

Bristol, 19 Oct 2017

CURRICULUM VITAE

Angelika Peer

Prof. Dr.-Ing.

**Date of birth:** July 20, 1980

**Citizenship:** Italian

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39030 Olang  
BZ - Italy

## Academic Employment

Nov 2017 - dato	Full Professor Free University of Bolzano, Bolzano, Italy
Sep 2014 - Oct 2017	Full Professor in Robotics Bristol Robotics Laboratory University of the West of England, Bristol, UK
Dec 2012 - Aug 2014	Akademische Oberrätin Technische Universität München, Munich, Germany
Nov 2006 - Nov 2012	Akademische Rätin Technische Universität München, Munich, Germany
May 2011 - Aug 2014	Senior researcher and lecturer and TUM-IAS Carl von Linde Junior Fellow affiliated with Institute of Automatic Control Engineering Department of Electrical Engineering and Information Technology Technische Universität München, Munich, Germany
July 2008 - May 2011	Postdoctoral researcher and lecturer Institute of Automatic Control Engineering Department of Electrical Engineering and Information Technology Technische Universität München, Munich, Germany
Nov 2006 – July 2008	Research assistant (C1), doctoral student Institute of Automatic Control Engineering Department of Electrical Engineering and Information Technology Technische Universität München, Munich, Germany
Jan 2004 – Nov 2006	Research assistant, doctoral student Institute of Automatic Control Engineering Department of Electrical Engineering and Information Technology Technische Universität München, Munich, Germany

## Education

- Jul 2008 Doctor of engineering degree (Dr.-Ing.)  
Doctoral thesis  
“Design and Control of Admittance-Type Telemanipulation Systems”  
Department of Electrical Engineering and Information Technology  
Technische Universität München, München, Germany  
Grade *summa cum laude*  
This thesis was awarded the PhD award 2009 of the Bund der Freunde of the Technische Universität München e.V. and was nominated for the EURON Georges Giralt PhD Award 2010
- Nov 2003 Diplom-Ingenieur (diploma degree)  
Electrical Engineering and Information Technology  
Basis course: Automation technology  
Specialization: Industrial information technology  
Fundamentals in mechatronics  
Faculty of Electrical Engineering and Information Technology  
Technische Universität München, München, Germany  
*with distinction*, grade 1.2 (scale 1-5, 1 is best)  
Diploma thesis:  
“Modelling and control of a force-feedback actuator for steer-by-wire systems”  
This thesis was performed at the Department of Robotics and Mechatronics of the German Aerospace Centre (DLR) and was awarded the Werner von Siemens Excellence Award 2004
- Oct 2002 Bachelor of Science in Electrical Engineering and Information Technology, Technische Universität München, München, Germany  
*with distinction*, grade 1.4 (scale 1-5, 1 is best)  
Bachelor thesis:  
“Development of a software environment for the implementation of a remote laboratory experiment”
- Oct 1999 – Nov 2003 Student of Electrical Engineering and Information Technology, Technische Universität München, Munich, Germany
- Jul 1999 Abitur at “Technische Gewerbeoberschule Max Valier”  
Specialization: Electrical Engineering and Automation  
*with distinction*, grade 100/100 (scale 1-100, 100 is best)
- 1994 - 1999 Technical and Industrial High School “Max Valier”, Bozen, Italy
- 1986 - 1994 Primary, secondary school, Olang, Italy

## Summer Schools, Mentoring, and Seminars

- 2012 Participation in “Motor control summer school IX”,  
Tihany, Hungary
- 2009 Participation in “Leadership - Management know-how for  
Postdoctoral and Senior Researchers”  
Technische Universität München,  
Munich, Germany
- 2007 Participation in Science Career II: program for PhD students,  
Technische Universität München, Munich, Germany
- Feb 2007 Participation in “Workshop - Coaching as method”  
of the Carl von Linde Akademie, Munich, Germany
- Feb 2006 Participation in seminar “Design of experiments and introduction  
to statistical methods”,  
Human Factors Institute of the University of Armed Forces,  
Munich, Germany
- Sep 2006 Participation in IEEE-RAS/IFRR Summerschool of Robotics Science  
on Haptic Interaction, Paris, France
- Feb 2005 Participation in seminar “Academic teaching compact”  
Technische Universität München, Munich, Germany
- 2003 - 2004 Participation in mentorING as a mentor for students, mentoring  
program for scholars, students and entrants,  
Technische Universität München, Munich, Germany
- May 2003 Participation in summer school “Stability and dynamics of  
large scale systems”,  
Tutzing, Germany
- Sep/Oct 2001 Participation in summer school “Product innovation - a result of  
integrated computer and method usage”,  
Sarntal, Italy

## Internships and Research Student Activities

- Apr 2003 – Oct 2003 Diploma thesis: “Modelling and control of a force-feedback actuator for steer-by-wire systems”  
Department of Robotics and Mechatronics,  
German Aerospace Center (DLR),  
Oberpfaffenhofen, Germany and  
Institute of Automation and Control Engineering,  
Faculty of Electrical Engineering and Information Technology  
Technische Universität München, Munich, Germany
- Mar 2002 – Jun 2002 Bachelor thesis: “Development of a software environment for the implementation of a remote laboratory experiment”  
Institute of Automation and Control Engineering,  
Faculty of Electrical Engineering and Information Technology  
Technische Universität München, Munich, Germany
- Oct 2002 – Feb 2003 Research student, Practical course, Project “Multi-fingered haptic display of surface textures”  
Institute of Automation and Control Engineering  
Faculty of Electrical Engineering and Information Technology  
Technische Universität München, Munich, Germany
- Jun 2001 – Dec 2002 Research student, Project “Learnet: Learning and experimenting by using real technical systems in the network”  
Institute of Automation and Control Engineering  
Faculty of Electrical Engineering and Information Technology  
Technische Universität München, Munich, Germany
- Mar 2001 – Apr 2001 Trainee at Infineon, Munich, Germany  
Department “Micromechanics”
- Mar 2000 – Apr 2000 Trainee at Bayernwerk Netz, Munich, Germany  
Department “Gleichstromkurzkupplung”
- Jun 2000 – Jul 2000, Research student  
Nov 2000 – Jan 2001, Institute for Measurement Systems and Sensor Technology  
May 2001 Technische Universität München, Munich, Germany

# Research

## Research Interests

Robotics, Control, Human-System Interaction: Telepresence and Teleaction Systems, Haptic Interaction, Human Motor Control, Haptic Perception, Brain and Body Computer Interface Controlled Robots

## Honors

- 2014 NextMed MMVR21 Best Poster Award, A. Peer, M. Buss, B. Stanczyk, D. Szczesniak-Stanczyk, W. Brzozowski, A. Wysokinski, M. Tscheligi, C. A. Avizzano, E. Ruffaldi, L. v. Gool, A. Fossati, K. Arent, J. Jakubiak, and M. Janiak, Towards a Remote Medical Diagnostician for Medical Examination
  
- 2013 IEEE Ro-Man Best Poster Presentation Award, A. Ergin and A. Peer, Development of a New 6 DoF Parallel Haptic Interface for the Rendering of Elements and Interior Equipment in a Car
  
