

Curriculum Vitae

Prof. Dr.-Ing Andreas Kolb

Geb. am 04. Juni 1965 in Radolfzell am Bodensee

(Stand: 3. Januar 2012)

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

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 <i>Geometry Processing</i>

Gutachter- und Editortätigkeit

2010	Mitherausgeber des Tagungsbands <i>Vision, Modeling and Visualization</i> , Eurographics Ass.
2010	Mitherausgeber der Sonderausgabe des Journals CVIU, Thema <i>Time of Flight Camera based Computer Vision</i> , Elsevier
2009	Mitherausgeber des Tagungsbands <i>Dynamic 3D Imaging</i> , Springer
seit 2007	DFG-Vertrauensdozent an der Universität Siegen
seit 2006	Editorial Board Member Journal <i>Simulation Practice & Theory (SIMPAT)</i>
2005	Herausgeber der Sonderausgabe des Journals SIMPAT, Thema <i>Programmable Graphics Hardware</i>
Projekte	Reviewer für DFG, MITACS ¹ , SNF ²
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
seit 1998	Mitglied im GI-Fachbereich <i>Graphische Datenverarbeitung</i>

Universitäre Selbstverwaltung

seit 02/2011	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 <i>Imaging New Modalities</i>
2009 – 2010	Mitglied im IT-Lenkungsausschuss der Universität Siegen
2008 – 2010	Mitglied im Fachbereichsrat <i>Elektrotechnik & Informatik</i>
2004	Vorsitzender der Berufungskommission <i>Medieninformatik</i>

Persönliche Daten

verheiratet, drei Kinder

¹Mathematics of Information Technology and Complex Systems, Kanada

²Swiss National Science Foundation, Schweiz

Drittmittelprojekte

- [1] 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.
- [2] 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.
- [3] A. Kolb and P. Haring. Interactive Multifunctional Confocal Image Analysis. DFG Sachbeihilfe, grant Ko-2960-10/1, 2010-2012. individual project share ca. 130.000 EUR.
- [4] A. Kolb. Entwicklung einer berührungslosen Erfassung von Fahrzeugkonturen zur Steuerung von Kfz-Waschanlagen auf Basis von PMD-Sensoren. AiF-Projekt, grant KF2383701RR9, 2010-2011. individual project share 158.000 EUR.
- [5] A. Kolb. Evaluierung des Facettenaugenprinzips. BMBF joint project, grant 16SV5267, 2010-2011. individual project share 65.000 EUR.
- [6] A. Kolb. Biometrics by multispectral scattering models. DFG Graduiertenkolleg 1564: Imaging New Modalities, 2009-2014. individual project share ca. 358.000 EUR.
- [7] A. Kolb. Visual analysis of multimodal sensor data. DFG Graduiertenkolleg 1564: Imaging New Modalities, 2009-2014. individual project share ca. 358.000 EUR.
- [8] A. Kolb. Echtzeit-Akquisition bildbasierter 3D Modelle zur Objekterkennung. DFG research package Dynamic 3D Vision (PAK 73), grant Ko-2960-6/1, 2006-2011. individual project share ca. 260.000 EUR.
- [9] A. Kolb. 2D/3D Datenverarbeitung und -fusion auf Basis der PMD-Technologie. DFG research package Dynamic 3D Vision (PAK 73), grant Ko-2960-5/1, 2006-2011. individual project share ca. 260.000 EUR.
- [10] A. Kolb and O. Löffeld. Interaktive Verarbeitung und Visualisierung von SAR-Daten. DFG research package Bistatic Exploration (PAK 59), grant Ko-2960-3/1, 2006-2011. individual project share ca. 195.000 EUR.
- [11] A. Kolb and P. Haring. PMD-Simulation und dynamische Umgebungsmodellierung. BMBF joint project Lynkeus, grant 16SV2296-310, 2006-2009. individual project share 217.000 EUR.

