Extended Curriculum Vitae

CONTACT INFORMATION

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1 Tabular Curriculum Vitae

POSITIONS

2014–present	Full Professor in Computer Science, University of Innsbruck, Austria
2013–2014	Reader (Associate Professor) in Computer Science, University of Sheffield, UK
2005–2012	Senior researcher and Lecturer at Computer Vision Lab of ETH Zurich, Switzerland; Leader of the Virtual Reality in Medicine group
Oct 2007	Founder company VirtaMed, Management board member
Aug–Sep 2006	Visiting scientist at BioMedIALab, CSIRO, Sydney, Australia
2003–2005	Postdoc at Computer Vision Lab of ETH Zurich, Switzerland; Leader of the Virtual Reality in Medicine group
Feb 2005	Visiting scientist at Precision and Intelligence Lab, Tokyo Institute of Technology, Japan
Jun–Aug 2004	Visiting scientist at Virginia Modeling & Simulation Center, Norfolk, VA, USA
1999–2003	Graduate researcher at Computer Vision Lab of ETH Zurich, Switzerland
1998–1999	Student researcher at Virtual Environment Technology Lab of University of Houston, TX, USA
Aug 1998	Internship at Institute of Design Aerodynamics at German Aerospace Center DLR, Braunschweig, Germany
1997–1998	Research assistant at Institute of Scientific Computing of Technical University Braunschweig, Germany
1996–1997	Teaching assistant at Institute of Mathematics of University of Hildesheim, Germany

EDUCATION

2003–2007	Habilitation at ETH Zurich, Switzerland; Venia legendi in *Virtual Reality in Medicine*, April 2007; Habilitation thesis: *Surgical Scene Generation for Virtual Reality-Based Training in Medicine*
1999–2003	Doctoral studies at ETH Zurich, Switzerland; PhD thesis: *Haptically Assisted Interactive 3D Segmentation of the Intestinal System*, March 2003
1998–1999	Exchange student, Computer Science, University of Houston, TX, USA
1997–1998	Study of Computer Science at Technical University of Braunschweig, Germany; Diploma degree in March 1999
1994–1997	Study of Medical Informatics at University of Hildesheim, Germany; Pre-diploma degree in August 1996

2 Service, Activities, Awards

SERVICE TO COMMUNITY

Associate editor of ACM Transactions on Applied Perception (TAP) (since 2004)
Associate editor of IEEE Transactions on Haptics (ToH) (2008–2011, 2015–2019)
Associate editor of Virtual Reality Journal (since 2012)
Associate editor of MIT Presence Journal (2013–2024)
Editorial board member, Springer Series on Touch and Haptic Systems (since 2010)
Chair IEEE Robotics & Automation/Comp. Soc. Haptics Technical Committee (2008–2010)
Co-Founder of EuroHaptics Conference (2000)
Founding member of IEEE Transactions on Haptics (2008)
Founding member of EuroHaptics Society (2007)
Chair WorldHaptics Steering Committee (2017–2019)
Member of WorldHaptics Steering Committee (since 2007)
Steering Committee of International Symposium on Biomedical Simulation (since 2005)
Vice-Chair Conferences of IEEE TCH (2011–2018)
Vice-President of EuroHaptics Society (2006–2008)
IEEE Transactions on Haptics EIC Search Committee (2007)
Guest editor of Presence (2011), IEEE ToH (2010), ACM TAP (2005)

CONFERENCE ORGANIZATION

General Chair IEEE World Haptics (2017)
MICCAI Plenary Co-Chair (2018)
EuroHaptics Awards Committee (2016)
EuroHaptics Publication Co-Chair (2014)
Asia Haptics Liaison Chair (2014, 2016)
Co-Chair of IEEE Intl. Symposium on Haptic, Audio and Visual Environments (2013)
Co-Chair of Symposium on Applied Perception in Graphics and Visualization (2012)
WorldHaptics Conference Editorial Board (2008–2011)
Area Chair/PC of MICCAI Conference (2008, 2012)
Program Chair of WorldHaptics (2007, 2009, 2011)
Co-Chair of 3rd International Symposium on Biomedical Simulation (2006)
Program Chair of EuroHaptics (2004)
Associate editor of IEEE International Conference on Robotics & Automation (2007–2012)
Associate editor of IEEE/RSJ Intl. Conference on Intelligent Robots & Systems (2008–2010)
Organizing committee of EuroHaptics (2001)
Chair of PHANToM Users Research Symposium (2000)

AWARDS

Best Technical Research Paper Award CGVC (2019)
Runner-Up UIBK Teaching Award LehrePlus!, Computer Science (2016)
Best Paper Runner-Up: EuroHaptics (2006), Haptic Symposium (2008, 2010, 2012),
IEEE VR (2013)

VirtaMed Swiss MedTech Award Runner-Up (2011), Swiss Economic Forum Award (2013)
Best Paper Award MICCAI (2007), Best Poster Award CTI MedTech (2010, 2013)
IEEE RAS Most Active Technical Committee Award (2007)
venture kick First price for VirtaMed business plan (2008)
International Society for Computer Assisted Orthopedic Surgery (CAOS) Award (2006)
ETH-TIT Award for excellent young scientists (2003)
European Community/U.S. Department of Education (FIPSE) Scholarship (1998)

ACADEMIC DUTIES, SOCIETIES

Member of Senate List SPAF, UIBK (since 2023)
MIP Curriculum Commission (Mathematics, Informatics, Physics), UIBK (since 2022)
Member of MIP Faculty Board (Mathematics, Informatics, Physics), UIBK (2014–2021)
Ethical Advisory Board, Vice Rectorate for Research, University of Innsbruck (since 2014)
BIT Joint School for Information Technology representative, UIBK (since April 2014)
Chair of tenure track professor search committee, HCI, Computer Science (2021–2022)
Chair of full professor search committee, Data Science, Computer Science (2016–2017)
Full professor search committee member, Computer Engineering, Security, Data Science; Department of Computer Science (2018–2019)
Faculty member of doctoral programme, IGDT-ART (since 2021)
Faculty member of doctoral programme, EU DOCC (since 2018)
Faculty member of doctoral programme, Computational Interdisciplinary Modelling (since 2014)
Member of three habilitation committees, Computer Science (2014–2017)
Organizer, Computer Science, University entrance qualification examination (since 2014)
IEEE Senior Member (2013)
Founder company VirtaMed, management board member (2007–2008)
Invited expert JSPS-SNSF Seminar on Computer-Aided Surgery (2007)
ETH D-ITET Departement Conference (DK) lecturer representative, ETH (2006–2012)
Scientific assistants representative at Computer Vision Lab, ETH (2001–2003)
ETH Promoting Future Mentoring program participant (2001)
ETH D-ITET DK representative of scientific staff (2000)
Member of IEEE, IEEE TCH, MICCAI Society, EuroHaptics Society

