Consultants for SFURTI projects Scheme under the Ministry of MSME preparing for Kuchdhuwa Turmeric Cluster, Safal, Amjonga, Dudhnoi, Goalpara District, Assam. In the year 2022.
- Consultants for SFURTI projects Scheme under the Ministry of MSME preparing for Lumbajong Ginger & Turmeric Cluster at Kheronigoan, Karbi Anglong. In the year 2022.
- Consultants for SFURTI projects Scheme under the Ministry of MSME preparing budgets for Hatiutha Village, Morigaon District, Assam. In the year 2022.
- **4 Wheeler EV project.** Phase I has been completed in 22 Feb 2022 and received second prize in the event of Electric concept of car demonstration exhibition organized by SECONE Society on 11 May 2022
- Working on the project with M/S Autoleopard, Guwahati for **laser cutting and welding machine** from March 2021.
- Working on the project with Rajdip Traders, Guwahati for **Feeder for Incense Stick Making Machine** from March 2021.
- Working on the project with WebRadio LOKORATNAGARBHAA for different kinds of devices with some cultural value from March 2021.
- Innovation of "Automatic Temperature detection and attendance monitoring device with sanitization" for COVID 19 which was published in newspaper s like "Times of India" and "Telegraph" etc. on 17h June 2020.
- Innovation of "Viroreeper" for COVID 19 which was published d in newspapers like "Times of India", "Telegraph" and "Asamiya Pratidin" etc. on 13th May 2020.
- Distributed 3D printed face shield for doctors of Excelcare Hospital to combat COVID 19 on 13th April 2020.

- R.P.S. Project entitled “Investigation of wind Shear during downburst” under Dr. Kalyan Kumar Das Optimization of an aerodynamic section of airscrew considering Prandilt’s tip loss under Dr. Kalyan Kumar Das
- Blade Design of propeller and wind turbine.
- Analysis of foil using linearized velocity potential also performance analysis of airfoil Analysis of foil using linearized velocity potential also performance analysis of airfoil considering within subsonic range.
- 3D modeling, Assembling, and Analyzing of Rock Crusher Machine in Torsa Pvt. Ltd., Amingaon, Assam for Unique Consultancy, Guwahati Consultancy, Guwahati.
- 3D Modeling of machine parts, CNC Machining in Indo German Tool Room, Aurangabad.

TRAINING AND CONFERENCE ORGANIZED

1. **IIC Regional Meet**, Founded by the Ministry of Education’s Innovation Cell and AICTE on 9 January 2024 at Assam Royal Global University.
2. **Smart India Hackathon**, Founded by the Ministry of Education’s Innovation Cell and AICTE on 19-20 December 2023 at Assam Royal Global University.
3. **IIC Regional Meet**, Founded by the Ministry of Education’s Innovation Cell and AICTE on 4 August 2022 at Assam Royal Global University.
4. The startup festival in association with ASSAM STARTUP to promote Woman Entrepreneur on 22 March 2022 at Assam Royal Global University.
5. Three days workshops on **ATAL tinkering lab** in association with EREHWON Pvt Ltd 4 Dec 2021.
6. Boot camp has been organized by Dr. Hirak Ranjan Das IIC RGU, Innovation Ambassador in association with IIT Kharagpur Agri-Food Business Incubation Centre on 22nd June 2021.
7. One-week Short Term Course on “**3D Printing, and its Biomedical Engineering Applications**” jointly organized by IIC RGU, MHRD National Cheng Kung University Hospital (NCKUH), Taiwan, Northeastern Hill University (NEHU), Shillong, Meghalaya, India 12-16 October 2020. **Funded by NCKUH, Taiwan.**
8. Organized webinar on "Basics of Metrology and Understanding Importance of Measurement and Calibration Concepts: Fluke Corporation" on 29th September 2020 in association with Fluke Corporation.
9. Organized webinar on "Edge Computing for business-critical industrial applications: Stratus Technologies" on 28th September 2020 in association with Stratus Technologies.
10. Conducted two days' online workshop on MATLAB on the topics "Designing for Reliability & Robustness with MATLAB Base Engine" and "Artificial Intelligence & Machine Learning Using MATLAB" on 18 19th August 2020.
11. Organized webinar on "Future of EV and Robotics: HIOKI Japan" on 31st July 2020 in association with HIOKI Japan.
12. IoT base d Robotic Training for RGU students 24 25 January 2019.
13. 3D printing workshop for the students of RGU in collaboration with KNOWHOW 3D on 16 May 2018 at RGU.
14. Vikram Sarabhai Space Exhibition (VSSE) in association with Indian Space Research Organization (ISRO), Ahmedabad at RGU dated 7th and 8th (Thursday and Friday) of September 2017.
15. Awareness program on “Support for Entrepreneurship and Managerial Development of SMEs: through Incubators” in collaboration with MSME Guwahati on 21 March 2017.
16. Workshop on “Ethical Hacking & Cyber Security” on 12 Nov 2016 in collaboration with GRATIA TECHNOLOGY PVT LTD.
17. National Conference on Emerging Trends in Engineering: Opportunities in Northeast (ETIE 2016), 28 29 April 2016 at Royal School of Engineering and Technology, Guwahati 35.
18. Short Term Training Program on AutoCAD from February to May 2016 at Royal School of Engineering and Technology, Guwahati 35.
19. Short Term Training Program on CATIA form February to May 2016 at Royal School of Engineering and Technology, Guwahati 35.
20. National Conference on Wind disasters Problems ahead in Northeast 12-13 February 2012 at Royal School of Engineering and Technology, Guwahati 35 Funded by AICTE.

