Dr.-Ing.
Tobias Ortmaier

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Born May 22, 1974

Career

2006-present	Senior researcher at DLR and project manager at KUKA Roboter GmbH, Augsburg, Germany
2004-2006	Head of the medical robotics group Institute of Robotics and Mechatronics, DLR
2004-present	Lecturer at the Technical University of Munich, Germany and University of Pierre and Marie Curie, France
2003-2004	Postdoctoral researcher, Robotics Institute of Paris, University of Pierre and Marie Curie, Paris, France
1998-2003	Research assistant, Institute of Robotics and Mechatronics, DLR

Research Interests

light-weight robotics, man-machine interfaces, telepresence, registration, haptic feedback, augmented reality, real-time computer vision, robotic surgery, medical applications, redundant robots, haptic interaction, control, real-time systems, mechatronics, force control

Honours

- Best paper award from the ”Verein Deutscher Ingenieure”, 2005
- Scholarship award from “Bischöfliche Studienf¨orderung Cusanuswerk”, 1995 - 1998

Activities/Competence

- Member of the technical committee of the IEEE Eng. in Medicine and Biology Conference (2007)
- Member of the review board of the journals Industrial Robot, Assembly Automation, and Sensor Review (2006-)
- Reviewer of journals (e.g. International Journal of Robotics Research, International Journal on Mechatronics, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Robotics) and conferences (e.g. ICRA, MICCAI, BioRob)
- Member of the ESA (European Space Agency) ”Expert Group on Telesurgery” (2006)
- Senior expert for the EU CRAFT project PICO (Paraendoscopic Intuitive Computer Assisted Operating System) (2006)
- Reviewer for the ANR/CNRS (Agence National de la Recherche / Centre National de la Recherche Scientifique, France) within the call ”Interactive Systems and Robotics” (2006)

Most Important Relevant Publications (Selected)

[1] T. Ortmaier. *Motion Compensation in Minimally Invasive Robotic Surgery*. VDI Verlag, 2003. PhD Thesis.
[2] N. Zemiti, G. Morel, T. Ortmaier, and N. Bonnet. Mechatronic design of a new robot for force control in minimally invasive surgery. *IEEE/ASME Transactions on Mechatronics*. in press.
[3] T. Ortmaier, B. Deml, B. Kübler, G. Passig, D. Reintsema, and U. Seibold. *Advances in Telerobotics*, chapter Robot Assisted Force Feedback Surgery. Springer STAR (Springer Tracts in Advanced Robotics) series book. Springer, Berlin, Germany. in press.
[4] T. Ortmaier, M. Groeger, D. H. Boehm, V. Falk, and G. Hirzinger. Motion estimation in beating heart surgery. *IEEE Transactions on Biomedical Engineering*, 52(10):1729–1740, 2005.
[5] D. Reintsema, C. Preusche, T. Ortmaier, and G. Hirzinger. Towards high fidelity telepresence in space and surgery robotics. *Presence*, 13(1):77–98, 2004.
[6] T. Ortmaier, M. Gröger, and D. Kotzor. Bewegungsschätzung in der minimal invasiven Herzchirurgie. *At Schwerpunktheft: Neuroprothetik und Medizinrobotik*, 2002.
[7] C. Preusche, T. Ortmaier, and G. Hirzinger. Teleoperation concepts in minimally invasive surgery. *Control Engineering Practice Journal*, 10(11), November 2002.
[8] T. Ortmaier, H. Weiss, U. Hagn, M. Grebenstein, M. Nickl, A. Albu-Schäffer, C. Ott, S. Jörg, R. Konietschke, L. Le-Tien, and G. Hirzinger. A hands-on-robot for accurate placement of pedicle screws. In *IEEE International Conference on Robotics and Automation (ICRA)*, Orlando Florida, USA, May 2006.
[9] T. Ortmaier, M.-A. Vitrani, G. Morel, and S. Pinault. Robust real-time instrument tracking in ultrasound images for visual servoing. In *IEEE International Conference on Robotics and Automation (ICRA)*, Barcelona, Spain, April 2005.
[10] B. Deml, T. Ortmaier, and U. Seibold. The touch and feel in minimally invasive surgery. In *Proceedings of the IEEE International Workshop on Haptic Audio Visual Environments and their Applications*, Ottawa, Ontario, Canada, October 2005.