

Christian Riess

CONTACT INFORMATION	Pattern Recognition Lab University of Erlangen-Nuremberg Martensstr. 3 91058 Erlangen Germany	<i>Voice:</i> +49 (9131) 85-27891 <i>Fax:</i> +49 (9131) 303811 <i>E-mail:</i> christian.riess@fau.de <i>URL:</i> www5.cs.fau.de/~riess
EDUCATION	Doctoral Degree in Computer Science, 2007 – 2012 Friedrich-Alexander-University Erlangen-Nuremberg “Physics-based and Statistical Features for Image Forensics” Thesis advisors: Joachim Hornegger and Elli Angelopoulou Diplom in Computer Science, High Distinction, 2001 – 2007 Friedrich-Alexander-University Erlangen-Nuremberg Theses: “Spectra of popular interconnection networks in parallel computing” “Load Balancing on the Circle” Theses advisor: Rolf Wanka Abitur, 2000 Melanchthon-Gymnasium Nuremberg	
PROFESSIONAL EMPLOYMENT	Head Phase-Contrast X-ray Group, April 2015 – Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg Postdoctoral Researcher, April 2013 – March 2015 Radiological Sciences Lab, Stanford University Postdoctoral Researcher, December 2012 – March 2013 Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg Ph.D. Candidate, July 2007 – December 2012 Pattern Recognition Lab, Friedrich-Alexander-University Erlangen-Nuremberg Teaching Assistant, April 2003 – July 2007 Friedrich-Alexander-University Erlangen-Nuremberg Programmer 2006 – 2007 Chocoleum.eu Programmer 2005 – 2006 Globalbases GmbH Programmer 2002 – 2004 Regionales Rechenzentrum Erlangen	

RESEARCH
INTERESTS

I am doing research in computer vision and medical image processing. Currently, my special interests are

Image Processing for Phase-Contrast X-ray

Image Forensics

Illumination and Reflectance Analysis

Optical Inspection

PUBLICATIONS

D. Bernecker, **C. Riess**, E. Angelopoulou, J. Hornegger. “Continuous short-term irradiance forecasts using sky images”. *Solar Energy*, vol. 110, no. 1, Dec. 2014, pp. 303-315.

F. Bayer, S. Hu, A. Maier, T. Weber, G. Anton, T. Michel, **C. Riess**. “Reconstruction of scalar and vectorial components in X-ray dark-field tomography”. *Proceedings of the National Academy of Sciences*, vol. 111, July 2014, pp. 12699-12704

A. Späth, S. Schöll, **C. Riess**, D. Schmidtel, G. Paradossi, J. Raabe, J. Hornegger, R. Fink. “STXM goes 3D: Digital reconstruction of focal stacks as novel approach to confocal soft x-ray microscopy.” *Ultramicroscopy*, vol. 144, Sep. 2014, pp. 19-25.

S. Beigpour*, **C. Riess***, J. van de Weijer, E. Angelopoulou. “Multi-Illuminant Estimation with Conditional Random Fields”. *IEEE Transactions on Image Processing*, vol. 23, no. 1, Jan. 2014, pp. 83-95 (*both authors contributed equally).

A. Maier, H. Hofmann, M. Berger, P. Fischer, C. Schwemmer, H. Wu, K. Müller, J. Hornegger, J.-H. Choi, **C. Riess**, A. Keil, R. Fahrig. “CONRAD – A software framework for cone-beam imaging in radiology”. *Medical Physics*, vol. 40, no. 11, Nov. 2013, pp. 1119-1124.

T. Carvalho, **C. Riess**, E. Angelopoulou, H. Pedrini, A. Rocha. “Exposing Digital Image Forgeries by Illumination Color Classification”. *IEEE Transactions on Information Forensics and Security*, vol. 8, no. 7, July 2013, pp. 1182-1194.

V. Christlein, **C. Riess**, E. Angelopoulou. “An Evaluation of Popular Copy-Move Forgery Detection Approaches”. *IEEE Transactions on Information Forensics and Security*, vol. 7, no. 6, August 2012, pp. 1841-1854.

