Curriculum Vitae

Prof. Dr.-Ing Andreas Kolb

Geboren 04. June 1965 in Radolfzell am Bodensee

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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

2019	Program Committee ACM/Eurographics Symposium on Computer Animation, Lissabon, Los Angeles, USA
2017	Organization Committee: Dagstuhl Seminar on *Hyperspectral, Multispectral, and Multimodal (HMM) Imaging: Acquisition, Algorithms, and Applications*, Schloss Dagstuhl, Germany
2016	Int. Program Committee Eurographics Conference, Lissabon, Portugal
2014	Programm Committee: Int. Conf. on 3D Computer Vision (3DV)
2013	Organization Computer: GCPR Workshop *Imaging New Modalities*, Saarland University
2013	Int. Program Committee Eurographics Conference, Girona, Spain
2012	Organization Committee: Dagstuhl Seminar on *3D Time-of-Flight Technologies*, Schloss Dagstuhl, Germany
2012	Int. Program Committee Eurographics Conference, Cagliari, Sardinia, Italy
2010	Local Chair: Vision, Modeling and Visualization (VMV), Siegen
2010	Int. Program Committee Eurographics Conference, Linkoping, Sweden
2009 –2018	Sprecher des DFG Graduiertenkollegs "Imaging New Modalities" (GRK 1564)
2009	Paper Chair: DAGM Workshop Dynamic 3D Imaging, Universität Jena
seit 2009	Program Committee: Vision, Modeling and Visualization (VMV), various locations in Germany
2008	Organization Committee: CVPR Workshop ToF-Camera based Computer Vision
2007	Organization Committee: DAGM Workshop Dynamic 3D Imaging, Universität Heidelberg
seit 2007	Program Committee: GI VR/AR Workshop
2006 – 2010	Sprecher des DFG-Forschungspakets „Dynamisches 3D Sehen" (PAK 73)
2003	Program Committee: Open SG Forum
2003	Program Committee: Web3D Symposium

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
2010 – 2020	Editorial Board Member Journal *3D Research*, Springer
2010	Mitherausgeber des Tagungsbands *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 Tagungsbands *Dynamic 3D Imaging*, Springer
2007 – 2015	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 EU ERC, DFG, DAAD, Studienstiftung des Deutschen Volkes, SNF[1], MITACS[2]

[1]Swiss National Science Foundation, Schweiz
[2]Mathematics of Information Technology and Complex Systems, Kanada

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 *Graphische Datenverarbeitung*

Universitäre Selbstverwaltung

seit 03/24	Prorektor für Forschung, Infrastruktur und Vernetzung der Universität Siegen
04/23 – 02/24	Sprecher des Departments „Elektrotechnik und Informatik“ der Naturwissenschaftlich-Technischen Fakultät der Universität Siegen
seit 07/22	Stv. Sprecher des Zentrums für Sensorsysteme (ZESS) der Universität Siegen
seit 11/19	DFG Vertrauensdozent der Universität Siegen
05/15 – 03/17	Co-Sprecher des Forschungsbeirats der Naturwissenschaftlich-Technischen Fakultät der Universität Siegen
02/15 – 02/24	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
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. Polymorphic scene representation for enhanced instant scene reconstruction. DFG Sachbeihilfe, grant Ko-2960-20/1, 2023-2026. individual project share ca. 265.000 EUR.

[2] A. Kolb. Forward and differentiable simulation of L2S sensor data. DFG Research Unit 5336 – Learning to Sense (L2S), 2023-2026. individual project share ca. 350.000 EUR.

[3] A. Kolb. Comprehensive adaptive simulation of SPH-based fluids. DFG Sachbeihilfe, grant Ko-2960-15/1,2, 2018-2024. individual project share ca. 392.000 EUR.

[4] A. Kolb, S. Schubert, and V. Braun. Visually integrated clinical cooperation. DFG Sonderforschungsbereich 1187: Media of Cooperation, 2016-2023. individual project share ca. 540.000 EUR.

[5] A. Kolb and M. Pedersen. 3D spectral visualization of cultural heritage. DAAD Program of the project-related exchange of persons; exchange project with the NTNU, Norway, 2016. individual project share ca. 6.000 EUR.

[6] A. Kolb and R. Koch. Dynamic light fields. DFG Sachbeihilfe, grant Ko-2960-13/1, 2014-2020. individual project share ca. 217.000 EUR.

[7] A. Kolb. PMD -modeling, -simulation, -evaluation & algorithms. DFG Sachbeihilfe (Transferprojekt), grant Ko-2960-12/1, 2014-2019. individual project share ca. 260.000 EUR.

[8] A. Kolb. Robust sensor fusion and feature extraction. DFG Graduiertenkolleg 1564-2: Imaging New Modalities, 2014-2018. individual project share ca. 350.000 EUR.