3 Projects, Acquired Funding

Duration	Description	Contribution	*UIBK* Part
2021–2026	IGDT-ART, doc.funds Doctoral Training Program, FWF, doctoral school	*co-proposer, faculty member*	(2010k EUR)
2022–2025	ABBVS, BRIDGE project, FFG	*co-proposer, project leader*	350k EUR
2019–2024	DOCC, Marie-Curie CoFund Doctoral Training Program, H2020, doctoral school	*co-proposer, faculty member*	(1220k EUR)
2016–2019	PROSUP, D-A-CH project, FWF-SNSF	*main proposer, national project leader*	255k EUR
2017–2020	DK-CIM PhD position, Rectorate scholarship, UIBK	*co-proposer, co-leader*	112k EUR
2017	SeeVision, BRIDGE project, FFG (granted only)	*proposal preparation, project leader*	(179k EUR)
2018–2019	FFG Talente Internship program, fellowship	*project leader*	5k EUR
2015	External sponsorship for new endowed professorship Data Science	*main proposer*	(450k EUR)
2015–2016	Visualization Lab, UIBK infrastructure project	*main proposer*	55k EUR
2015	ANTI-STReS, H2020 Marie-Curie Individual Fellowship (granted only)	*mentor, proposal preparation*	(167k EUR)

Duration	Description	Contribution	*ETH* Part
2011–2013	Rapid PRO, CTI project, BBT	*main proposer, project leader*	378k CHF
2010–2014	BEAMING, EU project, 7th FP ICT (http://beaming-eu.org/)	*proposal preparation, project partner*	532k EUR
2010–2011	Strategic Korean-Swiss Cooperative Program	*main proposer, project leader*	18k CHF
2010–2013	DDMOAR, SNSF project	*main proposer, project leader*	156k CHF

2009–2011	Arthros, CTI project, BBT	*main proposer, project leader*	411k CHF
2008–2011	PASSPORT, EU Projekt, 7th FP ICT (http://www.passport-liver.eu)	*proposal preparation, project partner*	432k EUR
2009–2011	NCCR transfer project, Virtual patient models, SNF	*main proposer, project leader*	390k CHF
2009–2010	Strategic Korean-Swiss Cooperative Program	*main proposer, project leader*	12k CHF
2006–2009	Immersence, EU project, 6th FP IST-027141 (http://www.immersence.info)	*proposal preparation, project partner*	890k EUR
2005–2009	SNF NCCR Co-Me 2, project 4 (http://www.hystsim.ethz.ch)	*main proposer, project leader*	1'892k CHF
2005–2008	CyberWalk, EU project, 6th FP IST-511092 (http://www.cyberwalk-project.org)	*proposal preparation, project partner*	353k EUR
2005–2006	SYNOS foundation project	*work leader*	90k CHF
2004–2008	INTUITION, EU project, 6th FP NoE IST/NMP-507248-2 (http://www.intuition-eunetwork.net)	*proposal preparation, project partner*	51k EUR
2002–2006	TOUCH-HapSys, EU project, 5th FP IST-2001-38040 (http://www.touch-hapsys.org)	*proposal preparation, project partner*	460k EUR
2001–2005	SNF NCCR Co-Me 1, project 8 (http://www.co-me.ch)	*proposal preparation, work leader*	3'817 CHF

4 Publications

BOOKS, CHAPTERS, PROCEEDINGS

[1] M. RITTER, M. HARDERS, and Y. KIM, Virtuelle und erweiterte Realitäten, in *Digitalwirtschaft: Technische, wirtschaftliche und gesellschaftliche Grundlagen*, edited by L. STAFFLER, B. EBERSBERGER, and A. JOBIN, Springer, 2024.

[2] Y. KIM and M. HARDERS, Haptically-Assisted Interfaces for Persons with Visual Impairments, in *Haptic Interfaces for Accessibility, Health, and Enhanced Quality of Life*, edited by T. McDANIEL and S. PANCHANATHAN, Springer Verlag, 2020.

[3] Y. KIM and M. HARDERS, Haptic Displays, in *Encyclopedia of Touch*, edited by T. PRESCOTT and E. AHISSAR, pp. 817–827, Springer Verlag, 2016.

[4] S. JEON, S. CHOI, and M. HARDERS, Fundamentals of Wearable Computers and Augmented Reality, in *Haptic Augmented Reality: Taxonomy, Research Status, and Challenges*, edited by W. BARFIELD and T. CAUDELL, pp. 227–256, CRC Press, 2015.

[5] S. JEON, S. CHOI, and M. HARDERS, Haptic Augmentation in Soft Tissue Interaction, in *Multisensory Softness*, edited by M. D. LUCA, pp. 241–257, Springer, 2014.

[6] M. HARDERS and R. RIENER, *Virtual Reality in Medicine*, Springer, 2012.

[7] M. HARDERS, R. HOEVER, S. PFEIFER, and T. WEISE, Data-Driven Haptic Rendering of Deformable Bodies, in *Immersive Multimodal Interactive Presence*, edited by C. GIACHRITSIS and A. PEER, pp. 131–155, Springer, 2012.

[8] M. HARDERS and G. SZEKELY, Simulatoren für die Ausbildung, in *Computerassistierte Chirurgie*, edited by P. SCHLAG, S. EULENSTEIN, M. KLEEMANN, and T. LANGE, Elsevier, 2010.

[9] M. HARDERS, P. LESKOVSKY, T. COOKE, M. ERNST, and G. SZEKELY, Design and Evaluation of Haptic Soft Tissue Interaction, in *Touch-HapSys Book*, edited by M. ERNST, M.Buss, M. UEBERLE, and A. BICCHI, Springer Verlag, 2008.

[10] M. HARDERS, Haptics in Medical Applications, in *Haptic Rendering: Algorithms and Applications*, edited by M. LIN and M. OTADUY, AK Peters, 2008.

[11] M. HARDERS, *Surgical Scene Generation for Virtual Reality-Based Training in Medicine*, Springer Verlag, 2008.

[12] M. HARDERS and G. SZEKELY, editors, *Proceedings of the 3rd International Symposium on Biomedical Simulation*, volume LNCS 4072 of *Lecture Notes in Computer Science*, Springer Verlag, Zurich, Switzerland, 2006.

[13] M. HARDERS and M. ERNST, editors, *EuroHaptics Special Issue*, volume 2 of *Transactions on Applied Perception*, ACM, 2005.

[14] P. CATTIN, M. HARDERS, R. SIERRA, and G. SZEKELY, Computer Supported Segmentation of Radiological Data, in *Handbook of Medical Image Analysis: Advanced Segmentation and Registration Models*, edited by J. SURI, D. WILSON, and S. LAXMINARAYAN, Kluwer Verlag, 2005.