- 2010 Citation for Meritorious Service in recognition of the outstanding work as a reviewer for the IEEE Transactions on Haptics
  
- Nominated for EURON Georges Giralt PhD Award 2010 for the PhD thesis *Design and Control of Admittance-Type Telemanipulation Systems*
  
- PhD award 2009, Bund der Freunde of the Technische Universität München e.V. for the PhD thesis *Design and Control of Admittance-Type Telemanipulation Systems*
  
- SICE 2008 student travel grant award for the paper *Robust Stability Analysis of Bilateral Teleoperation Systems Using Admittance-Type Devices*
  
- Werner von Siemens Excellence Award 2004 for the diploma thesis *Modelling and Control of a Force-Feedback Actuator for Steer-by-Wire Systems*

## Research Grants & Project Responsibility

- Coordinator of the project, principal investigator and leader of TUM/UWE group in the EU project “*ReMeDi*”  
Call FP7-ICT-2013.10.2 ICT for Cognitive Systems and Robotics, Contract No 610902  
Instrument : STREP, grant 3,08 MEuro (600 kEuro TUM), duration: Dec 2013 - Feb 2017  
Project website: <http://www.remedi-project.eu/>  
Partners:
  - University of the West of England, Bristol, UK: A. Peer (coordinator, transferred to UWE from Sep 2014)
  - Technische Universität München, Germany: , A. Peer (till Aug 2014), M. Buss
  - ACCREA Engineering, Poland: B. Stanczyk
  - Medical University Lublin, Poland: W. Brzozowski
  - ICT&S Center Salzburg, Austria: M. Tscheligi
  - Scuola Superiore Sant’ Anna, Italy: C.A. Avizzano
  - Eidgenössische Technische Hochschule Zürich, Switzerland: L. Van Gool
  - Wroclaw University of Technology, Poland: K. Arent
  
- Coordinator of the project, principal investigator and leader of TUM/UWE group in the EU project “*MOBOT*”  
Call FP7-ICT-2011.2.1 ICT for Cognitive Systems and Robotics, Contract No 600796  
Instrument : STREP, grant 3,15 MEuro (750 kEuro TUM), duration: Feb 2013 - July 2016  
Project website: <http://www.mobot-project.eu/>  
Partners:
  - University of the West of England, Bristol, UK: A. Peer (coordinator, transferred to UWE from Sep 2014) - Technische Universität München, Germany: , A. Peer (till Aug 2014), M. Buss
  - National Technical University of Athens, Greece: P. Maragos, C. Tzafestas
  - Institut National de Recherche en Informatique et Automatique, France: I. Kokkinos
  - Heidelberg University, Germany: K. Mombaur
  - Institute for Language and Speech Processing, Greece: S. Fotinea, E. Efthimiou
  - ACCREA Engineering, Poland: B. Stanczyk
  - Agaplesion Bethanien Hospital/ Geriatric Centre, University of Heidelberg, Germany: K. Hauer
  - Diaplasia Rehabilitation Center S.A., Greece: C. Virvilis, I. Koumpouros
  
- Principal investigator of the DFG project “*VR system for visuo-haptic stimulation during fMRI studies*” funded by the German Research Foundation,  
Instrument : national project (transferred to UK with Sep 2014), grant TUM/UWE part 340 kEuro, duration: Feb 2014 - Sep 2017  
co-proposer: Axel Thielscher, Klaus Scheffler (Max Planck Institute, Tübingen)
  
- Principal investigator of the transfer project “*Haptics of control elements and interior equipment in the car*” funded by the German Research Foundation,  
Instrument : national project, grant 480 kEuro, duration: Jan 2011 - Dec 2013  
co-proposer: S. Hirche (TUM)

- Principal investigator and leader of TUM/UWE group in the EU project “*VERE*”  
Call FP7-ICT-2009-8.4 Human Computer Confluence, Contract No 257695  
Instrument : IP, grant 8,5 MEuro (750 kEuro TUM), duration: June 2010 - June 2015  
Project website: <http://www.vereproject.org>  
Partners:
  - Universitat de Barcelona, Spain: M. Slater (coordinator)
  - Consorci Institut d’Investigacions Biomediques August Pi I Sunyer, Spain: M.V. Sanchez-Vives
  - Guger Technologies OEG, Austria: Ch. Guger
  - Technische Universität München, Germany: M. Buss, S. Hirche, A. Peer (till Aug 2014)
  - Scuola Superiore Sant’ Anna, Italy : M. Bergamasco
  - Centre National de la Recherche Scientifique, France: A. Kheddar
  - Ecole Polytechnique Federale de Lausanne, Switzerland: O. Blanke
  - Fondazione Santa Lucia, Italy: S. M. Aglioti
  - Johannes Gutenberg-Universitt Mainz, Germany : Th. Metzinger
  - Weizmann Institute, Israel: T. Flash, R. Malach
  - Instituto de Telecomunicacoes, Portugal: V.C. Orvalho
  - Interdisciplinary Centre Herzliya, Israel: D. Friedman
  - University College London, UK: P. Haggard
  - University of the West of England, Bristol, UK: A. Peer (from Oct 2014)
  
- Principal investigator and leader of TUM group in the EU project “*BEAMING*”  
Call FP7-ICT-2009-4, Contract No FP7-248620  
Instrument : IP, grant 11.5 MEuro (1.2 MEuro TUM), duration: Jan 2010 - Jan 2014  
Project website: <http://www.beaming-eu.org>  
Partners:
  - Starlab Barcelona, Spain: G. Ruffini
  - Universitat de Barcelona, Spain: M. Slater
  - University College London, United Kingdom: A. Steed
  - Swiss Federal Institute of Technology, Switzerland: G. Szekely
  - Scuola Superiore Sant’ Anna, Italy: M. Bergamasco
  - Technion - Israel Institute of Technology, Israel: M. Reiner
  - Interdisciplinary Center Herzliya, Israel: D. Friedman
  - IBM Haifa Research Lab, Israel: B. Cohen
  - Consorci Institut d’Investigacions Biomediques August Pi i Sunyer, Spain: M. V. Sanchez-Vives
  - Aalborg Universitet, Denmark: D. Hammershoi
  - Technische Universität München, Germany: M. Buss, A. Peer
  
- Principal investigator and leader of the project “*Control Methods for Multi-User Telepresence and Teleaction Systems - Stability, Performance, Assistance and Co-Presence*” within the Collaborative Research Centre SFB453 “High-Fidelity Telepresence and Teleaction” funded by the German Research Foundation  
Instrument : national project, grant 620 kEuro, duration: Jan 2008 - Dec 2010  
co-proposer: M. Buss (TUM)



Project website: [www.sfb453.de](http://www.sfb453.de)

- Responsibility for TUM group in the EU project “*IMMERSENCE*”  
Call FP6-2004-IST-4, Contract No FP6-27141  
Instrument : IP, overall grant: 5,55 MEuro, duration: Feb 2006 - May 2010  
Project website: <http://www.immersence.info>  
Partners:
  - Technische Universität München, Germany: M. Buss (coordinator)
  - Swiss Federal Institute of Technology, Switzerland: G. Szekely
  - University of Evry, France: A. Kheddar
  - Max Planck Institute, Tübingen: Dr. M.O. Ernst
  - University of Pisa, Italy: P. Petrini
  - University Birmingham, Britain: A. Wing
  - Universidad Politecnica de Madrid, Spain: M. Ferre
  - Technion de Haifa, Israel: M. Reiner
  - Universitat Politecnica de Catalunya, Spain: M. Slater
  
