

Faculty Recruitment at CPDM

CPDM (Centre for Product Design and Manufacturing) is the design and manufacturing face of IISc (Indian Institute of Science), Bangalore. IISc is the highest-ranked academic institution in India (NIRF ranking 2017), and is 8th in the world among small universities (THE rankings 2017). IISc has been the cradle for initiating the aircraft, space and nuclear programmes of India, as well as its IITs and IISERs. CPDM has two programmes: an MDes programme that started in 1997, and a research programme that started early this century; the latter includes MTech by Research and PhD in design and manufacturing.

The vision of CPDM is to *“Pursue excellence in education, research and practice in the areas of design and manufacturing so as to support development of systemically-complex, technologically-intensive and socially-impactful solutions that are functional, aesthetic, usable and sustainable, with the focus on developing working, hardware-centric prototypes.”* Note the emphasis on ‘hardware-centric prototypes’, something that cannot be excelled in without design and manufacturing coming together. In this sense, the training provided at CPDM is similar to those in the design schools of Delft, Stanford and CMU, where emphases are on immersion in stakeholder environments to understand their needs, exploration of new technologies for developing breakthrough concepts, and spending significant effort on detailing the concepts so that these can be manufactured well and validated with rigorous testing, all the while ensuring satisfaction of technical, aesthetic, ergonomic and other needs leading to sustainable solutions.

CPDM supports not only design and manufacturing but also entrepreneurship. One recent example of this is ‘Sickle Innovations’ - an agricultural start-up that received the 2016 ISBA Award for being the most ‘Innovative Company of the Year’. As part of their final year major project, two MDes students from CPDM developed in 2012 a hardware tool for improving productivity of picking cotton from the fields. They initiated the start-up in 2013, supported partly by the incubation and mentoring framework provided by the Design Innovation Centre (DesIC) hub at CPDM. Three years hence, the company has two more products and three patents, employing around 10 people and looking for more!

CPDM is holistic in the exposure it provides in both ‘*product development*’ and ‘*research into product development*’. IISc produced the first PhD in industrial design in India (in the last century). CPDM initiated India’s first formal PhD programme in design (at the turn of the century), to produce trained teachers and researchers for the expanding educational community in design. It also initiated India’s first two international conferences: the annual International Conference series on Product Lifecycle Management (PLM) in 2003, and the biennial International Conference series on Research into Design (ICoRD) in 2006. Research at CPDM is carried out at the highest possible level. Its publications record per capita is comparable to those of the top research-intensive design and manufacturing schools.

Members of the faculty at CPDM are trained from some of the top universities in the world. Research, training and practice at CPDM are carried out in collaboration with some of the finest universities, organisations and enterprises. CPDM collaborates with over twenty universities across the world, which includes Harvard, CMU, Stanford, Delft, UC Berkeley, TU Munich and Oxford. It also collaborates with major organisations: Boeing, Volvo, GM, GE, Panasonic, Tata Motors, Ashok Leyland and TCS are a few.

CPDM leads the MHRD funded National Design Innovation Network (NDIN) in India, and the Indo-US Centre of Excellence in Design of Sustainable Systems, in partnership with UC Berkeley, Washington State U, NIST, Syracuse U, IIM Ahmedabad, NIF Ahmedabad, and CSTEP Bangalore. With the state of the art workshops, an array of modern research laboratories that includes India’s first ‘Design Observatory’

and its first 'Smart Factory' lab, and an advanced incubation facility under its DesIC hub, CPDM provides a world class facility for training, research and practice of design, manufacturing and entrepreneurship.

Alumni from CPDM joined IITs, NITs other national labs, as well as Aalto (Finland), Oxford, Cambridge, (UK), Stanford (USA), Lund (Sweden), Munich (Germany), Tata Motors, TVS, Ashok Leyland, L&T, Airbus, Rolls-Royce, and so on. Saurav Singh – the design head of Maruti – for instance, has MDes from CPDM, as does Rajesh Gogu, who together developed the first indigenously designed car for Suzuki - the A-star!

CPDM is keen to recruit bright, dynamic candidates to expand its faculty, for supporting its innovative and ambitious teaching and research programmes. Interested candidates must have a strong academic record and a PhD in a relevant area. Hands on experience with product development or industrial experience would be highly desirable. Faculty at CPDM is expected to have strong interest in teaching and research into design and manufacturing and **guide Masters level projects in product development and prototyping**. The open advertisement for, and further information on, faculty recruitment at IISc are available at <http://iisc.ac.in/opportunities/#ffs-tabbed-13>.

Besides supporting its MDes programme via teaching and project supervisions, faculty members at CPDM are expected to contribute to research into design or manufacturing (Mfg). While candidates can apply in any of the areas given below, CPDM is urgently looking for applications in the areas highlighted:

- *Product Development (PD) Processes, Informatics, entrepreneurship*: Biomimetics, Creativity, **Design Theory & Methodology**, PLM, Product Service Systems, design management, product strategy, etc.
- *Integration of Engineering Technology into PD*: CAD/CAE/DFX, Biomedical Devices, VR/AR/Haptics, Medical Electronics, Mechanisms, Automotive Design, Product Safety, Biomechanics, **Biodesign**, etc.
- *Integration of Other Technology Areas into PD*: Usability Engineering, **UI/UX**, HCI, Digital Human Modelling, **Aesthetics/Semantics**, Green Buildings, Sustainable Design, Cognitive Ergonomics, etc.
- *Manufacturing Systems Development*: Digital Prototyping/Metrology/Supply Chain, Industrial Engg, Factory Simulation, **Additive/Smart/Sustainable Mfg, Cobotics**, Materials/Process Selection, etc.

If you wish to join a department with a vibrant academic culture for development of, and research into holistic, technology-intensive, and hardware-centric products, processes or systems, CPDM is the place for you. CPDM trains in embracing the most holistic vision of the product, and in internalising design thinking for user-immersive exploration of technology, so as to create and mould technology for the benefit of the society. Join this celebration of the innovative and the entrepreneurial spirit! IISc has an open recruitment policy where you can apply anytime; the committee meets regularly to assess the applications. Please apply by enclosing the following in an email to chair.cpdm@iisc.ac.in:

- **An updated CV** with details of the current position, education, experience, projects, research and publications. Please mention patents/design registrations you have applied or received, hardware prototypes you created, and start-ups/tech transfer in which you were involved.
- A two page **research proposal** that outlines your short term (1-5 years) and medium term (5-10 years) research plans. Any plan for creating a laboratory should be included, with the amount of space and types of equipment needed, and an approximate budget.
- A two page **teaching proposal** that outlines your plan for contributing to teaching and project guidance in CPDM. Please mention the current courses at CPDM which you could support teaching, as well as new courses you wish to introduce. Please also mention any product development projects that you may wish to offer to students of MDes in their major projects.