[15] M. HARDERS and S. HUBER, editors, *Proceedings of the 2nd PHANToM Users Research Symposium*, volume 8 of *Selected Readings in Vision and Graphics*, Hartung-Gorre Verlag, Zurich, Switzerland, 2000.

[16] M. Harders, *Haptically Assisted Interactive 3D Segmentation of the Intestinal System*, volume 21 of *Selected Readings in Vision and Graphics*, Hartung-Gorre Verlag, 2003, PhD Dissertation ETH Zurich No. 14948.

JOURNAL PAPERS

[17] N. Rauch and M. Harders, Methods for User-Controlled Synthesis of Blood Vessel Trees in Medical Applications: A Survey, *IEEE Access* (2025).

[18] L. Kreitner, J. Paetzold, N. Rauch, C. Chen, A. Hagag, A. Fayed, S. Sivaprasad, S. Rausch, J. Weichsel, B. Menze, M. Harders, B. Knier, D. Rueckert, and M. Menten, Synthetic Optical Coherence Tomography Angiographs for Detailed Retinal Vessel Segmentation Without Human Annotations, *IEEE Transactions on Medical Imaging* **43**, 2061 (2024).

[19] W. Rauch, H. Schenk, N. Rauch, M. Harders, H. Oberacher, H. Insam, R. Markt, and N. Kreuzinger, Estimating Actual SARS-CoV-2 Infections from Secondary Data, *Scientific Reports* **14**, 6732 (2024).

[20] S. Fogarollo, R. Bale, and M. Harders, Towards liver segmentation in the wild via contrastive distillation, *International Journal of Computer Assisted Radiology and Surgery* **18**, 1143 (2023).

[21] J. Sappl, M. Harders, and W. Rauch, Machine learning for quantile regression of biogas production rates in anaerobic digesters, *Science of The Total Environment* **872** (2023).

[22] K. Wolf, A. Mayr, M. Nagiller, L. Saltuari, M. Harders, and Y. Kim, PoRi device: portable hand assessment and rehabilitation after stroke, *Automatisierungstechnik* **70**, 1003 (2023).

[23] N. Hamze, L. Nocker, N. Rauch, M. Walzthoeni, M. Harders, F. Carrillo, and P. Fuernstahl, Automatic Modelling of Human Musculoskeletal Ligaments - Framework Overview and Model Quality Evaluation, *Technology and Health Care* **30**, 65 (2022).

[24] J. Sappl, M. Harders, and W. Rauch, Vorhersage von Zeitserien der Methangasproduktion in anaeroben Faultuermen mit einem sogenannten 'Temporal Fusion Transformer'', *Oesterreichische Wasser- und Abfallwirtschaft* **73**, 329 (2021).

[25] M. Ritter, D. Schiffner, and M. Harders, Robust Reconstruction of Curved Line Structures in Noisy Point Clouds, *Visual Informatics* **5**, 1 (2021).

[26] F. Zorilla, M. Ritter, J. Sappl, W. Rauch, and M. Harders, Accelerating Surface Tension Calculation in SPH via Particle Classification and Monte Carlo Integration, *Computers* **9**, 23 (2020).

[27] Q. Ha-Van, H. Schwendinger, Y. Kim, and M. Harders, Design and Characterization of an Actuated Drill Mockup for Orthopedic Surgical Training, *IEEE Transactions on Haptics*, (accepted; online early access) (2020).

[28] E. Zuenko and M. Harders, Wrinkles, Folds, Creases, Buckles: Small-Scale Surface Deformations as Periodic Functions on 3D Meshes, *IEEE Transactions on Visualization and Computer Graphics*, (accepted; online early access) (2019).

[29] A. Sianov and M. Harders, Exploring Feature-Based Learning for Data-Driven Haptic Rendering, *IEEE Transactions on Haptics* **11**, 388 (2018).

[30] Y. Kim, M. Harders, and R. Gassert, Identification of Vibrotactile Patterns Encoding Obstacle Distance Information, *IEEE Transactions on Haptics* **8**, 298 (2015).

[31] F. Fucentese, S. Rahm, K. Wieser, J. Spillmann, M. Harders, and P. Koch, Evaluation of a virtual-reality-based simulator using passive haptic feedback for knee arthroscopy, *Knee Surgery, Sports Traumatology, Arthroscopy* **23**, 1077 (2015).

[32] S. Jeon and M. Harders, Haptic Tumor Augmentation: Exploring Multi-Point Interaction, *IEEE Transactions on Haptics* **7**, 477 (2014).

[33] M. Seiler, J. Spillmann, and M. Harders, Data-Driven Simulation of Detailed Surface Deformations for Surgery Training Simulators, *IEEE Transactions on Visualization and Computer Graphics* **20**, 1379 (2014).

[34] J. Spillmann, S. Tuchschmid, and M. Harders, Adaptive Space Warping to Enhance Passive Haptics in a Knee Arthroscopy Surgical Simulator, *IEEE Transactions on Visualization and Computer Graphics* **19**, 626 (2013).

[35] J. Spillmann and M. Harders, Robust Interactive Collision Handling between Tools and Thin Volumetric Objects, *IEEE Transactions on Visualization and Computer Graphics* **18**, 1241 (2012).

[36] S. Jeon, S. Choi, and M. Harders, Rendering Virtual Tumors in Real Tissue Mock-Ups Using Haptic Augmented Reality, *IEEE Transactions on Haptics* **5**, 77 (2012).

[37] B. Fierz, J. Spillmann, I. Aguinaga, and M. Harders, Maintaining Large Time Steps in Explicit Finite Element Simulations using Shape Matching, *IEEE Transactions on Visualization and Computer Graphics* **18**, 717 (2012).

[38] L. Gutierrez, I. Aguinaga, M. Harders, and F. Ramos, Speeding Up the Simulation of Deformable Objects through Mesh Improvement, **23**, 425 (2012).

[39] M. Seiler, J. Spillmann, and M. Harders, Robust Interactive Cutting Based on an Adaptive Octree Simulation Mesh, *The Visual Computer* **27**, 519 (2011).

[40] M. D. Luca, B. Knoerlein, M. Ernst, and M. Harders, Effects of Visual-Haptic Asynchronies and Loading-Unloading Movements on Compliance Perception, *Brain Research Bulletin* **85**, 245 (2011).

[41] P. Fuernstahl, G. Szekely, C. Gerber, J. Hodler, and M. Harders, Computer-Assisted Reconstruction of Complex Proximal Humerus Fractures for Preoperative Planning, *Medical Image Analysis* (2010).

[42] I. Aguinaga, B. Fierz, J. Spillmann, and M. Harders, Filtering of High Modal Frequencies for Stable Real-Time Explicit Integration of Deformable Objects using the Finite Element Method, *Biophysics and Molecular Biology* **103**, 225 (2010).

[43] R. Hoever, M. D. Luca, and M. Harders, User-Based Evaluation of Data-Driven Haptic Rendering, *ACM Transactions on Applied Perception* **8**, 1 (2010).

