Wolfgang Wiedmeyer

Research Interests

Bionics (human motor control, simulation of the human locomotion system, variable stiffness actuators)

Robotics (autonomous navigation, legged robots, human-robot-interaction)

Medical Technology and Engineering (prosthetics, computer aided surgery)

Education

10/2013–7/2016	**M.Sc. Mechanical Engineering**, *Technical University of Munich*.
Master's thesis	„Development of a Computational Human Motor Control Model Using a Redundant Haptic Interface"
Supervisor	Markus Kühne, Arne-Christoph Hildebrandt, Prof. Angelika Peer and Prof. Daniel Rixen
Term project	„Development of a Stepplanner for Legged Robots"
Supervisor	Arne-Christoph Hildebrandt and Prof. Daniel Rixen
10/2010–10/2013	**B.Sc. Medical Technology and Engineering**, *Technical University of Munich*.
Bachelor's thesis	„Dynamic Simulation of a Biarticular Variable Stiffness Actuator"
Supervisor	Prof. Veit Senner and Dr. Hannes Höppner
9/2001–6/2010	**Abitur**, *Pater-Rupert-Mayer-Gymnasium Pullach*.
Advanced courses	Latin and mathematics

Work as Student Assistant

5/2015–8/2015	**Institute of Applied Mechanics**, *Technical University of Munich*.
	Enhancement of a stepplanner for the humanoid robot *LOLA*
	Runtime optimization, improvement of the distance calculation between robot and obstacles and implementation of an adaptive heuristic for the utilized A* search algorithm
	Contributed to the following publications:
	Hildebrandt, A.-C., Wahrmann, D., Wittmann, R., Rixen, D. and Buschmann, T. (2015). Real-Time Pattern Generation Among Obstacles for Biped Robots. In: *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*
	Wahrmann, D., Hildebrandt, A.-C., Wittmann, R., Sygulla, F., Rixen, D. and Buschmann, T. (2016). Fast Object Approximation for Real-Time 3D Obstacle Avoidance with Biped Robots. In: *IEEE International Conference on Advanced Intelligent Mechatronics (AIM)*
10/2013–2/2014	**Institute for Computational Mechanics**, *Technical University of Munich*.
	Tutor for Engineering Mechanics III
	Helped students with their homework in a weekly consultation hour and during tutorials
11/2011–2/2012	**Institute for Materials Handling, Material Flow, Logistics**, *Technical University of Munich*.
	Created a video tutorial detailing design and drawing derivation using the CAD software suite CATIA

Practical Experience

9/2012–1/2013 **Working student**, *Institute of Robotics and Mechatronics*, German Aerospace Center (DLR), Oberpfaffenhofen.

Analysis of a biarticular joint mechanism under static conditions
The analysis focused on the adjustable stiffness ranges at the endpoint of a robotic planar arm and the results were compared to an actuator without biarticular coupling.
Publication:
Höppner, H., Wiedmeyer, W., and van der Smagt, P. (2014). A new biarticular joint mechanism to extend stiffness ranges. In *IEEE International Conference on Robotics and Automation (ICRA)*

7/2010–9/2010 **Pre-degree internship**, *KraussMaffei Technologies GmbH*, Munich.

Apprentices' training shop: Learned cutting and forming manufacturing processes
TechCenter: Assisted assembly and trial runs of injection molding machines