

Curriculum Vitae

Prof. Dr.-Ing Andreas Kolb

Geb. am 04. Juni 1965 in Radolfzell am Bodensee

(Stand: 26. Februar 2018)

Schulbildung

07/82 – 06/85 Technisches Gymnasium Konstanz, Allgem. Hochschulreife
07/80 – 06/82 Berufsfachschule für Elektrotechnik Konstanz, Fachschulreife
07/75 – 06/80 Hauptschule in Radolfzell am Bodensee, Hauptschulabschluß

Akademischer Werdegang

seit 10/03 Professor für Computergraphik und Multimediasysteme (C4) an der Universität Siegen
10/98 – 09/03 Professor für Medieninformatik (C3) an der Fachhochschule Wedel
03/97 – 07/98 Lehrbeauftragter für Graphische Datenverarbeitung an der Fachhochschule Aalen
08/92 – 12/95 Promotion am Lehrstuhl für Graphische Datenverarbeitung der FAU
10/86 – 02/92 Studium der Mathematik an der Friedrich-Alexander Universität Erlangen–Nürnberg (FAU)

Berufliche Tätigkeit

01/96 – 09/98 Entwickler und Projektleiter bei debis Systemhaus Engineering GmbH, Leinfelden–Echterdingen
08/92 – 12/95 Angestellter am Informatik–Institut, Lehrstuhl für Graphische Datenverarbeitung der FAU
04/92 – 06/92 DV-Entwickler bei Siemens, Bereich Medizintechnik

Lehrgebiete

Computergraphik, Visualisierung, Maschinelles Sehen (Computer Vision) und Virtual Reality

Aktuelle Forschungsthemen

Simulationen auf Graphikhardware
Hardwarebeschleunigte 3D-Sensordatenverarbeitung und -fusion
Rendering und Beleuchtungssimulation auf Graphikhardware
Optimierung und -reduktion geometrischer Modelle

Koordinationen, Programm-Komitees

2017 Organization Committee: Dagstuhl Seminar on *Hyperspectral, Multispectral, and Multimodal (HMM) Imaging: Acquisition, Algorithms, and Applications*, Schloss Dagstuhl, Germany
2016 Int. Programmkomitee Eurographics Conference, Lissabon, Portugal
2014 Programm-Komitee: Int. Conf. on 3D Computer Vision (3DV)
2013 Organisations-Komitee: GCPR Workshop *Imaging New Modalities*, Saarland University
2013 Programm-Komitee: Vision, Modeling and Visualization (VMV), University Lugano, Switzerland
2013 Int. Programmkomitee Eurographics Conference, Girona, Spain

- 2012 Organization Committee: Dagstuhl Seminar on *3D Time-of-Flight Technologies*, Schloss Dagstuhl, Germany
- 2012 Programm-Komitee: Vision, Modeling and Visualization (VMV), University Magdeburg
- 2012 Int. Programmkomitee Eurographics Conference, Cagliari, Sardinia, Italy
- 2011 Programm-Komitee: Vision, Modeling and Visualization (VMV), Fraunhofer HHI, Berlin
- 2010 Local Chair: Vision, Modeling and Visualization (VMV), Siegen
- 2010 Int. Programmkomitee Eurographics Conference, Linköping, Sweden
- seit 2009 Sprecher des DFG Graduiertenkollegs “Imaging New Modalities” (GRK 1564)
- 2009 Paper Chair: DAGM Workshop Dynamic 3D Imaging, Universität Jena
- 2009 Programm-Komitee: Vision, Modeling and Visualization (VMV), Universität Braunschweig
- 2008 Organisations-Komitee: CVPR Workshop ToF-Camera based Computer Vision
- 2007 Organisations-Komitee: DAGM Workshop Dynamic 3D Imaging, Universität Heidelberg
- seit 2007 Programm-Komitee: GI VR/AR Workshop
- 2006 – 2010 Sprecher des DFG-Forschungspakets „Dynamisches 3D Sehen“ (PAK 73)
- 2003 Programm-Komitee: Open SG Forum
- 2003 Programm-Komitee: Web3D Symposium
- seit 2004 Mitglied im Lenkungsausschuss der GI-Fachgruppe *Geometry Processing*