[44] M. Seiler, J. Spillmann, and M. Harders, A Threefold Representation for the Adaptive Simulation of Embedded Deformable Objects in Contact, *Journal of WSCG* **18**, 89 (2010).

[45] B. Fierz, J. Spillmann, and M. Harders, Stable Explicit Integration of Deformable Objects by Filtering High Modal Frequencies, *Journal of WSCG* **18**, 81 (2010).

[46] A. Schweizer, P. Fuernstahl, M. Harders, G. Szekely, and L. Nagy, Complex Radius Shaft Malunion: Osteotomy with Computer-Assisted Planning, *Hand* **5**, 171 (2010).

[47] J. Fornaro, M. Keel, M. Harders, B. Marincek, G. Szekely, and T. Frauenfelder, An Interactive Surgical Planning Tool for Acetabular Fractures: Initial Results, *Journal of Orthopaedic Surgery and Research* **5**, 1 (2010).

[48] J. Spillmann and M. Harders, Inextensible Elastic Rods with Torsional Friction based on Lagrange Multipliers, *Computer Animation and Virtual Worlds* **21**, 561 (2010).

[49] M. Bajka, S. Tuchschmid, D. Fink, G. Szekely, and M. Harders, Establishing Construct Validity of a Virtual Reality Training Simulator for Hysteroscopy via a Multi Metric Scoring System, *Surgical Endoscopy* **24**, 79 (2009).

[50] P. Niederer, S. Weiss, R. Caduff, M. Bajka, G. Szekely, and M. Harders, Uterus Models for Use in Virtual Reality Hysteroscopy Simulators, *European Journal of Obstetrics & Gynecology and Reproductive Biology* **144**, S90 (2009).

[51] R. Hoever, G. Kosa, G. Szekely, and M. Harders, Data-Driven Haptic Rendering – from Viscous Fluids to Visco-Elastic Solids, *IEEE Transactions on Haptics* **2**, 15 (2009).

[52] S. Suter, M. Harders, C. Papageorgopoulu, G. Szekely, and F. Ruehli, Standardized and Semiautomated Harris Lines Detection, *American Journal of Physical Anthropology* **137**, 362 (2008).

[53] S. Tuchschmid, M. Bajka, D. Szczerba, B. Lloyd, G. Szekely, and M. Harders, Modelling Intravasation of Liquid Distension Media in Surgical Simulators, *Medical Image Analysis* **12**, 567 (2008).

[54] M. Harders, G. Bianchi, B. Knoerlein, and G. Szekely, Calibration, Registration, and Synchronization for High Precision Augmented Reality Haptics, *Transactions on Visualization and Computer Graphics* **15**, 138 (2009).

[55] M. Bajka, S.Tuchschmid, M. Streich, D. Fink, G. Szekely, and M. Harders, Evaluation of a New Virtual Reality Training Simulator for Hysteroscopy, *Surgical Endoscopy* **23**, 2026 (2009).

[56] M. Harders, D. Bachofen, M. Bajka, M. Grassi, B. Heidelberger, R. Sierra, U. Spaelter, D. Steinemann, M. Teschner, S. Tuchschmid, J. Zatonyi, and G. Székely, Virtual Reality Based Simulation of Hysteroscopic Interventions, *Presence: Teleoperators and Virtual Environments* **17**, 441 (2008).

[57] C. Basdogan, M. Sedef, M. Harders, and S. Wesarg, VR-Based Simulators for Training in Minimally Invasive Surgery, *IEEE Computer Graphics and Applications* **27**, 54 (2007).

[58] B. Lloyd, G. Szekely, and M. Harders, Identification of Spring Parameters for Deformable Object Simulation, *IEEE Transactions on Visualization and Computer Graphics* **13**, 1081 (2007).

[59] M. Harders and G. Szekely, Enhancing Human Computer Interaction in Medical Segmentation, *Proceedings of the IEEE* **91**, 1430 (2003).

[60] M. Harders, S. Wildermuth, and G. Szekely, New Paradigms for Interactive 3D Volume Segmentation, *Journal of Visualization and Computer Animation* **13**, 85 (2002).

CONFERENCES (PEER-REVIEWED)

[61] S. Fogarollo, Y. Scharll, R. Bale, and M. Harders, Learning Deformable Intra-Patient Liver Registration with Graph Cross-Attention, in *Biomedical Image Registration: MICCAI Workshop*, pp. 73—85, 2024.

[62] S. Fogarollo, Y. Scharll, R. Bale, and M. Harders, Towards Fast and Accurate Non-rigid Liver Fusion, in *Biomedical Image Registration: MICCAI Workshop*, pp. 358––369, 2024.

[63] A. Moravova, R. Bale, and M. Harders, Combined Method for Segmentation of Multiple Needles in 3D Liver CT, in *Current Directions in Biomedical Engineering*, pp. 105–108, 2023.

[64] J. Mueller-Huschke, M. Ritter, and M. Harders, Scene Synthesis with Automated Generation of Textual Descriptions, in *Proceedings of Eurographics*, pp. 33–36, 2022.

[65] N. Rauch and M. Harders, Interactive Synthesis of 3D Geometries of Blood Vessels, in *Proceedings of Eurographics*, pp. 13–16, 2021.

[66] M. Ritter, D. Schiffner, and M. Harders, Visual Analysis of Point Cloud Neighborhoods via Multi-Scale Geometric Measures, in *Proceedings of Eurographics*, 2021.

[67] F. Zorrilla, J. Sappl, W. Rauch, and M. Harders, Acceleration of Surface Tension Calculation in SPH via Classification and Monte-Carlo Estimation, in *Computer Graphics & Visual Computing, Eurographics Association*, 2019.

[68] J. Sappl, F. Zorrilla, W. Rauch, and M. Harders, Speedup of the Solution to Poisson's Equation by Machine Learning Methods, in *IWA Symposium on Modelling and Integrated Assessment – Watermatex*, 2019.

[69] D. Raitt, P. Fairhurst, C. Michael, Z. Melkes, M. Harders, and Y. Kim, OCTA Display – An Eight-Triangle-Surface, Pin-Actuated Fingertip Shape Display, in *Proc. of WorldHaptics*, pp. 479–484, 2019.

[70] J. Sappl, M. Harders, and W. Rauch, Maschinelles Lernen in der Siedlungswasserwirtschaft, in *Oesterreichische Wasser- und Abfallwirtschaft*, pp. 359–368, 2019.

[71] S. Spiss, M. Siess, Y. Kim, and M. Harders, Effect of Touch Stimuli on Proprioceptive Recalibration During Upper-Limb Rotation in Virtual Reality Mirror Therapy, in *Proc. of BioRob*, pp. 279–284, 2018.

