

Duration: 23rd to 26th November, 2026

Venue: RMSOEE, IIT Kharagpur



Rajendra Mishra School of
Engineering Entrepreneurship
Indian Institute of Technology Kharagpur

Proposal for 4-Day Workshop on

Design for Innovation and Entrepreneurial Success

DESIGN • INNOVATION • PROTOTYPING • IPR • ENTREPRENEURSHIP

Background and Rationale

Design is more a process than a product connecting mind and matter from the conception of an idea to its embodiment. A good design involves aesthetic sensibility, experience, and judgment, which are integral to design thinking and making. Design is therefore increasingly recognised as a strategic method for innovation, creative problem solving, and value creation.

The four-day workshop will provide an integrated exposure to design, innovation, prototyping, IPR, and entrepreneurship through expert lectures, industry-academia interaction, hands-on activities, and project presentations. It will also introduce participants to pathways for protecting, developing, and commercialising design-led innovations.



Objectives

The workshop aims to:

- Develop an understanding of the foundation and fundamentals of design
- Have a holistic understanding of design
- Introduce Design Thinking and human-centred design
- Develop skills in problem identification, ideation and concept development.
- Provide hands-on experience in prototyping, testing and refinement.
- Introduce IPR and protection of design and innovation.
- Explore design-led entrepreneurship and commercialisation opportunities.
- Facilitate expert interaction, feedback and mentoring.

Key Themes / Content

- Design & Innovation: Design principles, innovation and creative problem solving.
- Design Thinking: User understanding, problem identification and ideation.
- Design Development: Concept creation, aesthetics, functionality and usability.
- Prototyping: Prototype development, testing and iteration.
- IPR: Patents, designs, trademarks, copyright and protection of innovation.
- Entrepreneurship: Value proposition, market opportunities, commercialisation and startup pathways.

Target Participants

- Undergraduate, postgraduate and graduating students from Engineering, Science, Architecture, Design interested in design, innovation and creative problem solving.
- Early-career professionals and practitioners interested and working in design, technology, manufacturing, creative industries, social innovation and related fields.

Expected Outcomes

Participants will be able to:

- Apply design thinking to real-world problems.
- Develop and present a design concept/prototype.
- Understand basic IPR considerations for design and innovation.
- Identify potential entrepreneurial and commercial applications.
- Understand the pathway from design to prototype to IPR to entrepreneurship/commercialisation.
- Receive expert feedback and identify opportunities for further development and collaboration.



Proposed Programme Structure

Day 1: Understanding Design & Innovation

Time	Session	Focus / Content	Format
10:00 AM to 11:00 AM	Inauguration & Programme Introduction	Introduction to design, innovation and the role of design in solving real-world problems	Inaugural
11:00 AM to 11:30 AM	Tea Break		
11:30 AM to 1:00 PM	Panel Discussion: From Design to Impact: Bridging Academia, Industry and Entrepreneurship	How design and innovation can move from academic ideas and research to industry applications, IPR protection, market opportunities and entrepreneurial ventures.	Academic and Industry / Professional Panel
1:00 PM to 2:30 PM	Lunch		
2:30 PM to 3:30 PM	Lecture 1	Fundamentals of Design & Design Thinking	Expert Session 1
3:30 PM to 4:00 PM	Break		
4:00 PM to 5:00 PM	Lecture 2	Design, Innovation & Human-Centred Problem Solving	Expert Session 2



Proposed Programme Structure

Day 2: Design Development & Ideation

Time	Session	Focus / Content	Format
9:30 AM to 10:30 AM	Lecture 3	User Research, Ideation & Concept Development	Expert Lecture 3
10:30 AM to 11:30 AM	Lecture 4	Design Development, Aesthetics, Functionality & Usability	Expert Lecture 4
11:30 AM to 11:45 AM	Tea Break		
11:45 AM to 1:00 PM	Expert Interaction / Case Discussion	Discussion and application of design thinking principles to participant challenges	Interactive
1:00 PM to 2:00 PM	Lunch		
2:00 PM to 3:15 PM	Activity 1	Design Observation, Empathy & User Mapping	Hands-on
3:15 PM to 3:30 PM	Tea Break		
4:00 PM to 5:00 PM	Activity 2	Problem Definition & Ideation	Hands-on