Gutachter- und Editortätigkeit

- 2017 Co-editor of the special issue on *Imaging Depth Sensors—Sensors, Algorithms and Applications*, Sensor Journal, MPDI
- 2013 Co-editor *A State-of-the-Art Survey on Time-of-Flight and Depth Imaging: Sensors, Algorithms, and Applications*, Springer
- seit 2010 Editorial Board Member Journal *3D Research*, Springer
- 2010 Mitherausgeber des Tagungsbandes *Vision, Modeling and Visualization*, Eurographics Ass.
- 2010 Mitherausgeber der Sonderausgabe des Journals CVIU, Thema *Time of Flight Camera based Computer Vision*, Elsevier
- 2009 Mitherausgeber des Tagungsbandes *Dynamic 3D Imaging*, Springer
- seit 2007 DFG-Vertrauensdozent an der Universität Siegen
- 2006 – 2014 Editorial Board Member Journal *Simulation Practice & Theory (SIMPAT)*, Elsevier
- 2005 Herausgeber der Sonderausgabe des Journals SIMPAT, Thema *Programmable Graphics Hardware*
- Projekte Reviewer für DFG, MITACS¹, SNF²
- Publikationen Reviewer u.a. für: SIGGRAPH, Eurographics, ACM-TOG, CGF, CAD, CAGD, SIMPAT, IEEE-TVCG, IEEE-TSMC, IEEE-TGRS, IEEE-Vis, EG Symp. on Rendering

Mitgliedschaften

- seit 2004 Mitglied im NRW Zentrum für Sensorsysteme (ZESS)
- seit 2002 Mitglied bei ACM/SIGGRAPH
- seit 2001 Mitglied der EUROGRAPHICS Association

¹Mathematics of Information Technology and Complex Systems, Kanada

²Swiss National Science Foundation, Schweiz

seit 1998 Mitglied im GI-Fachbereich *Graphische Datenverarbeitung*

Universitäre Selbstverwaltung

05/15 – 03/17 Co-Sprecher des Forschungsbeirats der Naturwissenschaftlich-Technischen Fakultät der Universität Siegen
seit 02/15 Mitglied im Fakultätsrat der Naturwissenschaftlich-Technischen Fakultät der Universität Siegen
2015 Vorsitzender der Berufungskommission *Ubiquitous Computing*
seit 07/11 Mitglied im Forschungsbeirat der Naturwissenschaftlich-Technischen Fakultät der Universität Siegen
02/11 – 01/15 Prodekan für Forschung und Wissenschaftlichen Nachwuchs der Naturwissenschaftlich-Technischen Fakultät der Universität Siegen
04/10 – 02/11 Chief Information Officer (CIO) der Universität Siegen
seit 2009 Sprecher des DFG Graduiertenkollegs 1564 *Imaging New Modalities*
2009 – 2010 Mitglied im IT-Lenkungsausschuss der Universität Siegen
2008 – 2010 Mitglied im Fachbereichsrat *Elektrotechnik & Informatik*
2004 Vorsitzender der Berufungskommission *Medieninformatik*

Persönliche Daten

verheiratet, drei Kinder

Drittmittelprojekte

Die Angaben zu den Drittmitteln beinhalten keine Overheadmittel.