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[73] Y. Kim, D. Sadikhov, K. Leuenberger, B. Choi, Y. Jeong, and M. Harders, Motion-Based Augmented Broadcasting System with Haptic Feedback, in *Proc. of AsiaHaptics*, pp. 375–381, 2016.

[74] S. Spiss, Y. Kim, S. Haller, and M. Harders, Comparison of Tactile Signals for Collision Avoidance on Unmanned Aerial Vehicles, in *Proc. of AsiaHaptics*, pp. 393–399, 2016.

[75] Q. Ha-Van and M. Harders, Improved Control Methods for Vibrotactile Rendering, in *Proc. of EuroHaptics*, pp. 217–228, 2016.

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ABSTRACTS

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5 Program Committees, Reviewing

JOURNALS

IEEE Transactions on Visualization and Computer Graphics (2004–2014)
IEEE Transactions on Robotics (2006–2017)
IEEE Computer Graphics and Applications (2009–2010)
IEEE Transactions on Instrumentation & Measurement (2010)
IEEE Transactions on Haptics (2010–2012, 2019)
IEEE Transactions on Medical Imaging (2004–2012)
IEEE Robotics and Automation Letters (2019)
IEEE Transactions on Human-Machine Systems (2018)
ASME Transactions Computing and Information Science in Engineering (2010)
ACM Transactions on Applied Perception (2004–2012)
Computer & Graphics (2016, 2019, 2020)
Biomechanics and Modeling in Mechanobiology (2015)
Computer Graphics Forum (2014)
Journal of Mechanical Engineering Science (2012)
Advances in Human-Computer Interaction (2011)
Computer Methods in Biomechanics and Biomedical Engineering (2010)
Computers in Biology and Medicine (2018)
Progress in Biophysics and Molecular Biology (2010)
Medical Physics (2010)
International Journal of Robotics Research (2006–2008)
Presence: Teleoperators and Virtual Environments (2004–2011)
Medical Image Analysis (2008, 2014–2015)
Medical Science Monitor (2007)
Technology and Health Care Journal (2006–2007)
Computer Methods and Programs in Biomedicine (2009)
Virtual Reality Journal (2005)

CONFERENCES

IEEE Virtual Reality Conference (2006–2015, 2020)
IEEE Symposium on 3D User Interfaces (2006–2013)
IEEE Haptics Symposium (2008–2018)
IEEE International Symposium on Haptic Audio-Visual Environments (2005–2011)
IEEE International Symposium on Mixed and Augmented Reality (2011–2012)
IEEE International Bioinformatics & Bioengineering (2007)
IEEE Engineering in Medicine and Biology (2007)
IEEE Conference on Information Visualization (2007)
IEEE International Symposium on Biomedical Imaging (2010–2013)
IEEE Visualization (2006–2007)
IEEE Symposium on Visual Analytics, Science and Technology (2007)
IEEE International Workshop on Haptic and Audio Interaction Design (2006–2007)
ACM SIGGRAPH (2014–2016, 2018)
ACM SIGGRAPH Asia (2008, 2011, 2014, 2020)

ACM SIGCHI Conference (2012–2013)
ACM Symposium on Virtual Reality Software & Technology (2007, 2015)
ACM Symposium on Applied Perception in Graphics and Visualization (2006–2010)
Medical Image Computing and Computer-Assisted Intervention (2005–2012, 2019)
Robotics Science and Systems Conference (2007, 2010)
International Symposium on Visual Computing (2007)
ASME World Conference on Innovative Virtual Reality (2011)
Joint IPT and Eurographics Virtual Environments Symposium (2007)
Joint Virtual Reality Conference (2010–2012)
Asia Haptics (2014)
Haptex Workshop (2007)
Symposium on Virtual Reality for Medicine & Surgery (2010)
Haptic Audio Visual Environments and their Applications (2005–2007)
International Symposium on Biomedical Simulation (2006, 2014)
Eurographics (2005)
EuroHaptics (2001–2010)

OTHER

EU Horizon Europe (2022–2024)
EU H2020 FET-Open (2019)
Swedish Foundation for Strategic Research (2019)
Deutsche Forschungsgemeinschaft (DFG) (2018)
Stiftung für Technologie, Innovation und Forschung Thüringen (2018)
Cancer Research UK (2017)
Swedish Foundation for Strategic Research (2016)
Italian Ministry for Education, University and Research (2014–2015)
Piscopia – Marie Curie Fellowship Programme (2015)
Natural Sciences and Engineering Research Council of Canada (2012)
Swiss National Science Foundation (2011, 2015, 2019)
National Research Council of Canada Genomics and Health (2010)
Dutch Technology Foundation (STW) (2010, 2012, 2015)
Research Grants Council (RGC) of Hongkong (2010)
Hongkong Innovation and Technology Support Program (ITSP) (2009)
Visualization program, Knowledge Foundation Schweden (2007)
Cambridge University Press books (2007)
CAOS International fellowship committee (2007–2008)
Reviewer Canadian Natural Sciences and Engineering Research Council (NSERC) (2006)
EU IST-FET reviewer 5th, 6th, and 7th FP (2002–2010)
WorldHaptics awards committee (2005)

6 Teaching

Since 2021	*Optimization and Numerical Computation*, graduate lecture at Department of Computer Science, University of Innsbruck
Since 2021	*Signal Processing and Computational Geometry*, graduate lecture at Department of Computer Science, University of Innsbruck
Since 2020	*Visual Computing*, undergraduate lecture at Department of Computer Science, University of Innsbruck
Since 2020	*Applied Mathematics in Computer Science*, undergraduate lecture at Department of Computer Science, University of Innsbruck
Since 2016	*Computer Haptics*, graduate lecture at Department of Computer Science, University of Innsbruck
Since 2015	*Physically-Based Simulation*, graduate lecture at Department of Computer Science, University of Innsbruck
Since 2014	*Advanced Computer Graphics*, undergraduate lecture at Department of Computer Science, University of Innsbruck
2014–2019	*Computer Graphics*, undergraduate lecture at Department of Computer Science, University of Innsbruck
Since 2014	*Einführung in das Wissenschaftliche Arbeiten*, undergraduate proseminar at Department of Computer Science, University of Innsbruck
2017, 2023	*Foundations of Scientific Visualization*, graduate/PhD lecture at Department of Computer Science, University of Innsbruck
2014	*Einführung in die Technische Informatik*, undergraduate lecture at Department of Computer Science, University of Innsbruck
Since 2014	*Vertiefungsseminare*, undergraduate seminars at Department of Computer Science, University of Innsbruck
Since 2014	*Masterseminare*, graduate seminars at Department of Computer Science, University of Innsbruck
2014–2015	*Seminar on Computer Haptics*, graduate seminar at Department of Computer Science, University of Innsbruck
2003–15, 18–19	*Virtual Reality in Medicine*, graduate lecture at Department of Information Technology and Electrical Engineering, ETH Zurich
2013	*Darwin Research Project*, 3rd Year Module, Department of Computer Science, University of Sheffield
2013	*Physically-Based Simulation in Computer Graphics*, MSc/4th Year Module, Department of Computer Science, University of Sheffield
2003–2007	*Surgical Simulation*, undergraduate PPS seminar at Department of Information Technology and Electrical Engineering, ETH Zurich
2009	*Computational Methods in Haptics*, symposium at USNCCM 2009, organizer, San Francisco, CA, USA
2008	*Integration of Haptics in Virtual Environments: from Perception to Rendering*, tutorial at IEEE VR 2008, organizer, Reno, NV, USA

