The Institute of Electrical and Electronics Engineers (IEEE)

Galveston Bay Section

Joint Societies Chapters and LM-AG

ONLINE Virtual Meeting

Friday, June 25th, 2021 9:00 AM- 10:00 AM US-Central (Houston-Chicago)

TOPIC: "Industrial Robotics Trends Enabling Advanced Manufacturing Applications"

Speaker: Paul Evans, P.E., Director R&D,

Manufacturing & Robotics Technologies, Southwest Research Institute

PRESENTATION: Industrial robots, both stationary and mobile, have been used in manufacturing applications for decades and are most often employed based on requirements for dedicated and repetitive manufacturing operations. Industrial robot capabilities have continued to advance in areas such as payload, accuracy and speed. Looking to the near-future, the use of robots must also transition to operate in dynamic environments for high-mix low-volume production. A variety of affordable technologies are emerging and blending to bridge the gap between the traditional use of industrial robotics and the future where robots react to consumer-driven customized product demands. This presentation is intended to be informational in nature and will present advances in industrial robotics that enable advanced manufacturing solutions. Additionally, this presentation will provide example applications where robots have greater intelligence, more flexibility and the ability to work collaboratively with humans.

PRESENTER: Paul Evans, P.E., directs the Manufacturing and Robotics Technologies Department of Southwest Research Institute which specializes in process improvement, lean manufacturing, six sigma, quality systems, innovation tools, workforce training, electromechanical systems, robotics, controls, machine vision and optical sensing, image processing, machine perception, computer modelling and simulation, automated surface processing, structural and thermal analysis, technology feasibility studies, and third-party analysis and review of electromechanical systems. The department is noted for founding ROS-Industrial, an open-source extension of the Robot Operating System (ROS) software framework, that enables advanced applications for industrial robotics. Pauls areas of technical expertise include mechanical system design, software design, programming, industrial and custom robotics, and project management. During his tenure at Southwest Research Institute (SwRI), he has managed projects in a variety of industries including automotive, food, and aerospace.

His technical contribution also includes development of an automated fiberglass material handling and packaging system. He contributed to a NASA Astrobiology
Science and Technology for Exploring Planets program known as DEep Phreatic THermal eXplorer (DEPTHX). This project involved the development of an autonomous underwater vehicle for robotic exploration and biologic sampling in hydrothermal springs. He was the project lead for the development of a system for forming and cutting
extruded food products. He led the development of an automated paint removal system for automotive components. Mr. Evans led a project to develop and implement a preventative maintenance and inspection program for a multimachine food product manufacturing line.

Paul is a member of American Society of Mechanical Engineers (ASME); Association for Manufacturing Technology (AMT); National Center for Défense Manufacturing and Machining (NCDMM); National Center for Manufacturing Science (NCMS); Society of Manufacturing Engineers (SME); ASME Robotics Technology Advisory Panel; Stakeholder Executive Committee for

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the Advanced Robotics for Manufacturing Institute. He has a BS from Walla Walla College and an MS from Iowa State University, both in Mechanical Engineering

THIS EVENT IS ORGANIZED BY GALVESTON BAY SECTION JOINT SOCIETIES CHAPTERS AND LM AFFINITY GROUP
The presentation is FREE and open to all Interested IEEE and non-IEEE members.

Registration is required by THURSDAY JUNE 24th 2021 (Close of Business) 5:00 PM (US Central) to attend.

FOR REGISTRATION GO TO h https://events.vtools.ieee.org/m/274165
Log-in Information will be provided to all registrants on completing the registration