- Responsibility for TUM group in the EU project “*Robot@CWE*”  
Call FP6-2002-IST-C, Contract No FP6-018654  
Instrument: STREP, overall grant: 1,75 MEuro, duration: Sep 2006 - Oct 2009  
Project website: <http://www.robot-at-cwe.eu>  
Partners:
  - Centre National de la Recherche Scientifique, France: A. Kheddar (coordinator)
  - Universite de Carlos III de Madrid, Spain: C. Balaguer
  - Technische Universität München, Germany: M. Buss
  - ICT&S Center, Salzburg: Austria, M. Tscheligi
  - Ecole Polytechnique Federale de Lausanne, Switzerland: A. Billard
  - Dragados, SA, Spain: M. Bosch
  - Hewlett-Packard Centre d’Innovation Europe, Italy: Di Girolami
  - Space Applications Services, NV, Belgium: Aked

## Teaching

### Teaching

- 2013      Lecturer of the full semester course “Introduction to Robot Control” at Technische Universität München. The course covers the following topics: robot manipulators and vehicles, spatial object representation and transformation, programming of action plans, kinematic models of manipulators and robot vehicles (direct kinematics, inverse kinematics, differential kinematics, Jacobians, redundancy and singularity, kineto-static duality), Kinematic path/trajectory planning and execution in joint and task space, modeling of system dynamics (Lagrangian model, direct and inverse dynamics), manipulator control methods (position, impedance, force, hybrid control, task vs. joint space control, decentralized vs. centralized control, computed torque), exercises and applications. Part of this lecture is also the application of gained knowledge in parallel Matlab programming sessions and one final robot laboratory experiment.
- 2012      Lecturer of the full semester course “Fundamentals of Intelligent Robots” at Technische Universität München. The course covers the following topics: spatial object representation and transformation, programming of action plans, kinematic models of manipulators and robot vehicles, kinematic path/trajectory planning and execution, modeling of system dynamics, manipulator control methods, image sensors for robotic applications, basic image processing algorithms, manipulator software overview, exercises and applications. Part of this lecture is also the application of gained knowledge in parallel Matlab programming sessions and one final robot laboratory experiment.
- 2012      Lecturer of the full semester course “Optimization for control engineering” at Technische Universität München. The course covers the theory of static and dynamic optimization including optimal control as well as numerical methods.
- 2008 - 2014      Lecturer of the full semester course “Introduction to Haptics and Psychological Experiments” at Technische Universität München. The course did not exist before and was newly designed by myself. The course covers the following topics: haptic perception and information processing in humans, design, control and stability analysis of haptic interfaces, haptic rendering, modelling of virtual environments, haptics in teleoperation, experimental design, statistical analysis of experimental data, and psychophysics. Part of this lecture is further the application of gained knowledge in a final lab project.

- 2012           Lecturer at the “H-haptics autumn school”, November 5-8, Delft, Netherlands
- 2011           Lecturer at the Ferienakademie “Schöne Neue Technikwelt - Das Zeitalter der intelligenten Maschinen”, October 14-16, Tutzing, Germany
- 2011           Lecturer at the Conet Summer school “Networked Embedded Systems: Humans in the Loop”, July 24-30, Bertinoro, Italy
- 2010-2012     Lecturer of single lecture on “Haptic interaction in human-human and human-robot dyads” which is part of the course “Dynamic human-robot interaction” organized by Prof. Dongheui Lee from Technische Universität München
- 2010           Lecturer in the “Summer School on Telerobotics” held at Technische Universität München, Munich, Germany
- 2008, 2009     Lecturer of single lecture on “Teleoperation” which is part of the course “Systems and Control I” at Technische Universität München
- 2005           Lecturer of tutorials for the course “Systems and Control I” at Technische Universität München
- 2004 - 2006    Organization of the practical course “High-Fidelity Telepresence and Telerobotics” and Advanced Seminar “Robotics and Automation” at Technische Universität München
- 2004, 2005     Tutor for the following student laboratories and practical courses held at Technische Universität München: i) Advanced Control Theory and Technology, ii) Automation Technology and Robotics, iii) High-Fidelity Telepresence and Telerobotics
- 2000           Tutor for the practical course in informatics, Institute for Data Processing, Technische Universität München, Munich, Germany
- 2000           Tutor for homework-correction in “Basics in information theory”, Institute for Data Processing, Technische Universität München, Munich, Germany

As my background is in control and robotics with special focus in human-robot interaction, I can offer basic as well as advanced courses covering these research areas.

## Other Activities

### Program co-chair/ co-organizer for conferences/workshops

- *Finance Chair*, HRI 2018
- *Finance Chair*, HRI 2017
- *Organizing Committee*, Joint Workshop on New Technologies for Computer/Assisted Surgery (CRAS), 2015
- *Organizer* of IEEE/RSJ International Conference on Intelligent Robots and Systems Workshop “Cognitive Mobility Assistance Robots: Scientific Advances and Perspectives”, 2015
- *Organizing Committee and Publicity Chair*, Eurohaptics 2015
- *Workshop Chair*, Haptic Symposium 2015
- *Industry Forum Co-chair*, ICRA 2015
- *Organizer* of DGR Days 2013 of the German Robotics Society, 2013
- *Organizer* of the IROS 2013 Workshop “Model-based Simulation and Optimization for Physical Assistive Devices”, 2013
- *Travel Support Chair*, ICRA 2013
- *Exhibition Chair*, Ro-Man 2013
- *Organizer* of the Worldhaptics 2013 Workshop “Haptic Collaboration in Shared Control Tasks”, 2013
- *Workshop Chair*, Worldhaptics 2013
- *Workshop Chair*, HRI 2012
- *Organizer* of the IROS 2011 Special Symposium on “Telerobotics”, 2011
- *Organizer* of the Worldhaptics 2011 Workshop “Human-X Haptic Collaboration”, 2011
- *Organizer* of the Worldhaptics 2011 Tutorial “Control Issues in Haptic Teleoperation”, 2011
- *Workshop Chair*, Worldhaptics 2011
- *Organizer*, “Telerobotics Summerschool 2010” held in Munich, Germany in collaboration with the collaborative research centre SFB453 and the RAS Technical committee on Telerobotics, 2010
- *Organizer* of Special IROS 2010 session: “Advanced teleoperation control architectures”, 2010
- *Organizer* of Special RO-MAN 2010 session: “Advanced haptic interaction systems”, 2010
- *Organizer* of the IROS Workshop: “Haptic Human-Robot Interaction”, 2009
- *Organizer* of the ICRA Workshop: “New Vistas and Challenges in Telerobotics”, 2008
- *Program Committee*: Haptic Symposium 2016, ICRA 2015, Worldhaptics 2015, Haptic Symposium 2014, IROS 2013, ICRA 2013, Worldhaptics 2013, IROS 2012, HFR 2012, ICRA 2012, Haptic Symposium 2012, Worldhaptics 2011, RO-MAN 2011, AIM 2011, ICRA 2011, IROS 2011, KI 2010, HAVE 2010, ICABB-2010, RO-MAN 2010, HAVE 2009, RSS 2009, 3rd International Workshop on Human-Centered Robotic Systems 2009, IROS 2008, Eurohaptics 2008