PEER-REVIEWED
CONFERENCE
PROCEEDINGS

C. Riess, S. Pfaller, E. Angelopoulou. “Reflectance Normalization in Illumination-Based Image Manipulation Detection”, *International Workshop on Recent Advances in Digital Security: Biometrics and Forensics*, Sep. 2015, pp. 3-11.

S. Hu, A. Maier, J. Hornegger, F. Bayer, T. Weber, G. Anton, **C. Riess**. “Orientation-dependent X-ray Dark-field Imaging: Towards Full Vectorial Reconstruction using a 3-D Scattering Model”, *Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*, May 2015, pp. 220-223.

S. Hu, A. Maier, J. Hornegger, F. Bayer, T. Weber, G. Anton, **C. Riess**. “A 3-D Scattering Model for Orientation-dependent X-ray Darkfield Imaging”, *Fully*

Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine, May 2015, pp. 220-223.

C. Riess, A. Mohamed, W. Hinshaw, R. Fahrig. “On Filtration for High-Energy Phase-Contrast X-ray Imaging”, *SPIE Medical Imaging*, Feb. 2015, pp. 941251-7.

M. Kirchner, P. Schöttle, **C. Riess**. “Thinking Beyond the Block: Block Matching for Copy-Move Forgery Localization Revisited”. *Proc. SPIE 9409, Media Watermarking, Security, and Forensics*, Feb. 2015, pp. 940903.

S. Hu, **C. Riess**, J. Hornegger, P. Fischer, F. Bayer, T. Weber, G. Anton, A. Maier. “3D Tensor Reconstruction in X-ray Dark-field Tomography — The First Phantom Result”, *Bildverarbeitung für die Medizin in Informatik aktuell 2015*, Mar. 2015, pp. 492-497.

S. Kaeppler, J. Wandner, T. Weber, A. Maier, G. Anton, J. Hornegger, **C. Riess**. “Shading Correction for Grating-based Differential Phase Contrast X-ray Imaging”. *IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC)*, Nov. 2014, pp. 1-4.

S. Kaeppler, F. Bayer, T. Weber, A. Maier, G. Anton, J. Hornegger, M. Beckmann, P.A. Fasching, A. Hartmann, F. Heindl, T. Michel, G. Özgül, G. Pelzer, C. Rauh, J. Rieger, R. Schulz-Wendtland, M. Uder, D. Wachter, E. Wenkel, **C. Riess**. “Signal Decomposition for X-ray Dark-field Imaging”. *International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)* Sep. 2014, pp. 170-177.

M. Bögel, **C. Riess**, A. Maier, J. Hornegger, R. Fahrig. “Respiratory Motion Estimation using a 3D Diaphragm Model”, *Bildverarbeitung in der Medizin*, Mar. 2014, pp. 240-245.

Y. Xia, M. Berger, **C. Riess**, J. Hornegger, A. Maier. “Dose Reduction Achieved by Dynamically Collimating the Redundant Rays in Fan-beam and Cone-beam CT”, *IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC)*, Oct. 2013, pp. 1-4.

C. Riess, S. Pfaller, D. Bernecker, E. Angelopoulou. “Towards the Estimation of Non-Uniform Illumination in Real-World Scenes”. *19. Workshop Farbbildverarbeitung der GFaI*, Sep. 2013.

D. Bernecker, **C. Riess**, V. Christlein, E. Angelopoulou, J. Hornegger. “Representation Learning for Cloud Classification”. *35th German Conference on Pattern Recognition (GCPR)*, Sep. 2013, pp. 395-404.

J. Wang, **C. Riess**, A. Borsdorf, B. Heigl, J. Hornegger. “Sparse Depth Sampling for Interventional 2-D/3-D Overlay: Theoretical Error Analysis and Enhanced Motion Estimation”. *15th International Conference on Computer Analysis of Images and Patterns*, Aug. 2013, pp. 86-93.

C. Riess, M. Berger, H. Wu, M. Manhart, R. Fahrig, A. Maier. “TV or not TV? That is the Question”. *Fully Three-Dimensional Image Reconstruction in Radiology and Nuclear Medicine*, June 2013, pp. 341-344.

