Brunel-IISc Seminar Series on Design and Manufacturing: Human-Centred Design

Inclusive Design of the Immersive Reality

Dr. Vanja Garaj (https://www.brunel.ac.uk/people/vanja-garaj)
Date & time: Aug 25, 2022 (Thursday), 11:00 AM - 12:30 PM London Time
Zoom Meeting Link: https://bruneluniversity.zoom.us/j/96821023457
Meeting ID: 968 2102 3457, Passcode: university

Dr Vanja Garaj is the Director of Research and Reader in Design at the Brunel Design School, Brunel University London, where he also lectures on the Professional Design Studio module within the MSc Integrated Product Design programme. Previously, he was the Head of Design at Brunel. Dr Garaj's research spans the areas of Human-Computer Interaction (HCI), Human Factors, User Experience (UX) and Inclusive Design. He specialises in the user requirements capture and analysis, systems and UX design and user testing and evaluation applied to the development of novel products, services and experiences—with the emphasis on different uses of immersive technologies. Dr Garaj will talk about the ongoing research within the Brunel Digital Design Lab, a research group he leads at Brunel.

About the talk: The talk will focus on two EPSRC-funded projects centered around the inclusive design of the immersive reality (VR and AR): 01) Inclusive Immersion and 02) Towards an Equitable Social VR. Brunel Digital Design Lab runs these projects in collaboration with the Engineering Design Centre at the University of Cambridge and a range of third sector and industry partners, including the Royal National Institute of Blind People (RNIB), Digital Catapult, Meta and Open Inclusion.

Modeling Haptics in Virtual Reality for Product Design

Prof. Dibakar Sen (https://cpdm.iisc.ac.in/cpdm/facultyprofile.php?name=5)
Date & time: Aug 25, 2022 (Thursday), 3:30 PM - 5:00 PM Indian Standard Time (IST)
Zoom Meeting Link: https://bruneluniversity.zoom.us/j/96821023457
Meeting ID: 968 2102 3457, Passcode: university

Prof. Dibakar Sen is a professor in the Centre for Product Design and Manufacturing and the Department of Mechanical Engineering. He teaches Applied Ergonomics, Mechanism Design, and Geometric Modelling for CAD. He supervised several MDes capstone projects in the area of Assistive, Medical, and Harvesting Devices which resulted in two start-up companies. Prof. Sen's research interests include computational ergonomics, digital human modeling, geometric algorithms for mechanical assembly and kinematics, VR-assisted product concept sketching in 3D, etc.

About the talk: In this seminar, Prof. Sen will showcase some work done in his lab in the area of modeling of haptics for different stages of design. The first part of the talk will cover the explorations in the haptic rendering of digital objects for single-point and whole-hand active interaction which may have applications in the immersive display of products or remote patient physical examination. The second part of the talk will cover topics in multi-stroke conceptual sketching using pressure sensing tablets and VR-haptics. 3D concept sketching technology is still in its infancy, but, results so far indicate the possibility of the convergence of Sketch and CAD in a single platform supporting distributed collaboration and systematic management of the evolution of multiple concepts in an interrupted workflow scenario. The final part of the talk will touch upon applications of haptics modeling in product assembly simulation.