2007	*Integration of Haptics in Virtual Environments: A Perception-Based Approach*, tutorial at IEEE VR 2007, organizer, Charlotte, NC, USA.
2006	*Perception-Based Haptic Rendering*, EuroHaptics 2006 tutorial, France
2004	Mechatronics seminar series on *Computer Haptics* at ETH Zurich, organizer
2003	Lecture on *Visualization in Medicine*, part of Nachdiplomstudium Medizinphysik at ETH Zurich
1996–2000	Teaching assistant at ETH Zurich, University of Hildesheim
1999–2000	*Computer Vision* I/II - D-ITET, ETH Zurich, teaching assistent
1996–1997	*Diskrete Strukturen* I/II - Inst. of Mathematics, Univ. of Hildesheim, TA

PHD STUDENTS

Advisor (University of Innsbruck):

Stefano Fogarollo	*(Fast, Non-rigid Image Fusion using Deep-Learning for Treatment Evaluation after Hepatic Thermal Ablation)*	Since Sep 2022
Stephanie Autherith	*(Procedural Generation of 3D Scenes from Text)*	Since Nov 2020
Stefan Spiss	*(Generation of Interactive 3D Videos with Omnidirectional MultiCamera Systems for Surgical Training)*	Since Feb 2021
Viktor Daropoulos	*(Machine Learning in Numerical Simulations)*	Since Mar 2020
Nikolaus Rauch	*(Distributed Hybrid Surgical Frameworks)*	Since Nov 2019
Johannes Sappl	*(Machine Learning in Fluid Simulation II)*	Since Dec 2017
Quang Van Ha	*(Touch Feedback in Simulated Surgical Interventions)*	2015–2019
Anatolii Sianov	*(Bimanual Data-Driven Haptic Rendering)*	2011–2019
Marcel Ritter	*Geometric Reconstruction and Visualization of Point Clouds by Second Order Tensor Neighborhoods*	PhD, Jun 2021

Advisor (ETH Zurich):

Martin Seiler	*Efficient Animation Techniques for Detailed Deformations*	PhD, Jul 2013
Basil Fierz	*Stabilizing Explicit Dynamic Finite Element Simulations*	PhD, Apr 2013
Benjamin Knoerlein	*Exploring Visuo-Haptic Augmented Reality for Training*	PhD, Jun 2011
Philipp Fuernstahl	*Computer Assisted Planning for Orthopedic Surgery*	PhD, Aug 2010
Bryn Lloyd	*Computational Modeling of Tumor Growth*	PhD, Apr 2010
Stefan Tuchschmid	*High Fidelity Surgical Simulator for Hysteroscopy*	PhD, Apr 2010
Raphael Hoever	*Recording and Data-Driven Rendering of Haptic Feedback*	PhD, Jan 2010
Peter Leskovsky	*Haptic Rendering of Frictional Tool-Tissue Contact*	PhD, Dec 2007
Christoph Spuhler	*Interactive Centerline Finding in Complex Tubular Structures*	PhD, Jun 2006
Gerald Bianchi	*Exploration of Augmented Reality Technology for Surgical Training Simulators*	PhD, Oct 2006

Xavier de Tinguy	*Haptic Rendering in Virtual Reality During Interaction with Tangibles*, IRISA Rennes, France – Thesis committee	PhD, Dec 2020 (expected)
Christoph Paulus	*Modelling and Real-Time Simulation of Topological Changes in Soft Tissue*, University of Strasbourg, France – Thesis evaluator	PhD, Apr 2017
Felix Paulano	*Advances in Identifying Osseous Fractured Areas and Virtually Reducing Bone Fractures*, University of Jaen, Spain – Thesis evaluator	PhD, Sep 2016
Raghu Prasad	*Force & Psychomotor-Based Assessment of Laparoscopic Skills in a Novel Virtual Reality Haptic Simulator*, Indian Institute of Technology Madras, India – Thesis evaluator	PhD, Oct 2015
Jun Wu	*Interactive Virtual Cutting of Elastically Deformable Bodies*, Technical University of Munich, Germany – Thesis committee	PhD, Mar 2015
Antonio Martinez	*Image Segmentation, 3D Reconstruction and Mesh Decomposition for Medical Applications*, University of Jaen, Spain – Thesis committee	PhD, May 2013
Loeiz Glondu	*Physically-Based and Real-Time Simulation of Brittle Fracture for Interactive Applications*, IRISA Rennes, France – Thesis committee	PhD, Nov 2012
Yiyi Wei	*Toward Real-Time Simulation of Aneurysm Coil Embolization Using the Discrete Exterior Calculus Method*, University of Lille, France – Thesis committee	PhD, Apr 2012
Evren Samur	*Systematic Evaluation Methodology and Performance Metrics for Haptic Interfaces*, Ecole Polytechnique Federale de Lausanne, Switzerland – Thesis committee	PhD, Mar 2010
Bhautik Joshi	*Model Generation and Interaction in Surgical Simulation*, University of New South Wales, Australia – Thesis committee	PhD, Jul 2007
Zahra Bounik	*(Soft Tissue Modelling for Surgical Simulators)*, Sahand Technical University, Iran – External advisor	Start in Aug 2016
Panagiotis Psonis	*(Human Knee Medical Data Processing)*, National Technical University of Athens, Greece – External advisor	Start in Oct 2009