Betreute wissenschaftliche Arbeiten

Neben ca. 45 Bachelor-, Master- und Diplomarbeiten wurden folgende Dissertationen und Habilitationen von mir betreut bzw. sind kurz vor der Einreichung:

- [1] M. Droste. *Customizable Visualization in the Context of Metabolic Networks*. PhD thesis, Forschungszentrum Jülich, Systems Biotechnology Group, 02.12.2011. (Second Supervisor).
- [2] M. Lambers. *Interaktive Visualisierung und Exploration von SAR-Daten*. PhD thesis, University of Siegen, Computer Graphics Group, 01.07.2011.
- [3] 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 Supervisor).
- [4] I. Chiosa. *Efficient and High Quality Clustering*. PhD thesis, University of Siegen, Computer Graphics Group, 25.10.2010.
- [5] M. Lindner. *Calibration and Realtime Processing of Time-of-Flight Range Data*. PhD thesis, University of Siegen, Computer Graphics Group, 15.10.2010.
- [6] M. Böhme. *Tracking Gaze and Human Activity*. PhD thesis, University of Lübeck, 2010. (Tertiary Reviewer).
- [7] 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 Supervisor).
- [8] C. Rezk-Salama. Real-time volume visualization. Habilitation at the University of Siegen, 2009.
- [9] N. Cuntz. *Real-time particle systems*. PhD thesis, University of Siegen, Computer Graphics Group, 2009.
- [10] S. Todt. *Real-Time Rendering and Akquisition of spherical light fields*. PhD thesis, University of Siegen, Computer Graphics Group, 2009.
- [11] J.-F. Evers-Senne. *Plenoptic Modelling and Rendering of Complex Rigid Scenes*. PhD thesis, University of Kiel, Institute of Computer Science, 2008. (Second Supervisor).
- [12] R. Reichard. *Ereignisorientierte Simulation einer Hochenergie-Kugelmühle*. PhD thesis, University of Siegen, SIM, 2005. (Second Supervisor).
- [13] M. Groß. *Entwicklung eines Softwaresystems zur universellen Planung chirurgischer Eingriffe in 2D- und 3D Modalitäten*. PhD thesis, University of Siegen, RST, 2004. (Second Supervisor).

Publikationen: Zeitschriften

- [1] I. Chiosa and A. Kolb. GPU-based multilevel clustering. *IEEE Trans. on Visualization and Computer Graphics*, 17(2):132–145, 2011.
- [2] M. Lambers and A. Kolb. Dynamic terrain rendering. *J. 3D Research*, 1(4):1–8, 2010.
- [3] 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.
- [4] 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.

- [5] 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.
- [6] J. Orthmann, C. Rezk-Salama, and A. Kolb. GPU-based responsive grass. In *Journal of WSCG*, volume 17, pages 65–72, 2009.
- [7] M. Keller and A. Kolb. Real-time simulation of time-of-flight sensors. *J. Simulation Practice and Theory*, 17:967–978, 2009.
- [8] 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.
- [9] 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.
- [10] 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.
- [11] 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. AR=31%.
- [12] 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.
- [13] 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. AR=31%.
- [14] 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. AR=17%.
- [15] R. Strzodka, M. Doggett, and A. Kolb. Scientific computation for simulations on programmable graphics hardware. *J. Simulation Practice & Theory*, 13(8):667–680, 2005. AR=19%.
- [16] L. Latta and A. Kolb. Homomorphic factorization of BRDF-based lighting computation. *ACM Trans. Graph. (Proc. SIGGRAPH)*, 21(3):509–516, 2002.
- [17] G. Greiner, A. Kolb, and A. Riepl. Scattered data interpolation using data-dependent optimization techniques. *Graphical Models*, 64:1–18, 2002.
- [18] 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. AR=41%.
- [19] G. Greiner, A. Kolb, R. Pfeifle, H.-P. Seidel, M. Encarnação, and R. Klein. A platform for visualizing curves and surfaces. *Computer Aided Design*, 27:7:559–566, 1995.
- [20] A. Kolb and H.-P. Seidel. Interpolating scattered data with C^2 surfaces. *Computer Aided Design*, 27:4:277–282, 1995.