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## Editorships

- *Associate Editor*, Robotics and Autonomous Systems, March 2017 - dato
- *Associate Editor*, IEEE Transactions on Human-Machine Systems, November 2014 - dato
- *Associate Editor*, IEEE Transactions on Haptics, December 2014 - December 2016
- *Guest Editor*, “Special Issue on Autonomous Physical Human-Robot Interaction”, Sami Haddadin, Paolo Robuffo-Giordano, Angelika Peer (Eds.), International Journal of Robotics Research, Nov 2012
- *Guest Editor*, “Special Issue on Haptic Human-Robot Interaction”, Amir Karniel, Angelika Peer, Opher Donchin, Ferdinando A. Mussa-Ivaldi, Gerald E. Loeb (Eds.), Transaction on Haptics, Jul-Sep 2012
- *Editor*, “Immersive Multimodal Interactive Presence”, Angelika Peer, Christos Giachritsis (Eds.), Springer, 2012
- *Guest Editor*, Special issue “Design and control methodologies in telerobotics”, Cristian Secchi, Nikhil Chopra, Angelika Peer, Mechatronics, Oct 2010
- *Editor*, “The sense of Touch and Its Rendering”, Antonio Bicchi, Martin Buss, Marc O. Ernst, Angelika Peer (Eds.), Springer, 2008
- *Guest Editor*, Special issue “New Vistas and Challenges in Telerobotics”, Nikhil Chopra, Angelika Peer, Claudio Melchiorri, Robotics Automation Magazine, Dec 2008

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## Committee membership

- *Co-chair* of RAS Education Committee, 2016 -
- Vice Women Advocacy Officer of the Faculty Electrical Engineering and Information Technology of the Technische Universität München, Munich, Germany, February 2010 - August 2014
- *Co-chair* of the Technical Committee on Telerobotics of the IEEE Robotics and Automation Society (<http://telerob.org/>) 2007 - 2010, Chair: 2010 - 2012
- *Secretary*, Executive Committee of the Eurohaptics Society, 2010 -
- *Member*, Executive Committee of the Eurohaptics Society, 2008 -
- Leader of the working group AK1 in the Collaborative Research Centre (Sonderforschungsbereich) SFB453 “High-Fidelity Telepresence and Teleaction”, 2005 - 2010

## **Journal and book reviewer**

IEEE Transactions on Robotics  
IEEE Robotics and Automation Magazine  
IEEE Transaction on Instrumentation and Measurement  
IEEE Transactions on Systems, Man, and Cybernetics  
IEEE Transactions on Human-Machine Systems  
IEEE/ASME Transactions on Mechatronics  
Robotics and Autonomous Systems  
Transactions on Affective Computing  
Transactions on Industrial Electronics  
Industrial Electronics Magazine  
International Journal of Humanoid Robotics  
Journal of Intelligent and Robotic Systems  
Journal of NeuroEngineering and Rehabilitation  
Mechatronics  
Presence  
Robotica  
The International Journal of Robotics Research  
Transactions on Biomedical Engineering Manuscript  
Transactions on Haptics  
Brain Research Bulletin  
ACM Transactions on Applied Perception  
PLoS ONE Haptics-e

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## **Reviewer**

EPSRC  
SIR, Italian Ministry for Education  
ERC Consolidator Grants of European Commission  
Strategic Basic Research programme of the Research Foundation Flanders  
Killiam Research Fellowships, Canada Council for the Arts  
DAAD

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## **Memberships in professional organizations**

IEEE member  
Robotics and automation society (IEEE-RAS) member  
Eurohaptics Society member  
IEEE Technical Committee on “Haptics” member  
IEEE Technical Committee on “Telerobotics” member  
EUCogII member

# Publications

## Articles in refereed journals

- [1] M. Kühne, J. Potzy, R. Garcia-Rochin, P. van der Smagt, and A. Peer, “Design and Evaluation of a Haptic Interface with Octopod Kinematics,” *IEEE/ASME Transactions on Mechatronics*, 2017.
- [2] M. Geravand, P. Z. Korondi, C. Werner, K. Hauer, and A. Peer, “Human sit-to-stand transfer modeling towards intuitive and biologically-inspired robot assistance,” *Autonomous Robots*, vol. 41, no. 3, pp. 575–592, 2017.
- [3] M. Abu-Alqumsan, F. Ebert, and A. Peer, “Goal-recognition-based Adaptive Brain-Computer Interface for Navigating in Immersive Robotic Systems,” *Journal of Neural Engineering*, 2017.
- [4] C. Werner, P. Ullrich, M. Geravand, A. Peer, J. Bauer, and K. Hauer, “A Systematic Review of Study Results Reported for the Evaluation of Robotic Rollators from the Perspective of Users,” *Disability and Rehabilitation: Assistive Technology*, 2016.
- [5] E. Tidoni, M. Abu-Alqumsan, D. Leonardis, C. Kapeller, G. Fusco, C. Guger, C. Hintermüller, A. Peer, A. Frisoli, F. Tecchia, M. Bergamasco, and S. Aglioti, “Local and remote cooperation with virtual and robotic agents: a p300 bci study in healthy and people living with spinal cord injury,” *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 2016.
- [6] M. Geravand, C. Werner, K. Hauer, and A. Peer, “An integrated decision making approach for adaptive shared control of mobility assistance robots,” *International Journal of Social Robotics*, vol. 8, no. 5, pp. 631–648, 2016.
- [7] J. Corredor, J. Sofrony, and A. Peer, “Decision-making Model for Adaptive Impedance Control of Teleoperation Systems,” *IEEE Transactions on Haptics*, vol. 10, no. 1, pp. 5–16, 2016.
- [8] C. Werner, P. Ullrich, M. Geravand, A. Peer, and K. Hauer, “Evaluation Studies of Robotic Rollators by the User Perspective: A Systematic Review,” *Gerontology*, vol. 62, no. 6, pp. 644–653, 2016.
- [9] M. Abu-Alqumsan and A. Peer, “Advancing the Detection of Steady-state Visual Evoked Potentials in Brain-Computer Interfaces,” *Journal of Neural Engineering*, vol. 13, no. 3, 2016.
- [10] K. Friedl, A. Voelker, A. Peer, and C. Eliasmith, “Human-Inspired Neurobotic System for Classifying Surface Textures by Touch,” *IEEE Robotics and Automation Letters*, 2016.
- [11] R. Jenke, A. Peer, and M. Buss, “Feature extraction and selection for emotion recognition from EEG,” *Transactions on Affective Computing*, 2014.

