Dr. Manfred Nader

Linz Center of Mechatronics GmbH (LCM)

Dr. Manfred Nader is heading the business area "Mechanics & Control" at the Linz Center of Mechatronics GmbH in Linz, Austria since 2014. From 2014 to 2017, he was responsible for the research areas "Mechanics & Model Based Control" and "Process Modelling and Mechatronic Design" at the Comet K2 Research Centre "Austrian Center of Competence in Mechatronics (ACCM)". Since 2018 he is heading the area "Complex Mechanical Systems and Automatic Control" in the Comet K2 Research Center "Symbiotic Mechatronics". Dr. Nader has been working for 20 years at the interface between universities and industry in the field of industrial research. During his diploma study of Mechatronics at the Johannes Kepler University Linz he attended a research stay at the University of California in Los Angeles, Mechanical & Aerospace Engineering Department. He elaborated his doctoral theses in cooperation with Siemens Corporate Technology in Munich. Active vibration damping on magnetic resonance tomographs and active noise compensation in HVAC (Heat Ventilation and Air-conditioning) systems in the automotive sector were scientifically investigated. Manfred Nader is member of the IFAC technical committee mechatronic systems, representative of the Linz Center of Mechatronics at the “Kompetenznetz Adaptronik e.V.”, member of the scientific advisory board of the 4SMARTS symposium and reviewer for various scientific journals in the field of mechanics, smart materials, control engineering and health monitoring.

Main topics of his research activities are:

- Adaptronics
    - Smart materials and structures (especially piezoelectric sensors and actuators)
    - Vibration analysis and passive/active vibration and noise reduction
- Digital product development
    - virtual prototypes
    - virtual commissioning
    - digital twin and autonomous systems
- Modeling and simulation of mechatronic components and systems
- Control systems technology for mechatronic systems