- [1] A. Kolb, S. Schubert, and V. Braun. Visually integrated clinical cooperation. DFG Sonderforschungsbereich 1187: Media of Cooperation, 2016-2020. individual project share ca. 280.000 EUR.
- [2] A. Kolb and R. Koch. Dynamic light fields. DFG Sachbeihilfe, grant Ko-2960-13/1, 2014-2018. individual project share ca. 217.000 EUR.
- [3] A. Kolb. PMD -modeling, -simulation, -evaluation & algorithms. DFG Sachbeihilfe (Transferprojekt), grant Ko-2960-12/1, 2014-2018. individual project share ca. 260.000 EUR.
- [4] A. Kolb. Robust sensor fusion and feature extraction. DFG Graduiertenkolleg 1564-2: Imaging New Modalities, 2014-2018. individual project share ca. 350.000 EUR.
- [5] A. Kolb. Multimodal 3D reconstruction and material classification. DFG Graduiertenkolleg 1564-2: Imaging New Modalities, 2014-2018. individual project share ca. 350.000 EUR.
- [6] U. Pietsch and A. Kolb. Development and application of a 2D-energy dispersive detectors for synchrotron and fel experiments. BMBF joint project, grant 05K10PSB, 2010-2013. individual project share 178.000 EUR.
- [7] P. Haring and A. Kolb. Interactive visualization and exploration of 3D-THz data. BMBF joint project LiveDetect3D, grant 13N11001, 2010-2012. individual project share 232.000 EUR.
- [8] A. Kolb and P. Haring. Interactive multifunctional confocal image analysis. DFG Sachbeihilfe, grant Ko-2960-10/1,2, 2010-2018. individual project share ca. 276.000 EUR.
- [9] A. Kolb. Contact-free acquisition of vehicle contours for controlling car-wash-systems using pmd sensors. AiF-Projekt, grant KF2383701RR9, 2010-2011. individual project share 158.000 EUR.
- [10] A. Kolb. Evaluation of the facet-eye principle. BMBF joint project, grant 16SV5267, 2010-2011. individual project share 65.000 EUR.
- [11] A. Kolb. Biometrics by multispectral scattering models. DFG Graduiertenkolleg 1564-1: Imaging New Modalities, 2009-2014. individual project share ca. 350.000 EUR.
- [12] A. Kolb. Visual analysis of multimodal sensor data. DFG Graduiertenkolleg 1564-1: Imaging New Modalities, 2009-2014. individual project share ca. 350.000 EUR.
- [13] A. Kolb. Partikel-based simulation of chemical micro sensors. University of Siegen Graduate School: Integral Hetero-Sensor Architectures for n-dimensionale (bio)chemical Analytics, 2007-2011. individual project share ca. 30.000 EUR.
- [14] A. Kolb and K.-D. Kuhnert. Real time acquisition of image based 3D models for object recognition. DFG research package Dynamic 3D Vision (PAK 73), grant Ko-2960-6/1,2, 2006-2011. individual project share ca. 260.000 EUR.
- [15] A. Kolb. 2D/3D data processing and fusion for pmd sensors. DFG research package Dynamic 3D Vision (PAK 73), grant Ko-2960-5/1,2, 2006-2011. individual project share ca. 260.000 EUR.
- [16] A. Kolb and O. Loffeld. Interactive processing and visualization of sar data. DFG research package Bistatic Exploration (PAK 59), grant Ko-2960-3/1,2, 2006-2011. individual project share ca. 195.000 EUR.
- [17] A. Kolb and P. Haring. Pmd simulation and modelling of dynamic environments. BMBF joint project Lynkeus, grant 16SV2296-310, 2006-2009. individual project share 217.000 EUR.

Betreute wissenschaftliche Arbeiten

Neben ca. 60 Bachelor-, Master- und Diplomarbeiten wurden folgende Dissertationen und Habilitationen von mir betreut:

- [1] D. Lefloch. *Real-Time Processing of Range Data Focusing on Environment Reconstruction*. PhD thesis, University of Siegen, 26.01.2018. (second reviewer: Prof. Dr. T. Weyrich, University College London, UK).
- [2] M. Pätzold. *Graphical Models and Simulation for THz-Imaging*. PhD thesis, University of Siegen, 24.01.2018. (second reviewer: Prof. Dr. P. Haring Bolívar, University of Siegen, Germany).
- [3] T. Hoegg. *Efficient Range and Image Data Processing – Algorithms and Software Paradigms*. PhD thesis, University of Siegen, 18.10.2017. (second reviewer: Prof. Dr. M. Stamminger, University of Erlangen, Germany).
- [4] M. Heredia Conde. *Compressive Sensing for the Photonic Mixer Device*. PhD thesis, University of Siegen, Center for Sensor Systems, 14.11.2016. (second reviewer).
- [5] H. Steiner. *Active Multispectral SWIR Imaging for Reliable Skin Detection and Face Verification*. PhD thesis, University of Siegen, Computer Graphics Group, 2.11.2016. (second reviewer: Prof. Dr. V. Blanz, University of Siegen, Germany).
- [6] A. Grote. *Integrale Betrachtung zur systematischen Definition von 3D Bildgebungssystemen in der Produktionstechnik*. PhD thesis, University of Siegen, Institute for High Frequency and Quantum Electronics, 4.10.2016. (second reviewer).
- [7] M. Keller. *Real-time Simulation of Time-of-Flight Sensors and Accumulation of Range*. PhD thesis, University of Siegen, Computer Graphics Group, 13.11.2015. (second reviewer: Prof. Dr. R. Koch, University of Kiel, Germany).
- [8] J. Orthmann. *Efficient SPH-based Simulation and Rendering of Fluid Transport Dynamics*. PhD thesis, University of Siegen, Computer Graphics Group, 14.11.2014. (second reviewer: Prof. Dr. M. Teschner, University of Freiburg, Germany).
- [9] D. Jung. *Depth Image-Based Rendering for Full Parallax Displays*. PhD thesis, University of Kiel, Institute of Computer Science, 7.11.2014. (second reviewer).
- [10] D. Zukic. *An Efficient Inflation Method for Segmentation of Medical 3D Images*. PhD thesis, University of Siegen, Computer Graphics Group, 8.9.2014. (second reviewer: Prof. Dr. G. Scheuermann, University of Leipzig, Germany).
- [11] D. Fiedler. *Beiträge zur Analyse, Modellierung und Kalibrierung von Kameras und 3D-Tiefensensoren*. PhD thesis, Technische Universität Dortmund, Computer Graphics Group, 18.03.2014. (second reviewer).
- [12] B. Langmann. *Wide Area 2D/3D Imaging: Development, Analysis and Applications*. PhD thesis, University of Siegen, Research Training Group GRK 1564, 30.10.2013. (second reviewer).
- [13] B. Labitzke. *Visualization and Analysis of Multispectral Image Data*. PhD thesis, University of Siegen, Research Training Group GRK 1564, 28.10.2013. (second reviewer: Prof. Dr. V. Blanz, University of Siegen, Germany).
- [14] O. Schwaneberg. *Concept, System Design, Evaluation and Safety Requirements for a Multispectral Sensor*. PhD thesis, University of Siegen, Research Training Group GRK 1564, 26.09.2013. (second reviewer: Prof. Dr. P. Haring-Bolívar, University of Siegen, Germany).

