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Abstract

Achievements and Challenges of Industry 4.0 in CAD/CAPP/CAM & Manufacturing Systems – What lies ahead? Research on Manufacturing systems provided a strong link on various technologies like CAD/CAPP/CAM including metrology and quality-based systems. In a scenario where the demand for a product goes very high, it is a challenge how these technologies can be integrated as seen with an Industry 4.0 scenario. Is there any way we can make faster progress to achieve the product manufacture through various integrations considering a particular product demand? Will there be a solution to the automated and man less systems imagining the global pandemic affects all the businesses putting pressure on their production? Can we think of developing a efficient human based decision system on design & manufacturing? Can we simulate based on an artificial Intelligence control? Will the Machine Learning and AGENT based systems provide solution to immediate product design and manufacture without human intervention? This keynote will address on how these issues can be dealt with various technologies through explaining the research conducted and a scope for making science and business impact.

Professional Career

Dr. A. Arivazhagan is a Lecturer in Robert Gordon University and involved in various teaching / research activities involving Design & Manufacturing / CAD/ CAM/ CAPP. He has a strong research background and has led 4 post-doctoral positions in the UK universities on implementing design and manufacturing technologies involving CAD/CAM/CAPP (machining & software development) for various industries through academia. Those include (i) University of Birmingham (2017-2020) for the project ‘Manufacturing Portfolio’ funded by Innovate UK’. (ii) 2015-2017 – Queen’s University Belfast for ‘EPSRC - In Search of Design Genes: Chaotic versus Controlled Mitosis’ (iii) 2014-2015 – Nottingham Trent University for ‘FP7-EU- Cycled and EcoCost’ Projects and (iv) 2013-2014 - Coventry University for ‘FP7 EU- CAPP4SMEs’ project.

Dr.A.Arivazhagan is a Chartered Engineer (IMechE, UK) registered with Engineering Council, UK & Member of Institution of Mechanical Engineers (IMechE, UK) / Institution of Engineering Technology (IET, UK). He has published his research work in journals and conferences of international repute. He constantly has been a reviewer of technical papers for the following international journals (i) International Journal of Advanced Manufacturing Technology (IJAMT) (ii) International Journal of Machine Tools and Manufacture (IJMACTOOL) (iii) International Journal of Production Research (IJPR). He has high exposure over the CAD/CAM/CAPP and Manufacturing techniques involved in the Manufacturing of various industrial businesses (Oil and Gas and Aviation) and strong attitude over academic research-based contribution and income generation.