PUBLICATIONS

JOURNALS

1. Barman S & Das H. R, "Analysis of Shading and Energy Generation by PV Overhang Using Different Models" *Journal of Alternate Energy Sources and Technologies*, Dec 2022, Vol 13, No 3, ISSN:2230-7982.
2. Barman S & Das H. R, "Innermost Surface Temperature Characteristics of Solar Photovoltaic Double Pane Window" *Journal of Alternate Energy Sources and Technologies*, 25 February 2022, Vol 12, No 3, ISSN:2230-7982.
3. Das H. R., Barman S & Das K. K. "Temperature Characteristics of Semi-transparent Photovoltaic Module in a Ventilated Double Pane Window System", *Recent Trends in Civil Engineering & Technology*, 9 February 2022, Vol 12, pp 1-10, ISSN: 2249-8753.
4. Das H.R., Bhatia D, Das K.K, & Mishra A "Development of Viroreaper sanitization chamber for COVID", *Sensors International*, 28 October 2020, ISSN 2666-3511.
5. Das H.R., Das K.K, Patowary A, " A Study on C, H and L Type Prismatic Buildings for Synoptic Wind Flow ", *International Journal of Construction Engineering and Planning*, Vol. 6, pp. 6-14, 2020, ISSN: 2456-2335.
6. Das, H. R., & Patowary, A. "Uses of 3d printing for production of PPE for COVID 19 like situations: Scope and future", *American Journal of Preventive Medicine and Public Health* Vol. 6: Issue: 3 pp 76-79, 2020, EISSN 2576-3741.
7. Das H.R., Das K.K, "Optimization of Roof Angle for Sloping Roof Buildings under Extreme Wind Conditions", *Journal of Construction Engineering, Technology and Management*, Vol. 9, pp. 1-5, Oct 2019, ISSN: 2249-4723.
8. Das, H. R., & Das, K. K. "Numerical Investigation of the Effect of Downburst Wind on Buildings with Various Geometrical Shapes.", *Journal of Aerospace Engineering & Technology*. Vol.7, pp 1-5, 2017, ISSN: 2231-038X6.
9. Das K.K, Das H.R., Ghosh A.K., Sinhamahapatra K.P., "Damage Potential of Extreme Wind Events Downburst and Tornado", *Journal of Aerospace Engineering & Technology*, Vol. 24-46, pp. 1-5, 2016, ISSN: 2231-038X.
10. Das K.K, Das H.R., Ghosh A.K., "Numerical Investigation of the Interference Effect of Prismatic Buildings Placed in Tandem Arrangement due to Synoptic wind profile" *International Journal of Applied Mathematics and Mechanics*, Vol. 10, pp: 41-59, 2014, ISSN: 0973-0184.