- [15] B. Drayton. *Algorithm and design improvements for indirect time of flight range imaging cameras*. PhD thesis, Victoria University of Wellington, NZ, 12.07.2013. (second reviewer).
- [16] U. Hahne. *Real-time depth imaging*. PhD thesis, TU Berlin, Computer Graphics Group, 03.05.2012. (second reviewer).
- [17] R. Fraedrich. *Interactive Visualization Techniques for Large-Scale Particle Simulations*. PhD thesis, TU München, Computer Graphics and Visualization Group, 10.04.2012. (second reviewer).
- [18] M. Droste. *Customizable Visualization in the Context of Metabolic Networks*. PhD thesis, Forschungszentrum Jülich, Systems Biotechnology Group, 02.12.2011. (second reviewer).
- [19] M. Lambers. *Interaktive Visualisierung und Exploration von SAR-Daten*. PhD thesis, University of Siegen, Computer Graphics Group, 01.07.2011. (second reviewer: Dr. habil. Karol Myszkowski, MPI Saarbrücken, Germany).
- [20] I. Schiller. *Dynamic 3D Scene Analysis and Modeling with a Time-of-Flight Camera*. PhD thesis, University of Kiel, Institute of Computer Science, 17.05.2011. (second reviewer).
- [21] I. Chiosa. *Efficient and High Quality Clustering*. PhD thesis, University of Siegen, Computer Graphics Group, 25.10.2010. (second reviewer: Prof. Dr. Mario Botsch, University of Bielefeld, Germany).
- [22] M. Lindner. *Calibration and Realtime Processing of Time-of-Flight Range Data*. PhD thesis, University of Siegen, Computer Graphics Group, 15.10.2010. (second reviewer: Prof. Dr. Reinhard Koch, University of Kiel, Germany).
- [23] M. Böhme. *Tracking Gaze and Human Activity*. PhD thesis, University of Lübeck, Inst. for Neuro- and Bioinformatics, 2010. (Tertiary Reviewer).
- [24] M. Winter. *Image-based incremental reconstruction, rendering and augmented visualization of Surfaces for endoscopic surgery*. PhD thesis, University of Erlangen, Department of Computer Science, 2010. (second reviewer).
- [25] C. Rezk-Salama. *Real-time volume visualization*. Habilitation at the University of Siegen, 2009.
- [26] N. Cuntz. *Real-time particle systems*. PhD thesis, University of Siegen, Computer Graphics Group, 2009. (second reviewer: Prof. Dr. Daniel Weiskopf, University of Stuttgart, Germany).
- [27] S. Todt. *Real-Time Rendering and Akquisition of spherical light fields*. PhD thesis, University of Siegen, Computer Graphics Group, 2009. (second reviewer: Prof. Dr. Günther Greiner, University of Erlangen, Germany).
- [28] J.-F. Evers-Senne. *Plenoptic Modelling and Rendering of Complex Rigid Scenes*. PhD thesis, University of Kiel, Institute of Computer Science, 2008. (second reviewer).
- [29] R. Reichard. *Ereignisorientierte Simulation einer Hochenergie-Kugelmühle*. PhD thesis, University of Siegen, Inst. for Simulation Technology, 2005. (second reviewer).
- [30] M. Groß. *Entwicklung eines Softwaresystems zur universellen Planung chirurgischer Eingriffe in 2D- und 3D Modalitäten*. PhD thesis, University of Siegen, Inst. for Automatic Control Engineering, 2004. (second reviewer).