Publikationen: Buchkapitel

- [1] J. Bader, B. Labitzke, M. Grzegorzec, and A. Kolb. *BIOMETRY 2010*, chapter Multispectral Pattern Recognition Techniques for Biometrics. Centrum Inżynierii Biomedycznej Gliwice, 2011.

- [2] D. Zukić, C. Rezk-Salama, and Andreas Kolb. *Studies in Computational Intelligence*, volume 240, chapter Classifying Volume Datasets Based on Intensities and Geometric Features, pages 63–85. Springer, 2009.
- [3] S. Todt, C. Rezk-Salama, and A. Kolb. *Virtuelle Welten als Basistechnologie für Kunst und Kultur*, chapter Virtuelle Rekonstruktion und Interaktive Exploration der Schlossanlage Dillenburg, pages 119–138. transscript Verlag, 2009.
- [4] A. Kolb, R. Leschke, and T. Reinhard. *Navigationen – Special Issue: Interaktionen*, chapter Interaktion – Ein Begriff zwischen den Wissenschaften, pages 81–102. Transkript Verlag, 2008.
- [5] K. Kuhnert, M. Langer, M. Stommel, and A. Kolb. *Vision Systems*, chapter Dynamic 3D Vision, pages 311–334. Advanced Robotic Systems, Vienna, 2007.
- [6] A. Kolb, C. Rezk-Salama, and J. Venus. *Navigationen – Special Issue: Display II Digital*, chapter Displaying Interplay - Entwicklungstrends der Mensch-Maschine Interaktion, pages 71–85. Transkript Verlag, 2007.
- [7] P. Slusallek, R. Klein, A. Kolb, and G. Greiner. An object-oriented approach for curves and surfaces. In P. Wisskirchen, editor, *Object-oriented and fixed programming paradigms*, pages 33–44. Springer, 1996.
- [8] A. Kolb, H. Pottmann, and H.-P. Seidel. Surface reconstruction based upon minimum norm networks. In M. Dæhlen, T. Lyche, and L.L. Schumaker, editors, *Math. Methods for Curves and Surfaces*, pages 293–304, Ulvik, Norway, 1995. Vanderbilt University Press.
- [9] Ph. Slusallek, R. Klein, A. Kolb, and G. Greiner. An object-oriented framework for curves and surfaces with applications. In P.J. Laurent, A. LeMéhauté, and L.L. Schumaker, editors, *Curves and Surfaces in Geometric Design*, pages 457–466, Boston, 1994. AK Peters.

Publikationen: Referierte Konferenzenbeiträge

Hinweis: Die Angabe „AR=x%“ bezeichnet den sogenannten *acceptance ratio*, d.h. die relative Anzahl der angenommenen zu den eingereichten Beiträgen, sofern diese Angaben bekannt sind.

- [1] J. Moll, C. Rezk-Salama, R.T. Schulte, T. Klinkert, C.-P. Fritzen, and A. Kolb. Interactive simulation and visualization of lamb wave propagation in isotropic and anisotropic structures. In *Int. Conf. on Damage Assessment of Structures (DAMAS)*, volume 305, page 012095, 2011.
- [2] M. Strickert, B. Labitzke, A. Kolb, and T. Villmann. Multispectral image characterization by partial generalized covariance. In *European Symp. on Artificial Neural Networks, Computational Intelligence and Machine Learning*, 2011. GCOI 28001100817300.
- [3] D. Zukić, J. Egger, M. Bauer, D. Kuhnt, B. Carl, B. Freisleben, A. Kolb, and C. Nimsy. Pituitary adenoma - preoperative volume determination. In *Proc. SPIE Medical Imaging*, 2011. accepted for publication.
- [4] J. Egger, D. Zukić, M. Bauer, D. Kuhnt, B. Carl, B. Freisleben, A. Kolb, and C. Nimsy. Comparison of two human brain tumor segmentation methods for mri data. In *Proc. Russian Bavarian Conf. on Bio-Medical Eng. (RBC)*, pages 9–13, 2010.
- [5] D. Zukić, J. Egger, M. Bauer, D. Kuhnt, B. Carl, B. Freisleben, A. Kolb, and C. Nimsy. Glioblastoma multiforme segmentation in mri data with a balloon inflation approach. In *Proc. Russian Bavarian Conf. on Bio-Medical Eng. (RBC)*, pages 40–44, 2010.

