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Kolloquium für Mechanik

Referent:	**Prof. Dr. Wallace Moreira Bessa** Visiting Professor - Humboldt Research Fellow, Institute of Mechanics and Ocean Engineering, Hamburg University of Technology (TUHH)
Datum:	Do., 02.06.2016
Uhrzeit:	15:45-17:15 Uhr
Ort:	Geb. 10.81, HS 62 (R 153)
Titel:	**Intelligent control of uncertain underactuated mechanical systems**

Abstract

Underactuated mechanical systems (UMS) play an essential role in several branches of industrial activity and their application scope ranges from robotic manipulators and overhead cranes to aerospace vehicles and watercrafts. Despite this broad spectrum of applications, the problem of designing accurate controllers for underactuated systems is, however, much more tricky than for fully actuated ones. Moreover, the dynamic behavior of an UMS is frequently uncertain and highly nonlinear, which in fact makes the design of control schemes for such systems a challenge for conventional and well established methods.

In this talk, it will be shown that intelligent algorithms, such as fuzzy logic and artificial neural networks, could be combined with nonlinear control techniques (feedback linearization or sliding modes) in order to improve both set-point regulation and trajectory tracking of uncertain underactuated mechanical systems.

Alle Interessenten sind herzlich eingeladen.

Prof. Dr.-Ing. Alexander Fidlin