Publikationen

Eine Übersicht meiner Publikationen findet sich unter anderem auf Google Scholar, Scopus und ResearchID.

Zeitschriftenartikel

- [1] M. Zollhöfer, P. Stotko, A. Görlitz, C. Theobalt, M. Nießner, R. Klein, and Kolb. A. State of the art on 3D reconstruction with RGB-D cameras. In *J. Computer Graphics Forum (Proc. Eurographics)(STAR)*, 2018. accepted for publication.
- [2] D. Presnov, M. Lambers, and A. Kolb. Robust camera pose estimation for mobile online scene reconstruction. *IEEE Sensors*, 2018. DOI 10.1109/JSEN.2018.2801878.
- [3] D. Bulczak, M. Lambers, and A. Kolb. Quantified, interactive simulation of AMCW ToF camera including multipath effects. *Sensors*, 18(1):13, 2018.
- [4] T. Geisler and A. Kolb. Pattern recognition of rough surfaces by using goniometric scattered light. *Metrology and Measurement Systems*, 2018. accepted for publication.
- [5] R. Winchenbach, H. Hochstetter, and A. Kolb. Infinite continuous adaptivity for incompressible SPH. In *ACM Trans. Graph. (Proc. SIGGRAPH)*, volume 36, pages 102:1–102:10, 2017.
- [6] D. Lefloch, M. Kluge, H. Sarbolandi, T. Weyrich, and A. Kolb. Comprehensive use of curvature for robust and accurate online surface reconstruction. *IEEE Trans. Pattern Anal. and Mach. Intell.*, 39(12):2349–2365, 2017.
- [7] F. Alghabi, S. Send, U. Schipper, A. Abboud, U. Pietsch, and Kolb. A. Fast gpu-based absolute intensity determination for energy-dispersive X-ray laue diffraction. *J. of Instrumentation*, 11(01):T01001, 2016.
- [8] H. Steiner, S. Sporrer, A. Kolb, and N. Jung. Design of an active multispectral SWIR camera system for skin detection and face verification. *Journal of Sensors, Special Issue zu Multispectral, Hyperspectral, and Polarimetric Imaging Technology*, 501, 2016. Article ID: 9682453; DOI: 10.1155/2016/9682453.
- [9] H. Sarbolandi, D. Lefloch, and A. Kolb. Kinect range sensing: Structured-light versus time-of-flight kinect. *J. Computer Vision and Image Understanding*, 13:1–20, 2015. DOI:10.1016/j.cviu.2015.05.006.
- [10] M. Lambers, S. Hoberg, and A. Kolb. Simulation of time-of-flight sensors for evaluation of chip layout variants. *IEEE Sensors Journal*, 15(7):4019–4026, 2015. DOI: 10.1109/JSEN.2015.2409816.
- [11] F. Alghabi, S. Send, U. Schipper, A. Abboud, N. Pashniak, U. Pietsch, and Kolb. A. Fast GPU-based spot extraction for energy-dispersive X-ray laue diffraction. *J. of Instrumentation*, 9(11):T11003, 2014.
- [12] Felix Heide, Lei Xiao, Andreas Kolb, Matthias Hullin, and Wolfgang Heidrich. Imaging in scattering media using correlation image sensors and sparse convolutional coding. *Optics Express*, 22(21):26338–26350, 2014.
- [13] D. Zukić, A. Vlasák, J. Egger, D. Hořínek, C. Nimsky, and A. Kolb. Robust detection and segmentation for diagnosis of vertebral diseases using routine MR images. *J. Computer Graphics Forum(Invited Paper)*, 33(6):190–204, 2014.