M. Meyer, **C. Riess**, E. Angelopoulou, G. Evangelopoulos, I. Kakadiaris. “Color

- Constancy in 3D-2D Face Recognition”. *SPIE Biometric and Surveillance Technology for Human and Activity Identification at SPIE Defense, Security and Sensing*, May 2013, pp. 8712-17.
- V. Christlein, **C. Riess**, E. Angelopoulou, G. Evangelopoulos, I. Kakadiaris. “The Impact of Specular Highlights on 3D-2D Face Recognition”. *SPIE Biometric and Surveillance Technology for Human and Activity Identification at SPIE Defense, Security and Sensing*, May 2013, pp. 8712-19.
- A. Maier, Z. Jiang, J. Jordan, **C. Riess**, H. Hofmann, J. Hornegger. “Atlas-based linear volume-of-interest (ABL-VOI) image correction”. *SPIE Medical Imaging*, February 2013, pp. 8668-83.
- F. Zach, **C. Riess**, E. Angelopoulou. “Automated Image Forgery Detection through Classification of JPEG Ghosts”. *Pattern Recognition (Joint 34th DAGM and 36th OAGM Symposium)*, August 2012, pp. 185-194.
- D. Bernecker, **C. Riess**, E. Angelopoulou, J. Hornegger. “Towards Improving Solar Irradiance Forecasts with Methods from Computer Vision”. *Computer Vision in Applications Workshop*. August 2012.
- C. Riess**, V. Strehl, R. Wanka. “The Spectral Relation between the Cube-Connected Cycles and the Shuffle-Exchange Network”. *Proceedings of the 10th Workshop on Parallel Systems and Algorithms*, February 2012, pp. 505-516.
- A. Späth, J. Raabe, **C. Riess**, S. Schöll, J. Hornegger, R. H. Fink. “Confocal STXM - A Novel Approach to 3D X-Ray Microscopy”. *Verhandlungen der Deutschen Physikalischen Gesellschaft*, March 2012.
- M. Bleier, **C. Riess**, S. Beigpour, E. Eibenberger, E. Angelopoulou, T. Tröger, A. Kaup. “Color Constancy and Non-Uniform Illumination: Can Existing Algorithms Work?”. *IEEE Color and Photometry in Computer Vision Workshop*, November 2011.
- C. Riess**, E. Eibenberger, E. Angelopoulou. “Illuminant Color Estimation for Real-World Mixed-Illuminant Scenes”. *IEEE Color and Photometry in Computer Vision Workshop*, November 2011.
- Z. Jiang, B. Keck, **C. Riess**, D. Fischer, T. Mertelmeier, J. Hornegger. “Metal Artifact Reduction of Biopsy Needles in Digital Breast Tomosynthesis” *Proceedings of the 7th Russian Bavarian Conference*, October 2011.
- V. Christlein, **C. Riess**, E. Angelopoulou. “On Rotation Invariance in Copy-Move Forgery Detection”. *IEEE Workshop on Information Forensics and Security*, December 2010.
- C. Riess**, E. Angelopoulou. “Scene Illumination as an Indicator of Image Manipulation”. *Information Hiding Conference*, June 2010.
- V. Christlein, **C. Riess**, E. Angelopoulou. “A Study on Features for the Detection of Copy-Move Forgeries”. *SICHERHEIT 2010*, October 2010, pp. 105-116.
- C. Riess**, J. Jordan, E. Angelopoulou. “A Common Framework for Ambient Illumination in the Dichromatic Reflectance Model”, *IEEE Color and Reflectance in Imaging and Computer Vision Workshop*, October 2009, pp. 1939-1946.

C. Heim, **C. Riess**, A. Borsdorf, C. Hofmann, J. Hornegger. “Automated Evaluation of Image Quality in Mammography”, *5th Russian-Bavarian Conference on Bio-Medical Engineering*, July 2009, pp. 31-34.

C. Riess, E. Angelopoulou. “Physics-Based Illuminant Color Estimation as an Image Semantics Clue”, *IEEE International Conference on Image Processing*, November 2009, pp. 689-692.

C. Riess, R. Wanka. “Periodic Load Balancing on the N-Cycle: Analytical and Experimental Evaluation”, in *Proc. 13th European Conference in Parallel Processing (Euro-Par)*, August 2007, pp. 805-814.