- [6] J. Orthmann, M. Keller, and A. Kolb. Topology-caching for dynamic particle volume raycasting. In *Proc. Vision, Modeling and Visualization*, pages 147–154, 2010.
- [7] L. Brückbauer, C. Rezk-Salama, and A. Kolb. Relighting spherical light fields with polynomial texture mapping. In *Proc. Vision, Modeling and Visualization*, pages 73–80, 2010.
- [8] S. Fuchs, S. Haddadin, M. Keller, S. Parusel, A. Kolb, and M. Suppa. Cooperative bin picking with time-of-flight camera and impedance controlled dlr light-weight robot iii. In *IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS)*, pages 4862–4867, 2010.
- [9] M. Banf, M. Barth, H. Schulze, J. Koch, A. Pritzkau, M. Schmidt, A. Daraban, S. Meister, R. Sandhöfer, V. Sotke, C. Rezk-Salama, and A. Kolb. On-demand creation of procedural cities. In *Proc. Game and Entertainment Technologies*, pages 69–76, 2010.
- [10] M. Lambers and A. Kolb. Visual assistance tools for interactive visualization of remote sensing data. In *IEEE Int. Geosc. & Remote Sensing Symp. (IGARSS)*, pages 4745–4748, 2010. ISBN: 978-1-4244-9566-5.
- [11] J. Orthmann, C. Rezk-Salama, and A. Kolb. Responsive real-time simulation of ground vegetation for games. In *Proc. GAMEON*, pages 30–37, 2009.
- [12] J. Orthmann, M. Keller, and A. Kolb. Integrating GPGPU functionality into scene graphs. In *Proc. Vision, Modeling and Visualization*, pages 233–242, 2009.
- [13] M. Keller, N. Cuntz, and A. Kolb. Interactive dynamic volume trees on the GPU. In *Proc. Vision, Modeling and Visualization*, pages 165–175, 2009.
- [14] S. Wenzel, J. Koch, U. Kelter, and A. Kolb. Evolution analysis with animated and 3D-visualizations. In *IEEE Int. Conf. on Software Maintenance (ICSM), Short Paper*, pages 475–478, 2009. DOI: <http://dx.doi.org/10.1109/ICSM.2009.5306279>.
- [15] M. Lindner and A. Kolb. Compensation of motion artifacts for Time-of-Flight cameras. In *Proc. Dynamic 3D Imaging*, volume 5742 of *LNCS*, pages 16–27. Springer, 2009.
- [16] D. Zukić, C. Rezk-Salama, and Andreas Kolb. Classification of 3d datasets using neural networks. In *Proc. Int. Conf. on Computer Graphics and Artificial Intelligence*, pages 53–62, 2009.
- [17] M. Lambers and A. Kolb. Gpu-based framework for distributed interactive 3d visualization of multimodal remote sensing data. In *IEEE Int. Geosc. & Remote Sensing Symp. (IGARSS)*, number 4, pages IV–57 – IV–60, 2009.
- [18] J. Chiosa and A. Kolb. Parallel mesh clustering. In *Eurographics Symp. on Parallel Graphics and Visualization*, pages 33–40, 2009.
- [19] A. Kolb, E. Barth, R. Koch, and R. Larsen. Time-of-flight sensors in computer graphics. In *Proc. Eurographics (State-of-the-Art Report)*, 2009.
- [20] S. Todt, C. Rezk-Salama, L. Brückbauer, and A. Kolb. Progressive light field rendering for web based data presentation. In *Proc. Workshop on Hyper-media 3D Internet*, pages 23–31, 2008.
- [21] A. Kolb, E. Barth, and R. Koch. ToF-sensors: New dimensions for realism and interactivity. In *IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), Workshop on ToF Camera based Computer Vision (TOF-CV)*, pages 1–6, 2008. DOI 10.1109/CVPRW.2008.4563159.
- [22] M. Lindner, A. Kolb, and T. Ringbeck. New insights into the calibration of TOF sensors. In *IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), Workshop on ToF Camera based Computer Vision (TOF-CV)*, pages 1–5, 2008. DOI 10.1109/CVPRW.2008.4563172.