CONFERENCES/BOOK CHAPTERS

1. Das H.R., Bhatia D "The Role of 3D Printing for the Growth and Progress of Medical Healthcare Technology", *Cambridge Scholars Publishing*, Chapter 2, pp 32-50, April 2022. ISBN: 1-5275-8236-1
2. Das H.R., Bhatia D, Patowary A, & Mishra A" Multi-Purpose Robotic Sensing Device for Healthcare Services", *Enabling Healthcare 4.0 for Pandemics: A Roadmap Using AI, Machine Learning, IoT and Cognitive Technologies*. On Willy online library. Chapter 12. 21 September 2021. ISBN:9781119768791.
3. Das H.R., Das K.K, and Jain S. "Effect of Downburst Wind on Buildings with various Geometrical Shapes", *International Conference on Engineering Analysis, Modeling, Simulation and 3D Printing (NAFEMS 3D)*, Jaipur, 28-31st Aug 2016.
4. Das H.R., Das K.K, Jain S. "A numerical study of wind-induced internal and external fields on low rise buildings with wall openings for downburst wind", *National Conference on Emerging Trends in Engineering: Opportunities in Northeast, Guwahati*, 28th and 29th April 2016. ISBN 978-93-83588 -12-1.
5. Das H.R., Das K.K, and S. Jain "An experimental and numerical validation of pressure distribution of high-rise prismatic building using wind tunnel", *National Conference on Emerging Trends in Engineering: Opportunities in Northeast, Guwahati*, 28-29th April 2016, ISBN 978-93-83588-12-1.
6. Das H.R., Das K.K, S. Jain " Numerical Simulation of Rectangular Fins using Carbon Foam", *National Conference on Emerging Trends in Engineering: Opportunities in Northeast, Guwahati*, 28th and 29th April 2016, ISBN-978-93-83588-12-1.
7. Das H.R., Das K.K, S. Jain " Numerical investigation of Compressible flow for Different Shapes C N nozzle", *National Conference on Emerging Trends in Engineering: Opportunities in Northeast, Guwahati*, 28-29 April 2016, I SBN-978-93-83588-12-1

8. Das H.R., Das K.K and S. Jain "A numerical study of Wind Induced External and Internal flow fields on a Prismatic building with wall openings", National Seminar on "Green Energy Prospects and Challenges" Challenges", Guwahati, 26-27 April 2016, ISBN-978-93-83588-11-4.
9. Das H.R., Das K.K, S. Jain "Effect of Downburst Wind on Building and Interference effects ", National Seminar on " Green Energy Prospects and Challenges", Guwahati, 26th and 27th April 2016, ISBN 978-93-83588-11-4.
10. Das H.R., Das K.K, S. Jain "Comparison Downburst and Synoptic Wind Effects on Prismatic Buildings", National Seminar on "Green Energy Prospects and Challenges", Guwahati, 26-27 April 2016, ISBN 978-93-83588-11-4.
11. Das H.R., Das K.K, A. Ghosh "Optimization of slope for sloped roofed buildings under downburst wind flow using ANSYS", International conference on recent trends in engineering and material sciences, Jaipur, 17-19 March 2016, ISBN 978-93-5254-230-7.
12. Das H.R., Das K.K, J. Pathak and A. Ghosh "Investigation and comparison of flow dynamics around a prismatic building due to down burst and synoptic wind", National Conference on New Frontiers in Civil Engineering: Challenges and Opportunities in North East India , Guwahati, 5th and 6th Nov 2015.
13. Das H.R., Das K.K and A. Ghosh "Numerical simulation of wind flow around multiple buildings", 16th AeSI Annual Symposium, Aeronautical Society of India, Bangalore, 11-12 August 2014
14. Das H.R., Das K.K and A. Ghosh "A Numerical Study of Wind Induced External and Internal Flow Fields on a Prismatic Building with Wall Openings Buildings", 16th AeSI Annual Symposium, Aeronautical Society of India, Bangalore, 11-12 August 2014.
15. Das H.R., Das K.K and A. Ghosh "Wind Effects on Prismatic Structure for different Orientation", National Conference on Innovations in Design & Construction of Industrial Structures (IDCIS 2014) Durgapur, 3-5 April 2014.
16. Das H.R., Das K.K and A. Ghosh "A study of interference effect on prismatic building due to synoptic wind flow ", International Conference on Green Energy & Smart Materials Through Science, Technology and Management (GESM 2014) Guwahati, 21-13 Jan 2014.
17. Das H.R., Das K.K and A. Ghosh "Numerical simulation of sloped roofed building for synoptic wind flow", International Conference on Green Energy & Smart Materials Through Science, Technology and Management (GESM Guwahati, 21 13 Jan 2014.
18. Das H.R., Das K.K and A. Ghosh "Numerical investigation of the interference effect on prismatic buildings due to synoptic wind flow", 15th AeSI Annual Symposium, Aeronautical Society of India, Bangalore, 9-10 August 2013.
19. Das H. R., Das K.K and A. Ghosh "Numerical Investigation of Dry Microburst Wind near Prismatic Building using ANSYS", 13th AeSI Annual Symposium, Aeronautical Society of India, Bangalore, 10-11 August 2011.
20. Das K.K., Das H.R and A. Ghosh "Simulation of dry microburst wind using ANSYS", FIFTH ICTACEM, 2010, IIT Kharakpur, 27-29 Dec 2010.
21. Das K.K., Das H.R and A. Ghosh "Simulation of impinging jet model ", Australian Wind Engineering Association (CWE2010), Australia, 23 27, May 2010.