- [12] S. Klare and A. Peer, “The Formable Object: A 24-Degree-of-Freedom Shape Rendering Interface,” *Transactions on Mechatronics*, 2014.
- [13] N. Stefanov, C. Passenberg, A. Peer, and M. Buss, “Design and Evaluation of a Haptic Computer-Assistant for Telemanipulation Tasks,” *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 43, no. 4, pp. 385–397, 2013.
- [14] C. Passenberg and A. Peer, “Exploring the Design Space of Haptic Assistants: the Assistance Policy Module,” *IEEE Transactions on Haptics*, vol. 6, no. 4, pp. 440–452, 2013.
- [15] R. Klatzky, D. Pawluk, and A. Peer, “Haptic perception of material properties and implications for applications,” *Journal of IEEE*, vol. 99, pp. 1–12, 2013.
- [16] A. Steed, W. Steptoe, W. Oyekoya, F. Pece, T. Weyrich, J. Kautz, D. Friedman, A. Peer, M. Solazzi, F. Tecchia, M. Bergamasco, and M. Slater, “Beaming: An Asymmetric Telepresence System,” *IEEE Computer Graphics and Applications*, vol. 32, no. 6, pp. 10–17, 2012.
- [17] R. Groten, D. Feth, R. Klatzky, and A. Peer, “The Role of Haptic Feedback for the Integration of Intentions in Shared Task Execution,” *IEEE Transactions on Haptics*, pp. 94–105, 2012.
- [18] Z. Wang, E. Giannopoulos, M. Slater, A. Peer, and M. Buss, “Handshake: Realistic Human-Robot Interaction in Haptic Enhanced Virtual Reality,” *Presence*, vol. 20, no. 4, pp. 371–392, 2011.
- [19] D. Feth, R. Groten, A. Peer, and M. Buss, “Haptic HumanRobot Collaboration: Comparison of Robot Partner Implementations in Terms of Human-Likeness and Task Performance,” *Presence*, vol. 20, no. 2, pp. 173–189, 2011.
- [20] E. Giannopoulos, Z. Wang, A. Peer, M. Buss, and M. Slater, “Comparison of People’s Responses to Real and Virtual Handshakes within a Virtual Environment,” *Brain Research Bulletin*, vol. 85, no. 5, pp. 276–282, 2011.
- [21] M. Strolz, R. Groten, A. Peer, and M. Buss, “Development and Evaluation of a Device for the Haptic Rendering of Rotatory Car Doors,” *Transactions on Industrial Electronics*, vol. 58, no. 8, pp. 3133–3140, 2011.
- [22] A. Reichenbach, J.-P. Bresciani, A. Peer, H. H. Bülthoff, and A. Thielscher, “Contributions of the PPC to Online Control of Visually Guided Reaching Movements assessed with fMRI-guided TMS,” *Cerebral Cortex*, vol. 11, pp. 1–11, 2010.
- [23] A. Peer, H. Pongrac, and M. Buss, “Influence of varied human movement control on task performance and feeling of telepresence,” *Presence*, vol. 19, no. 5, pp. 463–481, 2010.
- [24] C. Passenberg, A. Peer, and M. Buss, “A Survey of Environment-, Operator-, and Task-adapted Controllers for Teleoperation Systems,” *Mechatronics, Special Issue on Design and Control Methodologies in Telerobotics*, vol. 20, no. 7, pp. 787–801, 2010.



- [25] M. Buss, A. Peer, T. Schauß, N. Stefanov, U. Unterhinninghofen, S. Behrendt, J. Lepold, M. Durkovic, and M. Sarkis, “Development of a Multi-modal Multi-user Telepresence and Teleaction System,” *The International Journal of Robotics Research*, vol. 29, no. 10, pp. 1298–1316, 2009.
- [26] A. Reichenbach, A. Thielscher, A. Peer, H. H. Bühlhoff, and J.-P. Bresciani, “Seeing the Hand while Reaching Speeds up On-line Responses to a Sudden Change in Target Position,” *The Journal of Physiology*, vol. 587, no. 19, pp. 4605–4616, 2009.
- [27] A. Peer and M. Buss, “A New Admittance Type Haptic Interface for Bimanual Manipulations,” *IEEE/ASME Transactions on Mechatronics*, vol. 13, no. 4, pp. 416–428, 2008.
- [28] A. Peer, U. Unterhinninghofen, and M. Buss, “Tele-Assembly in Wide Remote Environments,” *Robotics Today*, vol. 20, no. 4, 2008.
- [29] B. Stanczyk, A. Peer, and M. Buss, “Development of a High Performance Haptic Telemanipulation System with Dissimilar Kinematics,” *Advanced Robotics*, vol. 20, no. 11, pp. 1303–1320, 2006.

## Chapters and articles in edited books

- [1] J. Hölldampf, Z. Wang, A. Peer, and M. Buss, *Immersive Multimodal Interactive Presence*, ch. Social Haptic Interaction with Virtual Characters. Springer, 2012.
- [2] R. Groten, D. Feth, A. Peer, and M. Buss, *Immersive Multimodal Interactive Presence*, ch. Psychological Experiments in Haptic Collaboration Research. Springer, 2012.
- [3] J. Hölldampf, A. Peer, and M. Buss, “Virtual Partner for a Haptic Interaction Task,” in *Human Centered Robot Systems* (H. Ritter, G. Sagerer, R. Dillmann, and M. Buss, eds.), Cognitive Systems Monographs, pp. 183–191, Springer, 2009.
- [4] D. Feth, B. Tran, R. Groten, A. Peer, and M. Buss, “Shared-Control Paradigms in Multi-Operator-Single-Robot Teleoperation,” in *Human Centered Robot Systems* (H. Ritter, G. Sagerer, R. Dillmann, and M. Buss, eds.), Cognitive Systems Monographs, pp. 53–62, Springer, 2009.
- [5] A. Peer, T. Schauß, U. Unterhinninghofen, and M. Buss, “A Mobile Haptic Interface for Bimanual Manipulations in Extended Remote/Virtual Environments,” in *Robotics Research Trends*, Nova Publishers, 2008.
- [6] M. Buss, K. K. Lee, N. Nitzsche, A. Peer, B. Stanczyk, and U. Unterhinninghofen, “Advanced Telerobotics: Dual-Handed and Mobile Remote Manipulation,” in *Advances in Telerobotics: Human System Interfaces, Control, and Applications* (M. Ferre, M. Buss, R. Aracil, C. Melchiorri, and C. Balaguer, eds.), pp. 471–497, Springer, STAR series, 2007.
- [7] A. Rafael, M. Buss, M. Ferre, S. Cobos, S. Hirche, M. Kuschel, and A. Peer, “The Human Role in Telerobotics,” in *Advances in Telerobotics: Human System Interfaces*,

*Control, and Applications* (M. Ferre, M. Buss, R. Aracil, C. Melchiorri, and C. Bala-guer, eds.), pp. 11–24, Springer, STAR series, 2007.

## Edited books

- [1] A. Peer and C. Giachritsis, eds., *Immersive Multimodal Interactive Presence*. Springer, 2012.
- [2] A. Bicchi, M. Buss, M. Ernst, and A. Peer, eds., *The Sense of Touch and Its Rendering, Progress in Haptics Research*. Springer, 2008.
- [3] A. Peer, *Design and Control of Admittance-Type Telemanipulation Systems*. VDI Schriftenreihe 8, VDI Verlag, 2008.