ADDITIONAL PUBLICATIONS

F. Bauer, P. Blank, M. Bleier, H. Dohrn, M. Eischer, S. Friedrich, A. Hauck, J. Kallwies, P. Kugler, D. Lahmann, P. Nordhus, B. Reck, **C. Riess**. “ER-Force Team Description Paper for RoboCup 2011”, RoboCup Foundation, 2011.

P. Blank, M. Bleier, J. Kallwies, P. Kugler, D. Lahmann, P. Nordhus, **C. Riess**. “ER-Force Team Description Paper 2010”, RoboCup Foundation, 2010.

C. Riess, J. Jordan, E. Angelopoulou. “On Physics-based Illuminant Color Estimation”, *Engineering Science Contributions for a more efficient Healthcare System*, October 2010.

J. Jordan, **C. Riess**, E. Angelopoulou, “A New Benchmark for Evaluations in Image Forensics”, *Engineering Science Contributions for a more efficient Healthcare System*, October 2010.

E. Eibenberger, **C. Riess**, E. Angelopoulou, J. Hornegger. “Illuminant Estimation by Voting”. *Technical Report*, 2009. <http://www.opus.ub.uni-erlangen.de/opus/volltexte/2009/1391/>

P. Blank, M. Bleier, S. Drexler, J. Kallwies, P. Kugler, D. Lahmann, P. Nordhus, **C. Riess**, T. Swadzba, J. Tully. “ER-Force Team Description Paper for RoboCup 2009”, RoboCup Foundation, 2009.

C. Riess, S. Fuchs, E. Angelopoulou. “Towards a Feature Set for Sensor Data Fusion”, *Pattern Recognition in Medical and Health Engineering*, October 2008.

D. Danner, C. Kaufhold, P. Kranz, R. Müller, S. Pfaller, **C. Riess**, E. Angelopoulou. “FAUBOT: Purposeful Navigation of a Robot in a Simulated Environment”, *IEEE Real-Time Systems Symposium*, December 2007.

AWARDS AND HONOURS

2013: 1st place with team detector together with Matthias Kirchner and Thomas Gloe at the 1st IEEE IFS-TC Image Forensics Challenge, category “non-format-based attacks”.

2013: 3rd place in the teaching evaluation of the FAU school of engineering (Technische Fakultät) in the respective category

2012: Young Researcher Award at the 10th Workshop on Parallel Systems and Algorithms

2007: 1st place in the Cibermouse contest at the 28th IEEE Real-Time Systems Symposium (RTSS) 2007

2004: 2nd place in the local competition of the [International Collegiate Programming Contest \(ICPC\)](#)

2001: 2nd place in “Schule im Wandel” (Schools in change) contest, Melanchthon-Gymnasium Nuremberg

1999: Melanchthon Award for distinguished honorary services

RESEARCH PROJECTS

Phase-Contrast X-ray, 2013-
Radiological Sciences Lab,
Stanford University,
in collaboration with Siemens Healthcare

3D-Xray Microscopy, 2012-2013
Pattern Recognition Lab,
Friedrich-Alexander University Erlangen-Nuremberg,
in collaboration with Physico-chemical Lab II, FAU Erlangen-Nuremberg

Physics-based Features for Image Forensics, 2009-2012
Pattern Recognition Lab,
Friedrich-Alexander University Erlangen-Nuremberg

Virtuelle Sensorik (Sensor Data Fusion), 2007-2011
Pattern Recognition Lab,
Friedrich-Alexander University Erlangen-Nuremberg,
in collaboration with [Giesecke+Devrient GmbH](#)

Intelligente Videoanalyse – Eine Grundlagenstudie (Intelligent Video Analysis – A Fundamental Study), 2007
Pattern Recognition Lab,
Friedrich-Alexander University Erlangen-Nuremberg,
submitted to German Federal Criminal Police Office

Die Spektren populärer Verbindungsnetzwerke des parallelen Rechnens (Spectra of popular interconnection networks in parallel computing), 2007
Diploma thesis (equiv. MSc Thesis),
Efficient Combinatorial Algorithms, [Prof. Dr. Rolf Wanka](#)
Friedrich-Alexander-University Erlangen-Nuremberg

Load Balancing on the Circle, 2006
Student thesis (equiv. BSc Thesis),
Efficient Combinatorial Algorithms, [Prof. Dr. Rolf Wanka](#)
Friedrich-Alexander-University Erlangen-Nuremberg

TALKS

“Reflectance Normalization in Illumination-Based Image Manipulation Detection”, International Workshop on Recent Advances in Digital Security: Biometrics and Forensics (BioFor), Sep. 2015.