ACADEMIC GUESTS

Zahra Bounik	PhD student, Sahand University of Technology, Iran	Sep 2015–Feb 2016
Arsen Abdulali	Master student, Kyung Hee University, South Korea	Aug 2015
Alvaro Salanueva	Bachelor student, University of Navarra, Spain	Jul–Aug 2015
Felix Paulano	PhD student, University of Jaen, Spain	Apr–Jul 2015
Harsheel Soin	Student, Indian Institute of Technology, India	May–Jul 2014
Jon Zubizarreta	Student, University of Navarra, Spain	Jun–Aug 2013
Robert Wilson	PhD student, Stanford University, USA	Jul–Nov 2011
Shunsuke Yoshimoto	PhD student, Osaka University, Japan	Jul–Sep 2011
Wael Abdelrahman	PhD student, Deakin University, Australia	Aug–Dec 2010
Luis Gutierrez	PhD student, Cinvestav Unidad Guadalajara, Mexico	Jun 2010–Jun 2011
Seokhee Jeon	PhD student, Pohang University of Science and Technology, Korea	Jan–Feb 2010
Iker Aguinaga	PostDoc, Centro de Estudios e Investigaciones Tecnicas de Gipuzkoa, Spain	Sep 2009–Dec 2010
Jordi Barrio	PhD student, Universidad Politecnica de Madrid, Spain	Jun–Jul 2009
Serge Prod'homme	Visiting scientist, University of Strasbourg, France	Apr–Sep 2009
Yeongmi Kim	PhD student, Gwangju Institute of Science and Technology, Korea	Dec 2008–Jun 2009
Sarthak Misra	PhD student, Johns Hopkins University, USA	Apr–May 2008
Katsuhito Akahane	PhD student, Tokyo Institute of Technology, Japan	Aug–Oct 2005

POSTDOCS

Marcel Ritter	PhD, University of Innsbruck, Austria	Since 2021
Ludovic Blache	PhD, University of Reims, France	2018–2021
Noura Hamze	PhD, University of Strasbourg, France	2016–2019
Mao Li	PhD, University of Western Australia, Australia	2016
Yann Savoye	PhD, University of Bordeaux, France	2014
Yeongmi Kim	PhD, GIST, South Korea	2013–2014
Jonas Spillmann	PhD, University of Freiburg, Germany	2008–2013
Seokhee Jeon	PhD, Pohang University of Science and Technology, South Korea	2010–2012

Mathias Schiestl	Master student	UIBK, *Artifact Removal*	*ongoing*
Zoltan Melkes	Master thesis	UIBK, *Haptic Navigation*	2024
Julian Müller-Huschke	Master thesis	UIBK, *Text-To-3D Scene*	2021
Stefan Spiss	Master thesis	UIBK, *Enhanced 3D Videos*	2021
Nikolaus Rauch	Master thesis	UIBK, *Vessel Textures*	2019
Jodok Huber	Master thesis	UIBK, *Interactive AR*	2019
Simon Senoner	Bachelor thesis	UIBK, *Haptic Navigation*	2024
Jakov Gaspar	Bachelor thesis	UIBK, *Learning Preconditioners*	2021
Alin Andersen	Bachelor thesis	UIBK, *LODs via Deep Learning*	2018
Daniel Gogl	Bachelor thesis	UIBK, *Tactile Rendering*	2018
Daniel Kopp	Bachelor thesis	UIBK, *Global Illumination*	2018
Maximilian Siess	Bachelor thesis	UIBK, *Limb Recalibration*	2018
Chong Lee	Bachelor thesis	UIBK, *Haptic Image Display*	2017
Lorenz Hasler	Bachelor thesis	UIBK, *Procedural City Modelling*	2017
Bernhard Fritz	Bachelor thesis	UIBK, *Procedural Mountains*	2016
Andreas Moritz	Bachelor thesis	UIBK, *Screen-Based Rendering*	2016
Carsten Fischer	Bachelor thesis	UIBK, *Low-Cost AR System*	2016
Stefan Spiss	Bachelor thesis	UIBK, *Quadcopter user interface*	2015
Florian Tischler	Bachelor thesis	UIBK, *Chain Light Effects*	2015
Manfred Moosleitner	Bachelor thesis	UIBK, *Vessels with L-systems*	2015
Manuel Kapferer	Bachelor thesis	UIBK, *Triangle Meshes Repair*	2015
Philipp Stiegernigg	Bachelor thesis	UIBK, *Real-time level-of-detail*	2015
Clemens Degasper	Bachelor thesis	UIBK, *SPH scene designer*	2015
Hannes Vieider	Bachelor thesis	UIBK, *Tactile rendering*	2015
Philip Salzmann	Bachelor thesis	UIBK, *Cascaded LPVs*	2015
Thomas Pluess	Master thesis	ETH Zurich, D-INFK	2011
Jürgen Fornaro	Master thesis	ETH Zurich, D-INFK	2009
Stephan Lütolf	Semester thesis	ETH Zurich, D-ITET	2009
Shaoting Zhang	Master thesis	Shanghai Jiao Tong Univ.	2007
Jügen Fornaro	Bachelor thesis	ETH Zurich, D-INFK	2006
David Serby	Diploma thesis	ETH Zurich, D-ITET	2001
Andrea Rutz	Semester thesis	ETH Zurich, D-ITET	2001
Mauro Foresti	Semester thesis	ETH Zurich, D-ITET	2001
Aleksandar Mrkaic	Semester thesis	ETH Zurich, D-ITET	2000
Christoph Ramseyer	Diploma thesis	ETH Zurich, D-ITET	2000

7 Presentations, Media

December 2020	*Haptic Mixed Reality – Introduction & Medical Applications*, KU Leuven, BE
June 2019	*Computer Haptics in Surgical Simulation*, Imperial College London, UK
April 2018	*Selected Activities in Interactive Graphics & Simulation*, University of Trento, Italy
November 2017	*Data-Driven Rendering in Surgical Simulation*, Linzer Forum Medizintechnik, Linz, Austria
October 2017	*Using Haptic Augmentation in Surgical Training Systems*, University of Basel, Switzerland
November 2016	*Computer Haptik*, Universität im Dorf, Ausservillgraten, Austria
June 2016	*Haptics For Intuitive Interfaces In Big Data*, CHIST-ERA Conference, Vienna, Austria
November 2014	*Augmented Haptics and Passive Haptics*, AsiaHaptics, Tsukuba, Japan
October 2014	*Recent Developments in Surgical Simulation - Haptic Augmentation and Passive Haptic Feedback*, European Congress of Neurosurgery, Prague, Czech Republic
December 2013	*Data-Driven Simulation of Detailed Surface Deformations for Surgery Training Simulators*, University College London, UK
July 2013	*Haptic Augmented Reality*, Vision Understanding Machine Intelligence Summer School, Porto, Portugal
October 2012	*Developments in Virtual and Augmented Reality Surgical Training*, French Association of Virtual, Augmented, Mixed Reality and 3D Interaction(AFRV), Strasbourg, France
September 2012	*Developments in Virtual and Augmented Reality Surgical Training*, Spanish Computer Graphics Conference, Jaen, Spain
May 2012	*Data-Driven Multimodal Record & Replay*, Next Generation Multimedia Research & Development, NYUAD, Abu Dhabi, United Arab Emirates
April 2012	*Computer-Based Surgical Simulation of Knee Arthroscopy*, Engineering for Biomedical Applications, Seoul, South Korea
December 2011	*Virtual Reality in Medicine – Recent Research and Future Directions*, University of Sheffield, United Kingdom
December 2010	*Virtual Reality in Medicine – Recent Research and Future Directions*, INRIA Lille, France
September 2010	*Recent Advances in Surgical Simulation: Ensuring Stability during Cutting Procedures*, Pohang University of Science and Technology (POSTECH), South Korea
September 2010	*Effects of Asynchronies on Compliance Perception in Visuo-Haptic Augmented Reality*, Trinity College Dublin, Ireland
September 2010	*Perceptual Effects in Visuo-Haptic Augmented Reality*, University of British Columbia, Canada
December 2009	*Recent Advances in Surgical Simulation*, International Conference on Mechatronics and Information Technology, Gwangju, South Korea