## Theses

- [1] A. Peer, *Design and Control of Admittance-Type Telemanipulation Systems*. PhD thesis, Technische Universität München, 2008.
- [2] A. Peer, “Modelling and Control of a Force-Feedback Actuator for Steer-by-Wire Systems,” Master’s thesis, Technische Universität München, Chair of Automatic Control Engineering, 2004.
- [3] A. Peer, “Development of a Software Environment for the Implementation of a Remote Laboratory Experiment.” *Bachelor thesis, Technische Universität München, Chair of Automatic Control Engineering, 2003*.

## Articles in refereed conference proceedings

- [1] M. Geravand, E. Shahriari, A. De Luca, and A. Peer, “Port-based Modleing of Human-Robot Collabration towards Safety-Enhancing Energy Shaping Control,” in *IEEE International Conference on Robotis and Automation*, 2016.
- [2] A. M. Schmidts, M. Schneider, M. Kühne, Kühne, and A. Peer, “A New Interaction Force Decomposition Maximizing Compensating Force under Physical Work Constraints,” in *IEEE International Conference on Robotics and Automation*, pp. 4922–4929, 2016.
- [3] R. Garcia-Rochin, M. Kühne, R. Santiesteban-Cos, G. Rubio-Astorga, and A. Peer, “Second-order model for rotary traveling wave ultrasonic motors,” in *Humanoids*, 2015.
- [4] S.-E. Fotinea, E. Efthimiou, A.-L. Dimou, T. Goulas, P. Karioris, A. Peer, P. Maragos, C. Tzafestas, I. Kokkinos, K. Hauer, K. Mombaur, I. Koumpouros, and B. Stanzyk, “Data Acquisition Towards Defining a Multimodal Interaction Model for Human-Assistive Robot Communication,” in *Universal Access in Human-Computer Interaction. Aging and Assistive Environments, UAHCI/HCII 2014, Part III, Lecture Notes in Computer Science: 8515* (C. Stephanidis and M. Antona, eds.), pp. 615–626, Springer International Publishing Switzerland, 2014.

- [5] M. A. Ergin, M. Kühne, A. Thielscher, and A. Peer, “Design of a new MR-compatible haptic interface with six actuated degrees of freedom,” in *5th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics*, 2014.
- [6] M. Geravand, P. Z. Korondi, and A. Peer, “Human sit-to-stand transfer modeling for optimal control of assistive robots,” in *5th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics*, 2014.
- [7] M. Geravand and A. Peer, “Safety constrained motion control of mobility assistive robots,” in *5th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics*, 2014.
- [8] W. Zhou, J. Reisinger, A. Peer, and S. Hirche, “Interaction-based dynamic measurement of haptic characteristics of control elements,” in *Eurohaptics*, 2014.
- [9] K. Friedl, Y. Qin, D. Ostler, and A. Peer, “Modeling the weber fraction of vibrotactile amplitudes using gain control through global feedforward inhibition,” in *Eurohaptics*, 2014.
- [10] J. Corredor, J. Sofrony, and A. Peer, “Deciding on optimal assistance policies in haptic shared control tasks,” in *IEEE International Conference on Robotics and Automation*, (Hong Kong), pp. 2679–2684, 2014.
- [11] A. Peer, M. Buss, B. Stanczyk, D. Szczesniak-Stanczyk, W. Brzozowski, A. Wysokinski, M. Tscheligi, C. A. Avizzano, E. Ruffaldi, L. van Gool, A. Fossati, K. Arent, J. Jakubiak, and M. Janiak, “Towards a remote medical diagnostician for medical examination,” in *NextMed MMVR21*, 2014.
- [12] M. A. Ergin and A. Peer, “Development of a new 6 DOF parallel haptic interface for the rendering of elements and interior equipment in a car,” in *International Symposium on Robot and Human Interactive Communication*, 2013.
- [13] S. Klare and A. Peer, “Inverse kinematics for shape rendering interfaces,” in *Proc. of the IEEE International Conference on Robotics and Automation*, 2013.
- [14] S. Klare, D. Forssilow, and A. Peer, “Formable object – a new haptic interface for shape rendering,” in *WorldHaptics*, 2013.
- [15] R. Jenke, A. Peer, and M. Buss, “A comparison of evaluation measures for emotion recognition in dimensional space,” in *3rd Workshop on Affective Brain-Computer Interfaces at IEEE International Conference on Affective Computing and Intelligent Interaction*, 2013.
- [16] R. Jenke, A. Peer, and M. Buss, “Effect-size-based electrode and feature selection for emotion recognition from EEG,” in *IEEE Int. Conf. on Acoustics, Speech, and Signal Processing (ICASSP)*, 2013.
- [17] C. Kapeller, C. Hintermüller, M. Abu-Alqumsan, R. Prückl, A. Peer, and C. Guger, “Ssvep based brain-computer interface combined with video for robotic control,” in *Proceedings of the Fifth International Brain-Computer Interface Meeting*, 2013.

- [18] C. Kapeller, C. Hintermüller, M. Abu-Alqumsan, R. Prückl, A. Peer, and C. Guger, “A BCI using VEP for continuous control of a mobile robot,” in *The Engineering in Medicine and Biology Conference*, 2013.
- [19] T. Schauss and A. Peer, “Parameter-Space Transparency Analysis of Teleoperation Systems,” in *IEEE Haptics Symposium*, 2012.
- [20] M. Rank, T. Schauß, A. Peer, S. Hirche, and R. Klatzky, “Masking effects for damping jnd,” in *Haptics: Perception, Devices, Mobility, and Communication and Eurohaptics 2012* (P. Isokoski and J. Springare, eds.), vol. 7283 of *Lecture Notes in Computer Science*, pp. 145–150, Tampere, Finland: Springer, June 13-15 2012.
- [21] A. M. Schmidts, D. Lee, and A. Peer, “Imitation learning of human grasping skills from motion and force data,” in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pp. 1002–1007, 2011.
- [22] C. Passenberg, S. Nikolay, A. Peer, and M. Buss, “Enhancing Task Classification in Human-Machine Collaborative Teleoperation Systems by Real-Time Evaluation of an Agreement Criterion,” in *Worldhaptics*, 2011.
- [23] C. Passenberg, R. Groten, A. Peer, and M. Buss, “Towards Real-Time Haptic Assistance Adaptation Optimizing Task Performance and Human Effort,” in *Worldhaptics*, 2011.
- [24] V. Nitsch, C. Passenberg, A. Peer, M. Buss, and B. Färber, “Assistance functions for collaborative haptic interaction in virtual environments and their effect on performance and user comfort,” in *1st International Conference on Applied Bionics and Biomechanics*, 2010.
- [25] D. Feth, A. Peer, and M. Buss, “Enhancement of Multi-User Teleoperation Systems by Prediction of Dyadic Haptic Interaction,” in *12th International Symposium on Experimental Robotics (ISER)*, 2010.
- [26] C. Passenberg, A. Peer, and M. Buss, “Model-Mediated Teleoperation for Multi-Operator Multi-Robot Systems,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2010.
- [27] D. Feth, A. Peer, and M. Buss, “Incorporating Human Haptic Interaction Models into Teleoperation Systems,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2010.
- [28] J. Hölldampf, A. Peer, and M. Buss, “Synthesis of an Interactive Haptic Dancing Partner,” in *Proc. of the 19th International Symposium on Robot and Human Interactive Communication*, 2010.
- [29] Z. Wang, J. Lu, A. Peer, and M. Buss, “Influence of Vision and Haptics on Plausibility of Social Interaction in Virtual Reality Scenarios,” in *Eurohaptics*, 2010.
- [30] S. Albrecht, C. Passenberg, M. Sobotka, A. Peer, M. Buss, and M. Ulbrich, “Optimization Criteria for Human Trajectory Formation in Dynamic Virtual Environments,” in *Eurohaptics*, 2010.