Proposed Programme Structure

Day 3: Prototyping, Innovation & Application

Time	Session	Focus / Content	Format
9:30 AM to 10:30 AM	Lecture 5	Prototyping, Testing & Iterative Design	Expert Lecture 5
10:30 AM to 11:30 AM	Lecture 6	Design, IPR & Entrepreneurship: From Concept to Commercialisation	Expert Lecture 6
11:30 AM to 11:45 AM	Tea Break		
11:45 AM to 1:00 PM	Expert Interaction / Case Discussion	IPR, Market Application & Commercialisation	Interactive
1:00 PM to 2:00 PM	Lunch		
2:00 PM to 3:15 PM	Activity 3	Concept Development & Prototype Building	Hands-on
3:15 PM to 3:30 PM	Tea Break		
3:30 PM to 5:00 PM	Activity 4	Prototype Testing, Feedback & Iteration	Hands-on



Proposed Programme Structure

Day 4: Design Showcase & Expert Deliberation

Time	Session	Focus / Content	Format
9:30 AM to 10:00 AM	Poster & Prototype Setup	Preparation and display of participant work	Preparation
10:00 AM to 12:30 PM	Poster & Prototype Presentation	Presentation of design challenge, user insights, ideation journey, design concept, prototype and testing outcomes	Exhibition / Presentation
12:30 PM to 1:00 PM	Expert Feedback Session	Experts review participant designs and provide feedback on design quality, relevance, usability, creativity and feasibility	Expert Interaction
1:00 PM to 2:00 PM	Lunch	Participants Departure	
2:00 PM to 5:00 PM	Expert Roundtable: Review, Way Forward & Future Design Development	Experts-only discussion on programme outcomes, participant design concepts, key observations, opportunities for further development, mentoring and prototyping support, interdisciplinary collaboration, future design initiatives, and recommendations for sustaining the programme	Expert Roundtable



Expert Brief Profile

Prof. Debasish Majumder

Prof. Debasish Majumder is Professor, School of Design, UPES Dehradun, with over 30 years of professional experience in industrial, transportation and mobility design. He holds a PhD in Design from UPES, an M Des in Industrial Design from NID Ahmedabad, a BE in Mechanical Engineering, and a PGP in Strategic Management from IIM Kashipur. His professional career includes design engineering at IIT Mumbai, appliance design at Godrej & Boyce, earth-moving and road machinery design at Tata Motors in collaboration with Hitachi, and computer-aided industrial design roles with multinational companies including Ciyent, Quest and EDS. He has also served as Design Head at Mahindra Defense, in collaboration with BAE Systems Sweden, and at TIL, with Manitowoc USA. His expertise spans product, vehicle, ergonomic, mobility and strategic design management.

Prof. Pratul Chandra Kalita

Prof. Pratul Chandra Kalita is Professor and Head of the Department of Design at IIT Guwahati, with extensive industrial and academic experience in design, technology, and strategic management. He established the Design and Technology Management Lab in the department. His expertise includes design management, design methods, service and systems design, product-service systems, and design strategy. His professional consulting experience includes services for the Government of India, Government of Assam, and reputed private organizations. Currently, he is conducting Impact Assessment Studies of Basundhara 1.0 and 2.0, developing a service systems design solution for the Real Estate Development Authority of Assam, and leading a smart agriculture study under Viksit Bharat 2047. He has provided design management consultancy to the Ministry of Textiles for the Sivasagar Mega Handloom Cluster Development Project and undertaken an IMPRINT project sponsored by MoE and ICMR on system design for Tuberculosis Programme Administration. He has also conducted impact assessment studies for projects funded by RIDF, NABARD, PMEGP, and PMRY. Prof. Kalita takes a keen interest in strategic design management, organizational transformation, design leadership, and service systems design for government process reengineering. He holds several granted patents and registered industrial designs focusing on innovative vending solutions and portable cold-storage technology.

