ONE DAY ONLINE NATIONAL RESEARCH WORKSHOP ON
METAL FORMING IN MODERN MANUFACTURING INDUSTRY: OPPORTUNITIES AND CHALLENGES (MFMMI 22)

ABOUT THE COLLEGE

PSG College of Technology, established in the year 1931 by the PSG & Sons Charities, Coimbatore, is one of the premier institutions of the country and is an excellent center for advanced studies and research in several areas of Engineering, Technology, Applied Science and Management. The College is Autonomous since 1978, and is accredited with ‘A’ Grade by NAAC. The College is recognized as a QIP center for Postgraduate and Ph.D programmes. In addition, the college has received financial support from MHRD, DST and other agencies through which 49 Center of Excellence has been set up to cater the needs of current Industrial Research and Consultancy activities.

ABOUT THE DEPARTMENT OF PRODUCTION ENGINEERING

As manufacturing activities play a major role in the development of the country, PSG College of Technology envisaged the need for trained manpower in manufacturing and thus an undergraduate programme in Production Engineering was started in the year 1975. Subsequently, the Department grew in several dimensions of academic excellence with time. Department offers several UG & PG programmes in the area of Manufacturing and Virtual Prototyping & Digital Manufacturing. All the laboratories of the Department are approved for carrying out research, leading to Ph.D Degree (Full time and Part time) by Anna University, Chennai. The department offers consultancy in manufacturing processes, design and testing a range of products.

ABOUT THE WORKSHOP

Metal forming has been a crucial process since the primitive days of mankind. It is the process of obtaining the desired size and shape by deforming the material plastically. Today's manufacturing industries are confronted with bundle of challenges due to continuous requirement in new product development. Sheet metal forming is a potential area for overcoming major challenges in manufacturing. The application spectrum in new product development includes Aerospace, Automotive and Biomedical, as well as construction, household appliance and packaging industries etc. This workshop exposes participants to novel metal forming techniques such as Flow forming, Dieless forming, and expert systems in Deep Drawing, as well as their potential applications in the modern manufacturing industry. Since the application of Finite Element Methods (FEM) and defect predictions are attracting the interest of researchers worldwide, an interactive session is also scheduled during this workshop to discuss the challenges associated in metal forming and potential solutions utilising Finite Element Analysis (FEA).

DATE: 26.03.2022

DEPARTMENT OF PRODUCTION ENGINEERING
PSG COLLEGE OF TECHNOLOGY
COIMBATORE - 641 004

SESSION HIGHLIGHTS

- Practical illustration on novel sheet metal forming techniques with real time case studies and applications practised in modern manufacturing.
- Demonstration on Dieless sheet metal forming process with brief exposure of research potentials and challenges.
- Finite element analyses and simulations of crucial metal forming processes for real time industrial products.
OBJECTIVES

Objectives of this workshop are to
- To enrich young engineers with the knowledge on potential capabilities of novel metal forming techniques in modern manufacturing industry
- To provide insights on challenges and possible solutions in complex and customised metal forming applications
- To expose participants, the critics in Finite Element Analysis (FEA) of modern manufacturing in metal forming industry

TOPICS COVERED

- Technology overview on Flow forming and Die less forming with deep review on challenges and research potentials.
- A typical review on the Forming Limit Prediction for Conventional and Die less forming process.
- Digital processing and IOT implications in the sheet metal fabrication industry.
- Finite Element Analysis (FEA) and process simulation to better understand the Deformation, Thermal behaviour and material failure in forming.
- Brief description on defects and its prediction strategies in sheet metal and bulk deformation process.
- Critical overview on evolving research practices in advanced metal forming processes.

REGISTRATION DETAILS

REGISTRATION FEE:
- College Students*: Rs. 300/-
- Academicians & Research Scholars*: Rs. 500/-
- Industrial Delegates*: Rs. 1000/-

*Registration fee includes soft copy of course materials and participation certificates and is inclusive of service tax. Virtual presentation session link will be shared to the registered participants two days before the commencement of the programme. Last date for online registration 23/03/2022.

COMMUNICATION DETAILS

Dr. M. Senthil Kumar, HoD
0422-4344147, 4344448
9944427770, 9489227914
rrh.prod@psgtech.ac.in
spk.prod@psgtech.ac.in

ORGANISING SECRETARIES

Dr. R. Rajesh, Assistant Professor (Sr. Gr.)
Dr. S. Pratheesh kumar, Assistant Professor

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