- [31] S. Klare, A. Peer, and M. Buss, “Development of a 3 DoF MR-Compatible Haptic Interface for Pointing and Reaching Movements,” in *Haptics: Generating and Perceiving Tangible Sensations and Eurohaptics 2010* (J. Kappers, A.M.L. and van Erp, W. Bergmann Tiest, and F. Van Der Helm, eds.), Lecture Notes in Computer Science 6192, pp. 211–218, Springer-Verlag Berlin Heidelberg, 2010.
- [32] H. Tanaka, T. Schauß, K. Ohnishi, A. Peer, and M. Buss, “A Coordinating Controller for Improved Task Performance in Multi-User Teleoperation,” in *Eurohaptics*, 2010.
- [33] N. Stefanov, A. Peer, and M. Buss, “Online Intention Recognition in Computer-Assisted Teleoperation Systems,” in *Eurohaptics*, 2010.
- [34] T. Schauss, R. Groten, A. Peer, and M. Buss, “Evaluation of a Coordinating Controller for Improved Task Performance in Multi-User Teleoperation,” in *Eurohaptics*, 2010.
- [35] H. H. King, B. Hannaford, K. Kwok, G. Yang, P. Griffiths, A. Okamura, I. Farkhatdinov, J. Ryu, G. Sankaranarayanan, V. S. Arikatla, K. Tadano, K. Kawashima, A. Peer, T. Schauß, M. Buss, L. Miller, D. Glozman, J. Rosen, and T. Low, “Plugfest 2009: Global Interoperability in Telerobotics and Telemedicine,” in *Proc. of the IEEE International Conference on Robotics and Automation*, 2010.
- [36] A. Achhammer, C. Weber, A. Peer, and M. Buss, “Improvement of Model-Mediated Teleoperation using a New Hybrid Environment Estimation Technique,” in *Proc. of the IEEE International Conference on Robotics and Automation*, 2010.
- [37] R. Groten, D. Feth, A. Peer, and M. Buss, “Shared Decision Making and Efficiency in a Collaborative Task with Reciprocal Haptic Feedback,” in *Proc. of the IEEE International Conference on Robotics and Automation*, 2010.
- [38] N. Stefanov, A. Peer, and M. Buss, “Online Intention Recognition for Computer-Assisted Teleoperation,” in *Proc. of the IEEE International Conference on Robotics and Automation*, 2010.
- [39] P. Evrard, N. Mansard, O. Stasse, A. Kheddar, T. Schauß, C. Weber, A. Peer, and M. Buss, “Intercontinental, Multimodal, Wide-Range Tele-Cooperation Using a Humanoid Robot,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2009.
- [40] D. Feth, R. Groten, A. Peer, and M. Buss, “Control-theoretic Model of Haptic Human-Human Interaction in a Pursuit Tracking Task,” in *Proc. of the 18th International Symposium on Robot and Human Interactive Communication*, 2009.
- [41] R. Groten, D. Feth, R. Klatzky, A. Peer, and M. Buss, “Efficiency Analysis in a Collaborative Task with Reciprocal Haptic Feedback,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2009.
- [42] R. Groten, D. Feth, H. Goshy, A. Peer, D. A. Kenny, and M. Buss, “Experimental Analysis of Dominance in Haptic Collaboration,” in *Proc. of the 18th International Symposium on Robot and Human Interactive Communication*, 2009.

- [43] D. Feth, R. Groten, A. Peer, S. Hirche, and M. Buss, “Performance Related Energy Exchange in Haptic Human-Human Interaction in a Shared Virtual Object Manipulation Task,” in *Worldhaptics*, 2009.
- [44] Z. Wang, A. Peer, and M. Buss, “An HMM Approach to Realistic Haptic Human-Robot Interaction,” in *Worldhaptics*, 2009.
- [45] Z. Wang, A. Peer, and M. Buss, “Fast online Impedance Estimation for Robot Control,” in *Proceedings of The Fifth IEEE International Conference on Mechatronics*, (Malaga, Spain), 2009.
- [46] N. Stefanov, A. Peer, and M. Buss, “Role Determination in Human-Human Interaction,” in *Worldhaptics*, 2009.
- [47] R. Groten, J. Hölldampf, A. Peer, and M. Buss, “Predictability of a Human Partner in a Pursuit Tracking Task without Haptic Feedback,” in *The Second International Conference on Advances in Computer-Human Interactions*, 2008.
- [48] Y. Komoguchi, A. Peer, K. Yano, and M. Buss, “Redundancy Resolution of a 7 DOF Haptic Interface Considering Collision and Singularity Avoidance,” in *Proc. of the IEEE International Conference on Intelligent Robots and Systems*, 2008.
- [49] A. Peer and M. Buss, “Robust Stability Analysis of Bilateral Teleoperation Systems Using Admittance-Type Devices,” in *Proc. of the International Conference on Instrumentation, Control, and Information Technology*, 2008.
- [50] A. Peer and M. Buss, “Robust Stability Analysis of Bilateral Teleoperation Architectures for Admittance-Type Devices,” in *Proc. of the IEEE International Conference on Robotics and Automation, Workshop New Vistas and Challenges in Telerobotics*, 2008.
- [51] A. Peer and M. Buss, “Robust Stability Analysis of a Bilateral Teleoperation System Using the Parameter Space Approach,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2008.
- [52] A. Peer, S. Eienkel, and M. Buss, “Multi-fingered Telemanipulation – Mapping of a Human Hand to a Three Finger Gripper,” in *Proc. of the 17th International Symposium on Robot and Human Interactive Communication*, pp. 465–470, 2008.
- [53] H. Pongrac, A. Peer, B. Färber, and M. Buss, “Effects of Varied Human Movement Control on Task Performance and Feeling of Telepresence,” in *Proc. of the EuroHaptics, LNCS 5024*, (Heidelberg), pp. 755–765, Springer, 2008.
- [54] T. Yamamoto, M. Bernhardt, A. Peer, M. Buss, and A. Okamura, “Techniques for Environment Parameter Estimation During Telemanipulation,” in *IEEE BioRob*, (Scottsdale, Arizona, USA), 2008.
- [55] A. Peer, S. Hirche, C. Weber, I. Krause, M. Buss, S. Miossec, P. Evrard, O. Stasse, E. S. Neo, A. Kheddar, and K. Yokoi, “Intercontinental Cooperative Telemanipulation between Germany and Japan,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, 2008.