- [14] M. Pätzold, M. Kahl, T. Klinkert, A. Keil, T. Löffler, P. Haring Bolívar, and A. Kolb. Framework for hybrid synthetic aperture THz systems including simulation of thz-scattering. *IEEE Trans. Terahertz Science & Technology*, 3(5):625–634, 2013.
- [15] J. Bader, M. Pätzold, and A. Kolb. Constraint up-scaling for direct and global image components. *Journal of the WSCG*, 21(1):69–78, 2013.
- [16] T. Hoegg, D. Lefloch, and A. Kolb. Time-of-flight camera based 3d point cloud reconstruction of a car. *J. Computers in Industry*, 64(9):1099–1114, 2013.
- [17] L. Maier-Hein, P. Mountney, A. Bartoli, H. Elhawary, D. Elson, A. Groch, A. Kolb, M. Rodrigues, J. Sorger, S. Speidel, and D. Stoyanov. Optical techniques for 3D surface reconstruction in computer-assisted laparoscopic surgery. *Medical Image Analysis*, 17(8):974–996, 2013.
- [18] F. Heide, M. Rouf, M. Hullin, B. Labitzke, W. Heidrich, and A. Kolb. High-quality computational imaging through simple lenses. *ACM Trans. Graph. (presented at SIGGRAPH 2013)*, 32(5):149:1–149:14, 2013.
- [19] J. Egger, D. Zukić, B. Freisleben, A. Kolb, and C. Nimsky. Segmentation of pituitary adenoma: A graph-based method vs. a balloon inflation method. *J. Computer Methods and Programs in Biomedicine*, 110(3):268–278, 2013.
- [20] O. Schwaneberg, U. Köckemann, H. Steiner, S. Sporrer, A. Kolb, and N. Jung. Material classification through distance aware multispectral data fusion. *Measurement Science and Technology*, 24(4):045001, 2013.
- [21] J. Orthmann and A. Kolb. Temporal blending for adaptive SPH. *J. Computer Graphics Forum (presented at EUROGRAPHCS 2013)*, 31(8):2436–2449, 2012.
- [22] B. Labitzke, S. Bayraktar, and A. Kolb. Generic visual analysis for multi-and hyperspectral image data. *J. Data Mining and Knowledge Discovery - Special issue on Intelligent Interactive Data Visualization*, pages 117–145, 2012.
- [23] I. Chiosa and A. Kolb. GPU-based multilevel clustering. *IEEE Trans. on Visualization and Computer Graphics*, 17(2):132–145, 2011.
- [24] M. Lambers and A. Kolb. Dynamic terrain rendering. *J. 3D Research*, 1(4):1–8, 2010.
- [25] M. Lindner, I. Schiller, A. Kolb, and R. Koch. Time-of-flight sensor calibration for accurate range sensing. *J. Computer Vision and Image Understanding*, 114(12):1318–1328, 2010.
- [26] A. Kolb, E. Barth, R. Koch, and R. Larsen. Time-of-flight cameras in computer graphics. *J. Computer Graphics Forum*, 29(1):141–159, 2010.
- [27] N. Cuntz, A. Pritzkau, and A. Kolb. Time-adaptive lines for the interactive visualization of unsteady flow data sets. *J. Computer Graphics Forum*, 28(8):2165–2175, 2009.
- [28] J. Orthmann, C. Rezk-Salama, and A. Kolb. GPU-based responsive grass. In *Journal of WSCG*, volume 17, pages 65–72, 2009.
- [29] M. Keller and A. Kolb. Real-time simulation of time-of-flight sensors. *J. Simulation Practice and Theory*, 17:967–978, 2009.
- [30] S. Todt, M. Langer, C. Rezk-Salama, A. Kolb, and K. Kuhnert. Spherical light field rendering in application for analysis by synthesis. *Int. J. on Intell. Systems and Techn. and App., Special Issue on Dynamic 3D Imaging*, 5(3/4):304 – 314, 2008.
- [31] M. Lindner, M. Lambers, and A. Kolb. Sub-pixel data fusion and edge-enhanced distance refinement for 2D/3D images. *Int. J. on Intell. Systems and Techn. and App., Special Issue on Dynamic 3D Imaging*, 5(3/4):344 – 354, 2008.