“Shading Correction for Grating-based Differential Phase Contrast X-ray Imaging”, IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC), Nov. 2014.

“Estimating the Illuminant Color”, Computational Biomedicine Lab, University

of Houston, July 2013 (*invited*).

“Automated Image Forgery Detection through Classification of JPEG Ghosts”, Pattern Recognition (Joint 34th DAGM and 36th OAGM Symposium), 2012.

“The Spectral Relation between the Cube-Connected Cycles and the Shuffle-Exchange Network”, at the 10th Workshop on Parallel Systems and Algorithms, 2012.

“Illuminant Color Estimation for Real-World Mixed-Illuminant Scenes”, at IEEE Color and Photometry in Computer Vision Workshop, 2011.

“Image Forensics at the Pattern Recognition Lab in Erlangen”, at TU Dresden, 2010.

“Image Forensics: Detecting Manipulations in Digital Images”, at monthly meeting of the IMPRS for Optics and Imaging, 2010.

“Image Manipulation Detection using Computer Vision Methods”, demonstration at 11th European Conference on Computer Vision, 2010.

“Scene Illumination as an Indicator of Image Manipulation”, at Information Hiding Conference, 2010.

“A Common Framework for Ambient Illumination in the Dichromatic Reflectance Model”, at IEEE Color and Reflectance in Computer Vision Workshop, 2009.

“Physics-Based Illuminant Color Estimation as an Image Semantics Clue”, at IEEE International Conference on Image Processing, 2009.

“Reflectance Challenges in Analyzing Real-World Images”, at Stevens Institute of Technology, Hoboken, NJ, 2009.

“Periodic Load Balancing on the N-Cycle: Analytical and Experimental Evaluation”, at European Conference in Parallel Processing (Euro-Par), 2007.

MEDIA
APPEARANCE ON
IMAGE
FORENSICS

2015, Stuttgarter Zeitung Online, German daily newspaper,
<http://www.stuttgarter-zeitung.de/inhalt.varoufakis-stinkefinger-wie-experten-videos-auf-echtheit-pruefen.f25f3697-b522-43d2-9405-7a140f5f110b.html>

2013, Pro7 Galileo, German national television,
<http://www.prosieben.de/tv/galileo/videos/clip/2238292-fakefotos-1.3538981/>

2010, SPIEGEL Online, German news magazine,
<http://www.spiegel.de/netzwelt/web/bildmanipulation-simpel-software-soll-fotofaelscher-aufspueren-a-697283.html>

TEACHING
EXPERIENCE

2015: Pattern Analysis, Lecture
2013: Algorithms and Data Structures, Lecture
2010-2013: Introduction to Pattern Recognition, Recitation Sessions
2011-2012: RoboCode, Recitation Sessions

2011: Digital Image Forensics, Lecture
2010: Multispectral Imaging, Seminar
2010: Computer Vision, Recitation Sessions
2010: Color-based Face Detection, Seminar
2009: New Methods in Image Forensics, Seminar
2009: Image Forensics, Seminar
2008: Pattern Recognition, Recitation Sessions
2007: Theory of Computation, Recitation Sessions
2006-2007: Complexity Theory, Recitation Sessions
2006: Programming in C, Recitation Sessions
2005: Functional Programming, Recitation Sessions
2004-2005: Algorithms and Data Structures, Recitation Sessions

SUPERVISED	Sebastian Käppler, since Dec. 2014.
PH.D. STUDENTS	Shiyang Hu, since Sep. 2014.
	Hawzhin Hoshabr Pour, since Aug. 2015.