- [56] A. Peer, Y. Komoguchi, and M. Buss, “Towards a Mobile Haptic Interface for Bimanual Manipulations,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp. 384–391, 2007.
- [57] Y. Komoguchi, A. Peer, and M. Buss, “Control and Performance Evaluation of a New Redundant Haptic Interface,” in *SICE Annual Conference*, (Kagawa University, Japan), pp. 2671–2676, 2007.
- [58] M. Buss, M. Kuschel, K. K. Lee, A. Peer, B. Stanczyk, and U. Unterhinninghofen, “High Fidelity Telepresence Systems: Design, Control, and Evaluation,” in *Proc. of the Joint International COE/HAM SFB-453 Workshop on Human Adaptive Mechatronics and High-Fidelity Telepresence*, (Tokyo, Japan), pp. 53–58, 2006.
- [59] A. Peer, U. Unterhinninghofen, and M. Buss, “Tele-Assembly in Wide Remote Environments,” in *Proc. of the 2nd International Workshop on Human-Centered Robotic Systems*, (Munich, Germany), 2006.
- [60] M. Ueberle, H. Esen, A. Peer, U. Unterhinninghofen, and M. Buss, “Haptic Feedback Systems for Virtual Reality and Telepresence Applications,” in *Proc. of the Harmonic Drive International Symposium*, (Matsumoto, Nagano, Japan), pp. 99–107, 2006.
- [61] A. Peer, B. Stanczyk, and M. Buss, “Haptic Telemanipulation with Dissimilar Kinematics,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, (Edmonton, Canada), pp. 3493 – 3498, 2005.
- [62] A. Peer, U. Unterhinninghofen, K. Lee, B. Stanczyk, and M. Buss, “Haptic Telemanipulation in Extensive Remote Environments,” in *Proc. of the Joint International COE/HAM SFB-453 Workshop on Human Adaptive Mechatronics and High-Fidelity Telepresence*, (Tokyo, Japan), pp. 57–62, 2005.
- [63] M. Ueberle, N. Mock, A. Peer, C. Michas, and M. Buss, “Design and Control Concepts of a Hyper Redundant Haptic Interface for Interaction with Virtual Environments,” in *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems, Workshop on Touch and Haptics*, (Sendai, Japan), 2004.
- [64] F. Freyberger, A. Peer, and J. Schneider, “Tele-Experimentieren mit Haptischem Feedback - ein Neuer Weg für Tele-Labors in der Regelungstechnik,” in *GMA-Kongress: Automation und Information in Wirtschaft und Gesellschaft, VDI Bericht 1756*, (Baden-Baden, Germany), pp. 153–161, 2003.
- [65] A. Peer, N. Bajcinca, and C. Schweiger, “Physical-based Friction Identification of an Electro-Mechanical Actuator with Dymola/Modelica and MOPS,” in *Proceedings of the 3rd International Modelica Conference*, (Linköping, Sweden), pp. 241–247, 2003.

## Abstracts

- [1] M. Abu-Alqumsan, R. Jenke, A. Peer, and M. Buss, “Abstract: Robotic Re-embodiment using a Brain Computer Interface,” in *Neuroscience*, 2012.

- [2] M. Abu-Alqumsan, J. Martens, R. Jenke, C. Kapeller, C. Hintermüller, A. Peer, and M. Buss, “Abstract: Adaptive Brain Computer Interface – Application in Robotics,” in *Workshop on Human-Friendly Robotics*, (Twente), 2011.
- [3] A. Reichenbach, A. Thielscher, A. Peer, H. H. Bühlhoff, and J.-P. Bresciani, “Abstract: Neural Correlates of Online Control of Reaching Movements,” in *FENS Motor Control Symposium*, vol. 1, 2010.
- [4] A. Reichenbach, J.-P. Bresciani, A. Peer, H. H. Bühlhoff, and A. Thielscher, “Abstract: Proprioceptive Online Control of Goal-directed Reaching - a Transcranial Magnetic Stimulation Study,” in *16th Annual Meeting of the Organization for Human Brain Mapping (HBM 2010)*, vol. 16, 2010.
- [5] A. Reichenbach, A. Thielscher, A. Peer, H. H. Bühlhoff, and J.-P. Bresciani, “Abstract: Visual Perturbation Paradigms in Goal-Directed Reaching Investigated with Functional MRI and Subsequent Transcranial Magnetic Stimulation,” in *NeuroImage 47 (Supplement 1)*, p. 170, 2009.
- [6] A. Reichenbach, J.-P. Bresciani, A. Peer, H. H. Bühlhoff, and A. Thielscher, “Abstract: Neural Basis of Online Control During Visually Guided Reaching,” in *7th Edition of Progress in Motor Control*, vol. 7(A3-24), 2009.
- [7] J. Hölldampf, A. Peer, M. Di Luca, and M. Buss, “Abstract: Designing a Virtual Partner for a Haptic Interaction Task,” in *Workshop on Real Action, Virtual Environments*, 2009.
- [8] A. Reichenbach, A. Thielscher, A. Peer, H. H. Bühlhoff, and J.-P. Bresciani, “Abstract: Neural Correlates of Sensory Feedback Loops in Reaching,” in *9th International Multisensory Research Forum (IMRF)*, no. 176, 2008.
- [9] A. Reichenbach, J.-P. Bresciani, A. Peer, H. H. Bühlhoff, and A. Thielscher, “Abstract: Inter-individual Spatial Diversity in Motor Control Processes within the Posterior Parietal Cortex Assessed with Transcranial Magnetic Stimulation,” in *Brain Stimulation*, no. 3, pp. 283–284, 2008.
- [10] A. Reichenbach, J.-P. Bresciani, A. Peer, H. H. Bühlhoff, and A. Thielscher, “Abstract: Neural Correlates of Sensory Feedback Loops in Reaching,” in *NeuroImage*, no. 41, Supplement 1, p. 94, 2008.
- [11] A. Reichenbach, A. Thielscher, A. Peer, H. H. Bühlhoff, and J.-P. Bresciani, “Abstract: Visual vs. Proprioceptive Feedback Loops in Reaching: an EMG Study,” in *ESF-EMBO Symposium Three Dimensional Sensory and Motor Space: Perceptual Consequences of Motor Action*, pp. 53–54, 2007.

## Videos

- [1] N. Martens, R. Jenke, M. Abu-Alqumsan, C. Kapeller, C. Hintermüller, C. Guger, A. Peer, and M. Buss, “Video: Towards robotic re-embodiment using a brain-and-body-computer interface,” in *IEEE/RSJ International Conference on Intelligent Robots and Systems*, pp. 5131–5132, 2012.



- [2] T. Schauß, C. Passenberg, N. Stefanov, D. Feth, I. Vittorias, A. Peer, S. Hirche, M. Buss, M. Rothbucher, K. Diepold, J. Kammerl, and E. Steinbach, “Video: Beyond classical teleoperation: Assistance, cooperation, data reduction, and spatial audio,” in *IEEE International Conference on Robotics and Automation*, (Saint Paul, MN, USA), pp. 3553–3554, 2012.
- [3] S. Behrendt, M. Buss, K. Diepold, G. Frber, P. Hinterseer, F. Keyrouz, J. Leupold, A. Peer, M. Sarkis, T. Schauß, N. Stefanov, E. Steinbach, and U. Unterhinninghofen, “Video: Multi-modal multi-user telepresence and teleaction system,” in *IEEE/RSJ International Conference on Intelligent Robots and Systems*, (Nice, France), pp. 4137–4138, 2008.