October 2009	*Visuo-Haptic Record/Replay of Person-to-Object Interaction*, IROS Workshop on Haptic Human Robot Interaction, Saint Louis, USA
October 2009	*Data-Driven Visuo-Haptic Object Acquisition and Rendering*, Pohang University of Science and Technology (POSTECH), South Korea
October 2009	*Data-Driven Visuo-Haptic Object Acquisition and Rendering*, Gwangju Institute of Science and Technology (GIST), South Korea
September 2008	*Keynote: Multisensory Interfaces and Cognitive Dynamics*, Tokyo, Japan
January 2008	*Statistische Modelle in der Chirurgiesimulation*, University Linz, Austria
January 2008	*HystSim – A Simulator for Hysteroscopic Interventions*, International Meeting for Simulation in Healthcare, San Diego, CA, USA
January 2008	*Deformation Computation via Statistical Models*, Symposium on Scientific Computing Applications in Surgical Simulation of Soft Tissues, UCLA, Los Angeles, CA, USA
December 2007	*Trainingsszenarios für die Chirurgiesimulation – Variabilität der Anatomie*, University Lübeck, Germany
October 2007	*Virtuelle Realität in der Medizin*, University Paderborn, Germany
September 2007	*Virtual and Augmented Reality for Surgical Simulation*, Joint JSPS-SNSF Seminar on Computer-Aided Surgery: Present State and Future Technical and Clinical Challenges, Osaka, Japan
July 2007	*Multi-Modal Augmented Reality in Medicine*, Merging Medicine and VR – HCI 2007 Session, Beijing, P.R. China
February 2007	*Design and Evaluation of a Surgical Simulator for Hysteroscopy*, Swiss Physical Society Annual Meeting, Zurich, Switzerland
January 2007	*Simulationen als Lernhilfe für angehende Ärzte*, Collegium Generale, University Bern, Switzerland
November 2006	*Immersive, VR based Hysteroscopy Training*, 3rd INTUITION International workshop, Stuttgart, Germany
August 2006	*Computer-Based Surgical Simulators for Training of Prospective Surgeons*, CSIRO ICT Centre, Mathematical and Information Sciences, North Ryde, Australia
April 2006	*Simulation Chirurgischer Eingriffe in der Hysteroskopie*, Automatisierungstechnische Verfahren für die Medizin Workshop, Rostock, Germany
June 2005	*Prototype Hysteroscopy Simulator for Procedural Training*, Computational Biology SIG, Heidelberg, Germany
February 2005	*Virtual Reality Based Surgical Training*, Precision and Intelligence Lab, Tokyo Institute of Technology, Tokyo, Japan
September 2004	*Towards a New Generation of Surgical Simulators*, INTUITION Workshop, Athens, Greece
July 2004	*Individual Scene Generation for Surgical Simulation*, ERC CISST Seminar, Johns Hopkins University, Baltimore, MD, USA
July 2004	*New Generation Surgical Simulators*, Virginia Modeling, Analysis and Animation Center, Norfolk, VA, USA
August 2003	*Towards New Generation Surgical Simulators*, Max Planck Institute for Biological Cybernetics, Tuebingen, Germany
May 2002	*Surgical Simulation*, University of Applied Sciences Seminar Series, Winterthur, Switzerland
May 2001	*Computer Haptics*, Zurich University of Applied Sciences Seminar Series, Winterthur, Switzerland

Simulierte Operationen an virtuellen Patient:innen	Magazin zukunft forschung	June 1, 2023
Using Electric Currents to Fool Ourselves Into Tasting Something We're Not	Smithsonian Online Magazine	Aug 15, 2018
Der digitale Patient im OP	Tiroler Tageszeitung	Aug 2, 2018
Virtuell operieren	wissenswert, Magazin der Universität Innsbruck	Jun 16, 2015
Künstliche Intelligenz: Können Computer Haptik?	Haptik-Blog, Touchmore	Sep 10, 2014
Vorgestellt: Computer lernen tasten	iPoint, Universität Innsbruck	Sep 04, 2014
Scotty lässt grüssen: EU-Forschungsprogramm untersucht das Beamen	Einstein, Swiss TV SRF	Jun 06, 2013
Der Tastsinn erobert die virtuelle Welt	SRF Online Report	Jun 06, 2013
Anfassen, was nicht da ist	Themenheft: Sinn, twen	Jun 10, 2011
Virtual reality becomes more literal	World Radio Switzerland	Aug 24, 2010
Virtual reality you can touch	ETH Life	Aug 16, 2010
Spitzenforschung Schweiz: Hightech im Operationssaal	Swiss Radio DRS	Aug 15, 2009
Start-ups nutzen Synergien für Take-off	Schweizer Arbeitgeber	Nov 6, 2008
Simulatoren für Chirurgen	Cash, Special: Innovation	Aug 14, 2008
Grâce à un logiciel novateur, VirtaMed veut réduire les erreurs chirurgicales	Le Temps	Apr 29, 2008
Doktertje Spelen op de Computer	Product Magazine	Jan 2006
Operations-Simulator	Swiss TV SFDRS, *Puls*	Oct 24, 2005
Chirurgen lernen am Simulator Gebärmutter-Operationen	German TV 3sat, *nano*	Oct 20, 2005
Wanderer zwischen künstlichen Welten	Handelsblatt	Aug 22, 2005
Virtueller Tastsinn geht der Medizin zur Hand	Tages-Anzeiger	Nov 28, 2004
Der Computer als Gehilfe des Chirurgen	Neue Zürcher Zeitung	Aug 2002
Gegen das Zittern	Technik, COOP Personalmagazin	Aug 2001
Operation Cyberspace	Handelszeitung	Nov 1, 2000
Haptik ergänzt Grafik und Sound	ETH Bulletin	Sep 23, 2000
Armdrücken mit der Cyberwelt	Computerworld	Aug 4, 2000

8 Personal Information

PERSONAL DATA

Age: 51

Citizenship: Swiss, German

Marital status: Married

Date of Birth: January 7, 1974

Place of Birth: Leer, Germany

Languages: German, English,
(Basic knowledge: Korean, Japanese, Dutch)

Other activities:

Private Pilot (FAA, EASA), Aerobatics
Sports (Scuba Diving, Snowboarding;
earlier: Football, Aikido)
Art (Guitar, Theater, Short movies)