SUPERVISED	Sebastian Käppler, “Determining the Small-Angle Scattering Contribution to X-ray Dark-field Images” Friedrich-Alexander-University Erlangen-Nuremberg, 2014.
MASTER/ DIPLOMA	Daniela Novac, “An Evaluation of Algorithms for Watermarking of Digital Images” Friedrich-Alexander-University Erlangen-Nuremberg, 2014. Joint project with A. Mairgiotis, PhD., Univ. Ioannina, Greece.
THESES	Marco Bögel, “Respiratory Motion Compensated C-arm Cardiac Reconstruction using a 3-D Diaphragm Model”, Friedrich-Alexander-University Erlangen-Nuremberg, 2013. Joint project with R. Fahrig, Stanford University.
	Torben Griebel, “Image Clustering using Noise Patterns”, Hochschule Albstadt-Sigmaringen, 2013.
	Sven Pfaller, “Normalizing Object Albedo”, Friedrich-Alexander-University Erlangen-Nuremberg, 2012.
	Vincent Christlein, “The Impact of Specular Highlights on a Face Recognition System”, Friedrich-Alexander-University Erlangen-Nuremberg, 2012.
	Zhenzhen Jiang, “Image Correction for ROI Reconstruction using Patch-based Image Retrieval from a Database”, Friedrich-Alexander-University Erlangen-Nuremberg, 2012.
	Manuel Meyer, “Embedding of Illuminant Color Estimation in a Face Recognition Framework”, Friedrich-Alexander-University Erlangen-Nuremberg, 2012.
	Fabian Zach, “Automating JPEG Ghost Detection”, Friedrich-Alexander-University Erlangen-Nuremberg, 2011.

Vita Szabolcs, “Robust Forgery Detection in Complex Lighting Environments”, Friedrich-Alexander-University Erlangen-Nuremberg, 2010.

Ronald Lembcke, “Automatische Bestimmung von Farbkorrekturwerten für eine digitale RGB-Kamera”, Friedrich-Alexander-University Erlangen-Nuremberg, 2008.

Wilhelm Haas, “Innovative Bedienoberflächen – Klassifikation von Benutzerinteraktionen mittels eingebetteter Systeme” (Innovative User Interfaces – Classification of User Interaction on Embedded Systems), Friedrich-Alexander-University Erlangen-Nuremberg, 2008.

Sven Fuchs, “Evaluation verschiedener Verfahren zur Sensordatenfusion” (Evaluation of Different Methodologies for Sensor Data Fusion), Friedrich-Alexander-University Erlangen-Nuremberg, 2008.

SUPERVISED
BACHELOR/
STUDY THESES

Johannes Rausch, “Kinect-based Correction of Overexposure Artifacts in Knee Imaging with C-arm CT Systems”, Friedrich-Alexander-University Erlangen-Nuremberg, 2014. Joint project with R. Fahrig, Stanford University.

Julian Seuffert, “Examination of Resampling Artifacts in Digital Images”, Friedrich-Alexander-University Erlangen-Nuremberg, 2014.

Philipp Roser, “Geometric Calibration Of C-Arm Systems Using CAD-Designed 3-D Printed Phantoms”, Friedrich-Alexander-University Erlangen-Nuremberg, 2014. Joint project with J.-H. Choi and R. Fahrig, Stanford University.

Daniela Novac, “An Experimental Comparison of Resampling Detection Algorithms”, Friedrich-Alexander-University Erlangen-Nuremberg, 2012.

Peter Fürsattel, “Temporal and Spatial Alignment of Video Sequences”, University of Colorado at Boulder, 2011.

Sven Pfaller, “Segmentation of Local Illuminant Estimates”, Friedrich-Alexander-University Erlangen-Nuremberg, 2011.

Ralph Mssig, “Variants of Self-Organizing Maps for Edge Detection”, Friedrich-Alexander-University Erlangen-Nuremberg, 2011.

Dominik Neumann, “Determining the Camera Response Function”, Friedrich-Alexander-University Erlangen-Nuremberg, 2010.

Philipp Nordhus, “An Hierarchical Approach for Road Boundary Detection and Tracking”, Friedrich-Alexander-University Erlangen-Nuremberg, 2010.