[9] A. Kolb. Multimodal 3D reconstruction and material classification. DFG Graduiertenkolleg 1564-2: Imaging New Modalities, 2014-2018. individual project share ca. 350.000 EUR.

[10] 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.

[11] 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.

[12] 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.

[13] A. Kolb. Contact-free acquistion of vehicle contours for controling car-wash-systems using PMD sensors. AiF-Projekt, grant KF2383701RR9, 2010-2011. individual project share 158.000 EUR.

[14] A. Kolb. Evaluation of the facet-eye principle. BMBF joint project, grant 16SV5267, 2010-2011. individual project share 65.000 EUR.

[15] A. Kolb. Biometrics by multispectral scattering models. DFG Graduiertenkolleg 1564-1: Imaging New Modalities, 2009-2014. individual project share ca. 350.000 EUR.

[16] A. Kolb. Visual analysis of multimodal sensor data. DFG Graduiertenkolleg 1564-1: Imaging New Modalities, 2009-2014. individual project share ca. 350.000 EUR.

[17] 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.

[18] 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.

[19] 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.

[20] 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.

[21] 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. Presnov. *Visually Integrated Clinical Cooperation – Algorithmic Concepts, Implementation and Evaluation.* PhD thesis, University of Siegen, Computer Graphics Group, 13.12.2023. (second reviewer: Prof. Dr. V. Blanz, University of Siegen, Germany).

[2] T.W. Wong. *Optimization-based Enhancement of THz Data and Image.* PhD thesis, University of Siegen, Computer Graphics Group, 05.05.2023. (second reviewer: Prof. Dr. P. Haring Bolívar, University of Siegen, Germany).

[3] M. Rückert. *Real-Time Exploration of Photorealistic Virtual Environments.* PhD thesis, University of Erlangen-Nuremberg, Chair for Visual Computing, 13.04.2023. (second reviewer).

[4] S. Seele. *Attentive Cognitive Agents for Real-time Virtual Environments.* PhD thesis, University of Siegen, Computer Graphics Group, 04.05.2022. (second reviewer: Prof. Dr. R. Herpers, Hochschule Bonn-Rhein-Sieg, Prof. Dr. M. Grzegorzek, University of Lübeck, Germany).

[5] R. Winchenbach. *Spatially Adaptive Smoothed Particle Hydrodynamics.* PhD thesis, University of Siegen, Computer Graphics Group, 16.02.2022. (second reviewer: Prof. Dr. N. Thuerey, Technical University Munich (TUM), Germany).

[6] M. Lambers. Selected topics in interactive computer graphics. Habilitation at the University of Siegen, Computer Graphics Group, 2021.

[7] H. Hochstetter. *Efficient Rendering and Simulation of Fluid Transport and Phase Transitions in SPH-based Fluids.* PhD thesis, University of Siegen, Computer Graphics Group, 22.05.2019. (second reviewer: Prof. Dr. R. Westermann, Technical University Munich (TUM), Germany).

[8] V. N. Xuan. *Super-resolution Compressed Sensing for Resolving Time-of-Flight Multipath Interferences.* PhD thesis, University of Siegen, Center for Sensor Systems, 30.08.2018. (second reviewer).

[9] S. Hartmann. *Example-Based Urban Modeling.* PhD thesis, University of Bonn, Institute for Computer Science II, 20.07.2018. (second reviewer).

[10] D. Lefloch. *Real-Time Processing of Range Data Focusing on Environment Reconstruction.* PhD thesis, University of Siegen, Computer Graphics Group, 26.01.2018. (second reviewer: Prof. Dr. T. Weyrich, University College London, UK).

[11] M. Pätzold. *Graphical Models and Simulation for THz-Imaging.* PhD thesis, University of Siegen, Computer Graphics Group, 24.01.2018. (second reviewer: Prof. Dr. P. Haring Bolívar, University of Siegen, Germany).

[12] T. Hoegg. *Efficient Range and Image Data Processing – Algorithms and Software Paradigms.* PhD thesis, University of Siegen, Computer Graphics Group, 18.10.2017. (second reviewer: Prof. Dr. M. Stamminger, University of Erlangen, Germany).

[13] M. Heredia Conde. *Compressive Sensing for the Photonic Mixer Device.* PhD thesis, University of Siegen, Center for Sensor Systems, 14.11.2016. (second reviewer).

[14] 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).

[15] 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).

[16] 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).

[17] 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).

[18] D. Jung. *Depth Image-Based Rendering for Full Parallax Displays*. PhD thesis, University of Kiel, Institute of Computer Science, 7.11.2014. (second reviewer).

[19] 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).

[20] D. Fiedler. *Beiträge zur Analyse, Modellierung und Kalibrierung von Kameras und 3D-Tiefensensoren*. PhD thesis, Technische Univesität Dortmund, Computer Graphics Group, 18.03.2014. (second reviewer).