PARTICIPATION IN TRAINING PROGRAMS

Sl. No	Name of the Program	Duration	Organized by
1	Idea to Patent	10 Days	Tulip, 12 Feb 2022 to 21 Feb 2022
2	Online FDP on "Design Thinking"	One Week	National Institute of Technical Teachers Training and Research Chandigarh, 31 Dec – 4Jan 2022.
3	Online FDP on "Advanced Manufacturing of Biomedical Devices for Precision Health Technologies"	One Week	Indian Institute of Technology Tirupati, 13-17 Dec 2021.
4	Innovation Ambassador (Advanced)	16 Session	Conducted by MoE's Innovation Cell & AICTE, 30 June -30 July 2021
5	AICTE sponsored STTP on Risk & Reliability-Based Asset Management.	One Week	JIS College of Engineering, a NAAC–A graded Autonomous Institution in Kalyani, West Bengal. 14-20 June 2021.

6	Innovation Ambassador training.	One Month	Ministry of Education and AICTE from 30 Jan to 28 Feb 2021.
7	Online FDP on "Design thinking"	One Week	AICTE Training And Learning (ATAL) Academy, Sri Manakula Vinayagar Engineering College, New Delhi, India. 8-12 Nov 2020.
8	Online FDP "Recent Advances in Mechanical Engineering: Research Perspective"	One Week	Mahatma Gandhi Institute of Technology, Hyderabad, India. 6-10 July, 2020.
9	Online FDP" on "INDUSTRY 4.0"	One Week	Dr. M. G. R., Educational and Research Institute, Chennai, Tamil Nadu, India. 02- 04 July 2020.
10	Online FDP on "Design Thinking Approaches in Engineering"	One Week	SVERI's College of Engineering, Pandharpur, Maharashtra, India. 22-26 June, 2020.
11	NEQIP Short Term Course Introduction to Numerical, Computational, and Experimental Mechanics (INCEM 2014)	One Week	Assam Engineering College & AICTE at AEC, Jalukbari, Guwahati -13, 9-13 Dec 2014.
12	Short Term/In-house training program on Fluid Power Systems	One Week	NITTR, Kolkata on 24-28 Nov 2014
13	Advanced Computational Fluid Dynamics (ACFD-2014)	One Week	Motilal Nehru National Institute of Technology Allahabad Allahabad- 211004, Uttar Pradesh, India. 3 Feb – 7 Feb 2014.
14	Master Program in CAD/CAM/CAE	6 Months	Central Institute of Plastics Engineering & Technology (CIPET), Hyderabad, 09 Jan – 08 June 2006
15	CATIA – V5 R9	45 Days	IGTR – SISI CAD/CAM Training Centre, Pune, 22 Jan – 10 March 2003
16	CNC Programming & Machining	45 Days	IGTR – SISI CAD/CAM Training Centre, Pune, 23 Jan – 26 Feb 2003
17	Core JAVA, J2EE with Advanced JAVA	90 Days	ORBIT IT CONSULTING PVT. LTD.
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Signature
04 April 2024