Michael Bleier, “Fusion of Multiple Illuminant Estimates”, Friedrich-Alexander-University Erlangen-Nuremberg, 2010.

Vincent Christlein, “A Common Framework for Copy-Move Forgery Detection”, Friedrich-Alexander-University Erlangen-Nuremberg, 2009.

Manuel Meyer, “Improved Exploitation of Chromatic Aberration for the Exposure of Digital Forgeries”, Friedrich-Alexander-University Erlangen-Nuremberg, 2009.

Philipp Nordhus, “Multiple Target Tracking based on Particle Filters”, Friedrich-

Alexander-University Erlangen-Nuremberg, 2009.

Zhengning Jiang, “Metal Artifact Reduction of Biopsy Needles for Digital Breast Tomosynthesis”, Friedrich-Alexander-University Erlangen-Nuremberg, 2009.

Sebastian Drexler, “Entwurf, Entwicklung und Evaluation verschiedener Spielstrategien für Fussballroboter” (Design, Development and Evaluation of Different Play Strategies for Soccer Robots), Friedrich-Alexander-University Erlangen-Nuremberg, 2008.

Christoph Heim, “Automatische Bildqualitätsbewertung in der Mammographie” (Automated Image Quality Assessment in Mammography), Friedrich-Alexander-University Erlangen-Nuremberg, 2008.

Klaus Doth, “Design, Construction and Programming of New and Improved Electronics for the *Nomad XR4000*”, Friedrich-Alexander-University Erlangen-Nuremberg, 2007.

SUPERVISED UNDERGRADUATE PROJECTS	Florian Schiffrers, “Tensorial Reconstruction of X-ray Dark-field”, Friedrich-Alexander-University Erlangen-Nuremberg, 2015. Siegfried Schöfer, “Detection of Resampling for Exposing Digital Forgeries”, Friedrich-Alexander-University Erlangen-Nuremberg, 2013. Markus Müller, “Detection of Resampling for Exposing Digital Forgeries”, Friedrich-Alexander-University Erlangen-Nuremberg, 2013.
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PROFESSIONAL ACTIVITIES	Conference Reviewer • IEEE International Conference on Image Processing • IEEE International Conference on Acoustics, Speech and Signal Processing • IEEE International Workshop on Information Forensics and Security • Workshop on Color and Photometry in Computer Vision • Asian Conference on Computer Vision (2012) • Siggraph Asia (2012) • Workshop on Applications in Computer Vision (2011)
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Journal Reviewer

- IEEE Transactions on Information Forensics and Security
- IEEE Transactions on Image Processing
- Medical Physics
- LNCS Transactions on Data Hiding and Multimedia Security
- Journal of the ACM

- Machine Vision Applications (2012-2014)
- Optics Express

SERVICES	2009-2013: Curriculum committee member of the computer science department (Studienkommission) 2009: Organizing committee member of the Northwestern European Regional Contest of the International Collegiate Programming Contest (ICPC) 2008: Head judge of the Southwestern European Regional Contest of the International Collegiate Programming Contest (ICPC) 2007-2009: Department liaison to the RoboCup robot soccer team 2007: Team coach of the Cibermouse at RTSS2007 team of the Friedrich-Alexander-University Erlangen-Nuremberg 2005-2006: Senator of the Friedrich-Alexander-University Erlangen-Nuremberg 2005-2006: Student council member (Sprecherrat) 2005-2007: Team coach at the Southwestern European Regional Contest of the International Collegiate Programming Contest (ICPC) 2004-2006: Student parliament member (Studentischer Konvent) 2004-2009: Co-organizer of the local ACM's International Collegiate Programming Contest (ICPC) 1999: School representative at Melanchthon-Gymnasium Nuremberg (Schulsprecher). 1998: Creation of a school presentation software package with 50+ active contributors. 1993-2000: Class representative at Melanchthon-Gymnasium Nuremberg (Klassensprecher).
MEMBERSHIPS	Institute of Electrical and Electronics Engineers (IEEE) member Gesellschaft für Informatik (German computer science society) Computer Science Students' Organization of the Friedrich-Alexander-University Erlangen-Nuremberg (FSI)
LANGUAGE	German: native
SKILLS	English: fluently Russian: basic knowledge