[21] B. Langmann. *Wide Area 2D/3D Imaging: Development, Analysis and Applications*. PhD thesis, University of Siegen, Center for Sensor Systems, 30.10.2013. (second reviewer).

[22] B. Labitzke. *Visualization and Analysis of Multispectral Image Data*. PhD thesis, University of Siegen, Computer Graphics Group, 28.10.2013. (second reviewer: Prof. Dr. V. Blanz, University of Siegen, Germany).

[23] O. Schwaneberg. *Concept, System Design, Evaluation and Safety Requirements for a Multispectral Sensor*. PhD thesis, University of Siegen, Computer Graphics Group, 26.09.2013. (second reviewer: Prof. Dr. P. Haring-Bolívar, University of Siegen, Germany).

[24] 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).

[25] U. Hahne. *Real-time depth imaging*. PhD thesis, TU Berlin, Computer Graphics Group, 03.05.2012. (second reviewer).

[26] R. Fraedrich. *Interactive Visualization Techniques for Large-Scale Particle Simulations*. PhD thesis, TU München, Computer Graphics and Visualization Group, 10.04.2012. (second reviewer).

[27] M. Droste. *Customizable Visualization in the Context of Metabolic Networks*. PhD thesis, Forschungszentrum Jülich, Systems Biotechnology Group, 02.12.2011. (second reviewer).

[28] 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).

[29] 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).

[30] 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).

[31] 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).

[32] M. Böhme. *Tracking Gaze and Human Activity.* PhD thesis, University of Lübeck, Inst. for Neuro- and Bioinformatics, 2010. (tertiary reviewer).

[33] 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).

[34] C. Rezk-Salama. Real-time volume visualization. Habilitation at the University of Siegen, Computer Graphics Group, 2009.

[35] 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).

[36] 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).

[37] J.-F. Evers-Senne. *Plenoptic Modelling and Rendering of Complex Rigid Scenes.* PhD thesis, University of Kiel, Institute of Computer Science, 2008. (second reviewer).

[38] R. Reichard. *Ereignisorientierte Simulation einer Hochenergie-Kugelmühle.* PhD thesis, University of Siegen, Inst. for Simulation Technology, 2005. (second reviewer).

[39] 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] R. Winchenbach, M. Moeller, and A. Kolb. Lipschitz-agnostic, efficient and accurate rendering of implicit surfaces. *J. The Visual Computer*, 2023. DOI: 10.1007/s00371-023-03216-y.

[2] R. Akhunov and A. Kolb. Decoupled boundary handling in sph. In *J. The Visual Computer*, 2023. DOI: 10.1007/s00371-023-03212-2.

[3] D. Presnov, M. Berels, and A. Kolb. Pacemod: Parametric contour-based modifications for glyph generation. *J. The Visual Computer*, 2023. DIO: 10.1007/s00371-023-03040-4.

[4] M. Kluge, T. Weyrich, and A. Kolb. Progressive refinement imaging with depth-assisted disparity correction. *Computers & Graphics*, 115:446–460, 2023.

[5] H. Sommerhoff and A. Kolb. Hashed, binned a-buffer for real-time outlier removal and rendering of noisy point clouds. *J. The Visual Computer*, 2023. DOI: 10.1007/s00371-023-02888-w.

[6] D. Presnov, J. Kurz, J. Willkomm, J. Dillmann, D. Remmel, R. Zilke, V. Braun, C. Schubert, and A. Kolb. On-body/in-place visualization of patient data for cooperative tasks. *Health Informatics Journal*, 29(2), 2023. DIO: 10.1177/14604582231171878.

[7] R. Akhunov, R. Winchenbach, and A. Kolb. Evaluation of particle-based sph boundary handling approaches in computer animation. *J Computer Animation and Virtual Worlds*, 34(6), 2022. DOI: 10.1002/cav.2138.

[8] D. Presnov and A. Kolb. Perception and quantization model for periodic contour modifications. *Journal of Imaging*, 8(11), 2022. DOI: 10.3390/jimaging8110311.

[9] H. Sommerhoff and A. Kolb. A generic framework for depth reconstruction enhancement. *Journal of Imaging*, 8(5):138, 2022.

[10] R. Winchenbach and A. Kolb. Optimized refinement for spatially adaptive SPH. *ACM Trans. Graph.*, 40(1):1–15, 2021.

[11] P. Chandramouli, K. V. Gandikota, A. Görlitz, A. Kolb, and M. Moeller. Generative models for generic light field reconstruction. In *IEEE Trans. Pattern Anal. and Mach. Intell.*, 2020. DOI: 10.1109/TPAMI.2020.3039841.

