

## Alumni Award for Excellence in Research in Engineering – 2022



Amaresh Chakrabarti, Senior Professor and Chair at the Centre for Product Design and Manufacturing, Indian Institute of Science (IISc) Bangalore, has been awarded the Alumni Award for Excellence in Research in Engineering – 2022. Instituted in 1991 by the Alumni Association of IISc, this award is presented by the IISc Council annually to its faculty members to recognize excellence in research – through research guidance, publications, establishing research groups; contributions to industry and R&D work resulting in patents; and establishing new schools for research, research groups in specialized areas and innovative research programmes.

Prof. Chakrabarti has a BE from IEST, Shibpur (Topper in Mechanical Engineering), ME from IISc, Bangalore (Topper in Mechanical Systems Design), and PhD in Engineering Design from University of Cambridge, UK. After PhD, he led for ten years the design synthesis group of the EDC – a CoE in engineering design at University of Cambridge, before joining IISc as an Associate Professor.

Prof. Chakrabarti has made several original and outstanding contributions in engineering design and manufacturing research. He is widely recognized as a pioneer for design research in India. His research interests include design synthesis, creativity, sustainability, AI, informatics, and Industry 4.0. He has published 17 books and over 300 hundred peer-reviewed articles and has 11 patents granted/pending. His major research contributions include development of empirically validated measures of design creativity, world's first automated configuration synthesis tool 'FuncSION', world's first biomimetic inspiration tool called 'Idea-Inspire', and 'DRM' – a design research methodology co-developed by him that is widely used as a framework for carrying out design research. He is enlisted as one of the top 2% of researchers in 'Design Practice and Management' in the 2021 Stanford University study on the global scientific impact of researchers; he is the highest cited researcher from India in this area.

In 2006, Prof. Chakrabarti initiated 'ICoRD', India's first international conference series on research into design. In 2014, with support from Boeing, he co-initiated India's first indigenous Smart Factory, expanding this in 2019 into a CEFC under the SAMARTH Udyog Programme of the Dept. of Heavy Industries, Govt. of India. He co-initiated the MTech in smart manufacturing and PhD in advanced manufacturing at IISc in 2019. In 2021, he co-initiated a PG level certification programme in 'Digital Manufacturing and Smart Factories' for training practitioners in Industry 4.0. In 2019, he co-initiated 'I-4AM', an international conference series on Industry 4.0 & advanced manufacturing. With support from Govt. of Karnataka, he co-initiated CPDMED, India's first Tech Business Incubator in elderly healthcare. He also heads the IISc-TCS Innovation Lab, IISc Press, and Springer International book series 'Design Science & Innovation'. He chairs the Smart Manufacturing standards subcommittee of the Bureau of Indian Standards, and has been on the Advisory Board and Board of Management of the Design Society, UK, the CII National Committee on Design, and CII Smart Manufacturing Council.

Prof. Chakrabarti received J Nehru Doctoral Fellowship for U of Cambridge, UK (1987), Overseas Research Students Award by Committee of Vice-Chancellors, UK (1987), Lundgren Award of U of Cambridge (1991), UK Morgans-Grampian Manufacturing Industry Achievements Commendation Award (1994), Heiwa-Nakajima Visiting Fellowship, Japan (2007), UK Royal Society's Visiting Fellowship (2010), Cambridge Commonwealth Reciprocal Visiting Fellowship, UK (2014), TUM Ambassador Award, TU Munich, Germany (2014), and ASEM-DUO Visiting Fellowship (2020). He was recognized as the "Most Outstanding Researcher" in Decision Sciences during 2015-17 with the 2018 Careers360 Outstanding Faculty Award from the Hon' Union Minister of HRD, Shri. Prakash Javadekar. 16 of his papers won top paper awards in international conferences. In 2011, he received Honorary Fellowship of the Institution of Engg. Designers, UK – its highest honour; he was the first outside Europe/USA to receive this honour. He serves on the editorial boards of numerous journals. Since 2017, he has been the Editor-in-Chief (EiC) of AI EDAM (Artificial Intelligence for Engg. Design, Analysis and Manufacturing), an international journal of Cambridge Univ. Press. Prof. Chakrabarti has been the first EIC from outside USA for the journal in its 35-year history.