- [23] S. Todt, C. Rezk-Salama, and A. Kolb. Light field rendering for games. In *Proc. Theory and Practice of Computer Graphics*, pages 27–33, 2008. Best Presentation Award.
- [24] M. Lambers and A. Kolb. Automatic point target detection for interactive visual analysis of SAR images. In *IEEE Int. Geosc. & Remote Sensing Symp. (IGARSS)*, volume 2, pages II–903 – II–906, 2008.
- [25] I. Chiosa and A. Kolb. Variational multilevel mesh clustering. In *Proc. IEEE Int. Conf. on Shape Modeling and Applications (SMI)*, pages 197–204, 2008. AR=42%.
- [26] M. Lambers and A. Kolb. Adaptive dynamic range reduction for SAR images. In *Proc. EUSAR*, pages 371–374, 2008.
- [27] T. Horz, A. Pritzkau, C. Rezk, S. Todt, and A. Kolb. Gaming technology in cultural heritage systems. In *Proc. GAMEON*, pages 147–151, 2007.
- [28] M. Lindner and A. Kolb. Calibration of the intensity-related distance error of the PMD ToF-camera. In *Proc. SPIE, Intelligent Robots and Computer Vision*, volume 6764, page 67640W, 2007. doi:10.1117/12.752808.
- [29] N. Cuntz and A. Kolb. Fast hierarchical 3D distance transforms on the GPU. In *Proc. Eurographics, Short-Paper*, pages 93–96, 2007. AR=41%.
- [30] S. Todt, C. Rezk-Salama, T. Horz, A. Pritzkau, and A. Kolb. An interactive exploration of the virtual stronghold Dillenburg. In *Proc. Eurographics, Cultural Heritage Paper*, pages 17–24, 2007.
- [31] M. Lindner, A. Kolb, and K. Hartmann. Data-fusion of PMD-based distance-information and high-resolution RGB-images. In *Int. Sym. on Signals Circuits & Systems (ISSCS), session on Algorithms for 3D TOF-cameras*, pages 121–124. IEEE, 2007.
- [32] M. Keller, J. Orthmann, A. Kolb, and V. Peters. A simulation-framework for time-of-flight sensors. In *Int. Sym. on Signals Circuits & Systems (ISSCS), session on Algorithms for 3D TOF-cameras*, pages 125–128. IEEE, 2007.
- [33] M. Lambers, A. Kolb, and H. Nies. GPU-based framework for interactive visualization of sar data. In *IEEE Int. Geosc. & Remote Sensing Symp. (IGARSS)*, pages 4076–4079. IEEE, 2007.
- [34] B. Streckel, B. Bartczak, R. Koch, and A. Kolb. Supporting structure from motion with a 3D-range-camera. In *Scandinavian Conf. Image Analysis (SCIA)*, pages 233–242, 2007. AR=38%.
- [35] N. Cuntz, M. Leidl, A. Kolb, C. Rezk-Salama, and M. Böttinger. GPU-based dynamic flow visualization for climate research applications. In *Proc. Simulation and Visualization*, pages 371–384, 2007.
- [36] C. Rezk-Salama, S. Todt, L. Brückbauer, T. Horz, T. Knoche, B. Labitzke, M. Leidl, J. Orthmann, H. Payer, M. Piotraschke, T. Schmiade, and A. Kolb. Game development as part of the computer science education. In *Proc. Games Conference*, pages 15–24, 2006.
- [37] M. Lindner and A. Kolb. Lateral and depth calibration of pmd-distance sensors. In *Proc. Int. Symp. on Visual Computing, LNCS*, pages 524–533. Springer, 2006. AR=23%.
- [38] J. Mehnert-Spahn, S. Steck, and A. Kolb. A cross-platform approach for user-interaction in virtual environments. In *Proc. 9. IFF Fachtagung zu Virtual Reality und Augmented Reality*, pages 321–328. Fraunhofer IFF, Magdeburg, 2006.