- [32] S. Todt, C. Rezk-Salama, A. Kolb, and K.-D. Kuhnert. GPU-based spherical light field rendering with per-fragment depth correction. *J. Computer Graphics Forum*, 27(8):2081–2095, 2008.
- [33] N. Cuntz, D. Weiskopf, R. Strzodka, and A. Kolb. Particle level set advection for the interactive visualization of unsteady 3D flow. *J. Computer Graphics Forum (Proc. EuroVis)*, 27(3):719–726, 2008.
- [34] M. Lambers, H. Nies, and A. Kolb. Interactive dynamic range reduction for SAR images. *Geoscience and Remote Sensing Letters (GRSL)*, 5(3):507–511, 2008.
- [35] C. Rezk-Salama, S. Todt, and A. Kolb. Raycasting of light field galleries from volumetric data. *J. Computer Graphics Forum (Proc. EuroVis)*, 27(3):839–846, 2008.
- [36] C. Rezk-Salama and A. Kolb. Opacity peeling for direct volume rendering. In *J. Computer Graphics Forum (Proc. Eurographics)*, volume 25, pages 597–606, 2006.
- [37] R. Strzodka, M. Doggett, and A. Kolb. Scientific computation for simulations on programmable graphics hardware. *J. Simulation Practice & Theory*, 13(8):667–680, 2005.
- [38] L. Latta and A. Kolb. Homomorphic factorization of BRDF-based lighting computation. *ACM Trans. Graph. (Proc. SIGGRAPH)*, 21(3):509–516, 2002.
- [39] G. Greiner, A. Kolb, and A. Riepl. Scattered data interpolation using data-dependent optimization techniques. *Graphical Models*, 64:1–18, 2002.
- [40] A. Kolb, H. Pottmann, and H.-P. Seidel. Fair surface reconstruction using quadratic functionals. In *J. Computer Graphics Forum (Proc. Eurographics) '95*, volume 14, pages 469–479. Eurographics, Blackwell Publishers, 1995.
- [41] G. Greiner, A. Kolb, R. Pfeifle, H.-P. Seidel, M. Encarnaç o, and R. Klein. A platform for visualizing curves and surfaces. *Computer Aided Design*, 27:7:559–566, 1995.
- [42] A. Kolb and H.-P. Seidel. Interpolating scattered data with C^2 surfaces. *Computer Aided Design*, 27:4:277–282, 1995.

Herausgeberschaften/B ucher

- [1] M. Grzegorzek, C. Theobalt, R. Koch, and A. Kolb, editors. *Time-of-Flight and Depth Imaging. Sensors, Algorithms, and Applications*, volume 8200 of *LNCS*. Springer, 2013.
- [2] R. Larsen, E. Barth, and A. Kolb, editors. *Computer Vision and Image Understanding, Special issue on Time-of-Flight Camera Based Computer Vision*, volume 114. Elsevier, 2010.
- [3] R. Koch, A. Kolb, and C. Rezk-Salama, editors. *Proc. Vision, Modeling & Visualization (VMV)*. Eurographics Association, 2010.
- [4] A. Kolb and R. Koch, editors. *Proc. DAGM Workshop Dynamic 3D Imaging*, volume 5742 of *LNCS*. Springer, 2009.
- [5] K.-D. Kuhnert and A. Kolb, editors. *Int. J. Intelligent Systems Technologies & Applications, Special Issue: Int. Workshop Dynamic 3D Imaging*, volume 5. Inderscience, 2008.
- [6] A. Kolb, editor. *Simulation Modelling Practice and Theory (SIMPAT), special issue on programmable graphics hardware*, volume 13. Elsevier, 2005.

Buchkapitel

- [1] A. Kolb, J. Zhu, and R. Yang. *Digital Representations of the Real World: How to Capture, Model, and Render Visual Reality*, chapter Sensor fusion, pages 133–150. AK Peters / CRC Press, 2015.
- [2] A. Kolb and F. Pece. *Digital Representations of the Real World: How to Capture, Model, and Render Visual Reality*, chapter Range Imaging, pages 51–64. AK Peters / CRC Press, 2015.
- [3] D. Lefloch, R. Nair, F. Lenzen, H. Schäfer, L. Streeter, M. Cree, R. Koch, and A. Kolb. *Time-of-Flight and Depth Imaging*, volume 8200 of *LNCS*, chapter Technical Foundation and Calibration Methods for Time-of-Flight Cameras, pages 3–24. Springer, 2013.
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