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SAE International in the USA awards the Wright Brothers Medal to Fraunhofer IFAM researchers

Dipl.-Ing. Christian Möller, deputy leader of the Integrated Production Systems group in the Automation and Production Technology department of the Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM in Stade, Germany, has been presented with the Wright Brothers Medal 2019 by Dr. h.c. Paul Mascarenas, B.Sc., President of SAE International, at the Aerotech Americas Congress 2019 in Charleston, South Carolina, USA, in front of an international audience on behalf of the authors of the publication entitled "Real Time Pose Control of an Industrial Robotic System for Machining of Large Scale Components in Aerospace Industry Using Laser Tracker System".

Wright Brothers Medal – Award 2019

The Wright Brothers Medal has been presented since 1927 annually to the best scientific papers on the development, design, construction, or operation of aircraft. It is awarded by SAE International, a leading global association of engineers and technical experts in the mobility sector.

Dr. h.c. Paul Mascarenas, B.Sc., President of SAE International, presented this year's award for the publication entitled "Real Time Pose Control of an Industrial Robotic System for Machining of Large Scale Components in Aerospace Industry Using Laser Tracker System" (DOI 10.4271/2017-01-2165; <https://saemobilus.sae.org/content/2017-01-2165/>) to Dipl.-Ing. Christian Möller's team of Hans Christian Schmidt, M.Sc., Philip Koch, M.Sc., Christian Böhlmann, M.Eng., and Dr.-Ing. Simon Kothe of Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM in Stade along with PD Dr.-Ing. habil. Jörg Wollnack and Prof. Dr.-Ing. Wolfgang Hintze of Hamburg University of Technology TUHH.

External laser tracker measuring system enhances the accuracy of industrial robots

The publication describes the improvement in the accuracy of industrial robots that can be achieved using an external laser tracker measuring system. The tracker measuring system enables the detection of path deviations during the process that naturally occur due to inherent robot errors or external influences such as process forces. A real-time control circuit allows these deviations to be fed back to the robot control system for online path correction.

This means the strict accuracy requirements of the aviation industry for the manufacture of large aircraft components can be met and robots can be used to replace inflexible, expensive special machines – a milestone for adaptable production systems.

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Robots like those described here with enhanced positional and path accuracy due to the use of sensor systems also have promise for the manufacture of large structures in other industries, for example wind turbines, rail vehicles, commercial vehicles, or shipbuilding. The Fraunhofer IFAM experts have already realized the first applications in these areas.

Further information

www.sae.org

www.sae.org/participate/awards/wright-brothers-medal

<https://saemobilus.sae.org/content/2017-01-2165/>

<http://publica.fraunhofer.de/documents/N-476957.html>

**Further information – Fraunhofer IFAM
Automation and Production Technology | Stade**

www.ifam.fraunhofer.de/en/Profile/Locations/Stade

Photo

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Photo caption

At the Aerotech Americas Congress 2019 in Charleston, South Carolina, USA, the President of SAE International Dr. h.c. Paul Mascarenas, B.Sc., (on the left) presented Dipl.-Ing. Christian Möller of Fraunhofer IFAM, Stade, Germany, with the Wright Brothers Medal on behalf of the team of authors (© SAE International).

The Fraunhofer-Gesellschaft is the leading organization for applied research in Europe. Its research activities are conducted by 72 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 26,600, who work with an annual research budget totaling 2.6 billion euros. Of this sum, 2.2 billion euros is generated through contract research. Around 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.