- [39] J. Ender, J. Klare, I. Walterscheid, A. R. Brenner, M. Weiß, C. Kirchner, H. Wilden, O. Löffel, A. Kolb, W. Wiechert, M. Kalkuhl, S. Knedlik, U. Gebhardt, H. Nies, K. Natroshvili, S. Ige, A. Medrano Ortiz, and A. Amankwah. Bistatic exploration using spaceborne and airborne SAR sensors: A close collaboration between FGAN, ZESS and FOMAAS. In *IEEE Int. Geosc. & Remote Sensing Symp. (IGARSS)*, pages 1828–1831. IEEE, 2006.
- [40] A. Kolb and C. Rezk-Salama. Efficient empty space skipping for per-pixel displacement mapping. In *Proc. Vision, Modeling and Visualization*, pages 407–414, 2005. AR=33%.
- [41] C. Rezk-Salama and A. Kolb. A vertex program for efficient box-plane intersection. In *Proc. Vision, Modeling and Visualization*, pages 115–122, 2005.
- [42] C. Bastuck, T. Hambürger, T. Hof, M. Keller, P. Kohlmann, J. Mehnert, S. Nowak, C. Rezk-Salama, and A. Kolb. An open and extensible framework for visualization. In *Proc. GI-Informatiktage*, pages 151–154. Gesellschaft für Informatik, 2005.
- [43] A. Kolb and N. Cuntz. Dynamic particle coupling for GPU-based fluid simulation. In *Proc. Symposium on Simulation Technique*, pages 722–727, 2005.
- [44] A. Kolb, L. Latta, and C. Rezk-Salama. Hardware-based simulation and collision detection for large particle systems. In *Proc. Graphics Hardware*, pages 123–131. ACM/Eurographics, 2004. AR=33%.
- [45] A. Kolb and L. John. Volumetric model repair for virtual reality applications. In *Proc. Eurographics, Short-Paper*, pages 249–256. University of Manchester, 2001. ISSN 1017-4656.
- [46] Ph. Slusallek, R. Klein, A. Kolb, and G. Greiner. An object-oriented approach to curves and surfaces. In *Proc. Fourth Eurographics Workshop on Object-Oriented Graphics*, pages 29–39, Sintra, Portugal, 1994.

Tutorials, Poster-Beiträge und Technische Berichte

- [1] R. Cespi, A. Kolb, and M. Lindner. Hand tracking based on hierarchical clustering of range data. Technical report, Computer Graphics Group, University of Siegen, 2011.
- [2] A. Kolb. Foundations of time-of-flight cameras and their application to surface reconstruction. MICCAI Workshop on Optical Techniques for 3D Surface Reconstruction in Computer-Assisted Laparoscopic Surgery, Sept. 2011.
- [3] A. Kolb, M. Lambers, S. Todt, N. Cuntz, and R. Rezk-Salama. Immersive rear projection on curved screens. IEEE VR (Poster-Session), 2009.
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