[12] R. Winchenbach, R. Akhunov, and A. Kolb. Semi-analytic boundary handling below particle resolution for smoothed particle hydrodynamics. *ACM Trans. Graph. (Proc. SIGGRAPH ASIA)*, 39(6):1–17, 2020.

[13] R. Winchenbach and A. Kolb. Multi level memory structures for simulating and rendering smoothed particle hydrodynamics. *J. Computer Graphics Forum*, 2020. DOI: 10.1111/cgf.14090.

[14] C. Schubert and A. Kolb. Designing technology, developing theory. towards a symmetrical approach. *Science, Technology & Human Values*, 46(3):528–554, 2020. DOI: 10.1177/0162243920941581.

[15] M. Kluge, T. Weyrich, and A. Kolb. Progressive refinement imaging. *J. Computer Graphics Forum*, 39(1):360–374, 2020.

[16] H. Steiner, H. Sommerhoff, D. Bulczak, M. Lambers, N. Jung, and A. Kolb. Fast motion estimation for field sequential imaging: Survey and benchmark. *Image and Vision Computing*, 89:170–182, 2019.

[17] T. M. Wong, M. Kahl, P. Haring Bolívar, and A. Kolb. Computational image enhancement for frequency modulated continuous wave (FMCW) THz image. *Journal of Infrared, Millimeter, and Terahertz Waves*, 40(7):775–800, 2019. DIO: 10.1007/s10762-019-00609-w.

[18] T. Shirley, D. Presnov, and A. Kolb. A lightweight approach to 3D measurement of chronic wounds. *Journal of the WSCG*, 27(1):67–74, 2019.

[19] C. Pomrehn, D. Klein, A. Kolb, R. Herpers, and P. Kaul. Supervised classification of monomodal and multimodal hyperspectral data in vibrational microspectroscopy: A comprehensive comparison. *Chemometrics and Intelligent Laboratory Systems*, 184:112–122, 2019.

[20] H. Sarbolandi, M. Plack, and A. Kolb. Pulse based time-of-flight range sensing. *Sensors*, 18(6):1679, 2018.

[21] M. Zollhöfer, P. Stotko, A. Görlitz, C. Theobalt, M. Nießner, R. Klein, and A. Kolb. State of the art on 3D reconstruction with RGB-D cameras. *J. Computer Graphics Forum(Eurographics STAR)*, 37(2):625–652, 2018. DOI: 10.1111/cgf.13386.

[22] D. Presnov, M. Lambers, and A. Kolb. Robust range camera pose estimation for mobile online scene reconstruction. *IEEE Sensors J.*, 18(7):2903 – 2915, 2018. DOI 10.1109/JSEN.2018.2801878.

[23] D. Bulczak, M. Lambers, and A. Kolb. Quantified, interactive simulation of AMCW ToF camera including multipath effects. *Sensors*, 18(1):13, 2018.

[24] T. Geisler and A. Kolb. Pattern recognition of rough surfaces by using goniometric scattered light. *Metrology and Measurement Systems*, 25(1):33–46, 2018.

[25] 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.

[26] 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.

[27] C. Schikora, M. Plack, R. Bornemann, P. Haring Bolívar, and A. Kolb. Visual analysis of confocal raman spectroscopy data using cascaded transfer function design. In *Computer Graphics Forum (Proc. EuroVis)*, volume 36, pages 239–249, 2017.

[28] F. Alghabi, S. Send, U. Schipper, A. Abboud, U. Pietsch, and A. Kolb. Fast GPU-based absolute intensity determination for energy-dispersive X-ray Laue diffraction. *J. of Instrumentation*, 11(01):T01001, 2016. DOI:10.1088/1748-0221/9/11/T11003.

[29] 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.

[30] H. Sarbolandi, D. Lefloch, and A. Kolb. Kinect range sensing: Structured-light versus time-of-flight kinect. *J. Computer Vision and Image Understanding*, 139:1–20, 2015. DOI:10.1016/j.cviu.2015.05.006.

[31] M. Lambers, S. Hoberg, and A. Kolb. Simulation of time-of-flight sensors for evaluation of chip layout variants. *IEEE Sensors J.*, 15(7):4019–4026, 2015. DOI: 10.1109/JSEN.2015.2409816.

[32] F. Alghabi, S. Send, U. Schipper, A. Abboud, N. Pashniak, U. Pietsch, and A. Kolb. Fast GPU-based spot extraction for energy-dispersive X-ray laue diffraction. *J. of Instrumentation*, 11(01):T11003, 2014.

[33] F. Heide, L. Xiao, A. Kolb, M. Hullin, and W. Heidrich. Imaging in scattering media using correlation image sensors and sparse convolutional coding. *Optics Express*, 22(21):26338–26350, 2014.

[34] 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.

[35] 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.

[36] 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.

[37] 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.

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