Prof. Sougata Karmakar

Prof. Sougata Karmakar is Professor and former HOD, Department of Design, IIT Guwahati, where he has been serving since December 2016. He holds a PhD in Physiology (Ergonomics) from Bharathiar University, an MSc in Physiology from the University of Burdwan, where he ranked first, and a PGDM in Human Resource Management from Pondicherry University. He previously served as Assistant Professor in the Department of Design at IIT Guwahati from 2010 to 2016, and at K.G. College of Health Sciences, Coimbatore. Earlier, he worked as a Research Fellow at the Defence Institute of Physiology & Allied Sciences (DIPAS), DRDO, Delhi, and as a Lecturer at Krishnagar Government College, West Bengal. He contributes extensively to academic scholarship as an editorial board member and reviewer for international journals covering ergonomics, industrial safety, occupational health, physiology and related disciplines. He has 14 patents (3 utility and 11 design) in his name.



Expert Brief Profile

Dr. Bibhuti Ranjan Bhattacharjya

Dr. Bibhuti Ranjan Bhattacharjya is Assistant Professor, Department of Design, IIT Roorkee, and Joint Faculty at its Centre for Sustainable Rural Development. He holds a PhD in Agro and Rural Technology from IIT Guwahati, an MTech in Mechanical Engineering, and a bachelor degree in Mechanical Engineering. His research focuses on machine and product design for resource-constrained societies, sustainable development, human factors and ergonomics, frugal innovation, cottage-industry technology, agro-rural technology and science communication. His professional experience includes Research Consultant at JNU, Senior Technical Professional at IIT Guwahati's Unnat Bharat Abhiyan Cell, and Project/Associate Project Engineer at RuTAG-N.E., IIT Guwahati. He is an inventor/co-inventor of multiple patents, including technologies for fruit harvesting and water-hyacinth fibre extraction. His recognitions include Best Paper Awards, Distinguished Paper Award, Director's Letter of Appreciation and Award of Excellence, along with the Chief Minister of Assam Merit Scholarship.

Dr. Banatanwi Dasmahapatra

Dr. Banatanwi Dasmahapatra is Associate Professor and Head, Department of Textile Design, Kala Bhavana, Visva-Bharati University. She holds a PhD from the Centre for Exact Humanities, IIIT Hyderabad, and BFA and MFA degrees in Textile Design from Kala Bhavana, Visva-Bharati. Her areas of specialization include Textile Fibre Art and Design, with research and teaching interests spanning tapestry, surface design, mixed media, textile fibre sculpture, colour theory, design history, South-East Asian textiles, synesthesia and visual cognition. She has held academic and professional roles including Lecturer at IIIT Hyderabad, Visiting Scholar at Carnegie Mellon University, and designer/researcher in handloom and rural craft-development projects. Her artistic work has been exhibited nationally and internationally, including in India, Bangladesh, China, Thailand, Korea and the UK. She has received the National Scholarship from the Government of India, Ministry of Culture (2007) and has participated in numerous international exhibitions, conferences, workshops and artist residencies.

Resource Persons and Pedagogy

The workshop will be supported by five external academic experts, who will be present throughout all four days to provide continuity in learning, mentoring and evaluation. A select group of internal academic experts will also participate. Industry experts will contribute through the opening panel discussion and relevant sessions/case studies.

The pedagogy will combine interactive lectures, case studies, panel discussions, group activities, design challenges, hands-on exercises, prototype development, poster presentations and expert mentoring, ensuring that participants move from conceptual understanding to practical application.