JOHANNES KEPLER
UNIVERSITÄT LINZ

ANTRITTSVORLESUNG

Univ.-Prof. Dr.-Ing. Marco Da Silva
Institut für Elektrische Messtechnik

Marco Da Silva studied electrical engineering at both the Dresden University of Technology (TUD), Germany, as well as at the Federal University Technology - Paraná (UTFPR), Brazil. He received the Dr.-Ing. degree in Electrical Engineering from TU Dresden, Germany, in 2008. Between 2004 and 2009, he worked as a Research Associate at Helmholtz-Zentrum in Dresden-Rossendorf, Germany. In 2010, he joined the UTFPR in Brazil, holding the positions as Assistant and from 2013 until 2022 as Associate Professor at the Department of Electrical and Computer Engineering (CPGEI). Between 2017 and 2022, he also served as Deputy Head of the Multiphase Flow Center at UTFPR.
Professor Da Silva has been the Head of the Institute of Measurement Technology at the Johannes Kepler University Linz, Austria since October 2022, conducting research and teaching at the Department of Mechatronics.
His research interests include measurement technology, sensors, and instrumentation applied to industrial processes and in special to multiphase flow monitoring. He has authored/co-authored over 200 scientific articles and conference papers and holds five patents. He is Associate Editor-in-Chief of the IEEE Sensors Journal.

Montag, 22. Mai 2023, 16.00 Uhr
Festsaal der JKU (Uni-Center, 1. Stock)

Multidimensional Measurement Technology for Industrial Process Monitoring

The processing industry, like many other industrial sectors, is currently facing the challenges of production digitization. Measurement and sensor systems serve as a main source of information regarding production conditions and as a result, they play a key role in the digitization process.
A decisive gap in the mass production of chemicals, metals, food and other commodities is, that current process sensors typically only provide local measurements, e.g., of temperature, pressure or flow rate. However, in most production systems such local measurements are not representative for the whole process and hence multidimensional sensing may therefore offer the possibility of gaining completely new insights into production processes, taking into account the dimensions of space, time and energy/frequency of the signal carrier.
In this lecture, two promising sensing technologies to fill this gap based on fiber-optic distributed sensors and tomographic (multi-electrode) impedance sensors will be presented and discussed.