Curriculum Vitae: Dr. Jens Rittscher

Personal Details

Name:	Jens Rittscher
Address:	4 Sheldon Drive, Ballston Lake, NY 12019, USA
E-mail:	jens@rittscher.org
Nationality:	German (Permanent Resident Status since May 2005)

Research Interests

- Automatic analysis of biomedical image data, in particular live-cell microscopy and histology images
- Image based bioinformatics
- Development of algorithms that enable the automatic evaluation of image and video data, in particular probabilistic methods for the estimation of shape, structures and visual dynamics

Education

School	**Abitur (Final School Examination)** Rabanus Maurus Schule, Domgymnasium, Fulda, Germany	1989
Universität Göttingen, DE	**Mathematics & Computer Science**	1990 – 1992
University of East Anglia, UK	**Visiting Student, School of Mathematics**	1992 – 1993
Universität Bonn, DE	**Diploma, Mathematics & Computer Science** The thesis entitled *An Algorithm to Cover Jump-Sets of Functions of Bounded Variation*, supervised by Prof. S. Luckhaus, studied the problem of how to detect discontinuities in images by approximating the Mumford-Shah functional.	1993 – 1997
University of Oxford, UK	**Marie Curie Fellow, Dept. of Engineering Science** D.Phil. in Computer Vision investigating the problem of human motion recognition under the supervision of Prof. A. Blake (FRS). This research was funded by the European Union (Marie Curie Grant) and German Academic Exchange Service (DAAD). Member of Wolfson College.	1997 – 2000

Academic Positions

University of Oxford, GB	**Research Assistant** Work in collaboration with Prof. A. Zisserman (FRS) on people tracking and intelligent browsing of video as part of the VIBES project (Video Browsing Exploration and Structuring) funded by the European Union.	06/2001 – 09/2001
RPI, USA	**Adjunct Professor**	07/2006 –

	Adjunct professor in the department of Computer Science at the Rensselaer Polytechnic Institute, Troy, NY. Appointed to develop and teach a new course entitled *Statistical and Learning Techniques in Computer Vision* in collaboration with Prof. Chuck Stewart.	12/2006
RPI, USA	**Adjunct Professor**	09/2010 –
	Adjunct professor in the department of Electrical Computer & Systems Engineering at the Rensselaer Polytechnic Institute, Troy, NY. Appointed to teach a graduate level course entitled *Biological Image Analysis*.	05/2012
University of Oxford, UK	**University Research Lecturer**	10/2013 –
	Joint appointment between the Institute of Biomedical Engineering and the Nuffield Department of Medicine. The focus of the newly established research group will focus on the interface between biological image analysis and bioinformatics. In particular the group will be supporting the Ludwig Institute for Cancer Research and the newly established Target Discovery Institute. Elected Senior Reseach Fellow at Harris Manchester College.	today

Work Experience

Siemens, Munich, DE	**Internship, Corporate Research (3 months)**	1995
	Image compression for video conferencing.	
Cobion AG, Kassel, DE	**Research Scientist**	01/2001 –
	Automatic recognition of trademarks in images and video.	05/2001
GE Global Research, USA	**Senior Scientist**	10/2001 –
	Visualization and Computer Vision Laboratory, Focus on automatic analysis of video and biomedical image data. Current research focus includes: Live Cell Microscopy (GE-Healthcare), Histology and Molecular Pathology (GE Healthcare), Automatic Annotation of Video (Lockheed Martin, GE Healthcare), Pattern Recognition in 3D Seismic Data. Since June 2003 project leader and since April 2005 coordinator of all image analysis projects in the area of biomedical imaging.	7/2011

GE Global Research, USA	**Manager Computer Vision Laboratory** Leading a research group that focuses on computer vision algorithm and application development for industrial and biomedical applications. The 14 scientists of the group work on a broad range of projects including scene understanding, object recognition, motion and activity analysis. The projects are supported through government grants, commercial research collaborations, and GE internal funding.	08/2011 10/2013

Selected Research Projects

Seismic Pattern Recognition, project leader, multi-year advanced technology project — since 2009

Automatic Analysis of Zebrafish Embryos, project leader, internally funded research effort, technology transitioned into product — 2008 – 2009

Digital Object Preservation, project leader, development of systems and algorithms for the automatic annotation of broadcast video — 2009

Molecular Pathology, coordination of the image analysis tasks of a multi-year advanced technology effort — since 2008

Protein Spot Matching, project leader, technology development effort for improving an existing electrophoresis platform, technology transitioned into product — 2008

Methods for High-Content Screening project leader, development of algorithms for live cell imaging, cell tracking algorithm was transitioned into product — 2007 – 2011

Teaching Experience

Biological Image Analysis — 2010, 2012, 2013
Graduate lecture at the Department of Electrical Computer & Systems Engineering, Rensselear Polytechnic Institute with exercises and project work.

Statistical and Learning Techniques in Computer Vision — 2006
Graduate lecture at the School of Computer Science, Rensselear Polytechnic Institute with exercises and project work with Prof. Chuck Stewart.

Statistical Estimation and Experimental Design — 2006 – today
Internal lectures for 6σ-training at GE Global Research.

Advised PhD Students

Dirk Padfield, GE Global Research and Rensselaer Polytechnic Institute — 2005 – 2009
Topic: Segmentation and Tracking Algorithms for Monitoring Cellular Motion and Function
In collaboration with Prof. Badri Roysam

Shantanu Singh, The Ohio State University — 2008 – 2011
Topic: Analysis of Thick Tissue Sections for Tumor Microenvironment Analysis
In collaboration with Prof. Raghu Machiraju

Invited Talks

Workshop: Morphogenesis, Regeneration, and the Analysis of Shape, Mathematical Biosciences Institute, Ohio State	02/2014
Automated Imaging and High-Throughput Phenotyping, Cold Spring Harbor	03/2012
Large Data Sets in Medical Informatics, Institute for Mathematics and its Applications, University of Minnesota	11/2011
First Workshop on Computer Vision Tracking of Cell Populations, Pittsburgh	03/2011
The 3rd Microsoft Research India Computer Vision and Graphics Shindig, Bangalore, India	12/2010
Seventh Indian Conference on Computer Vision, Graphics and Image Processing, Chennai, India	12/2010
Janelia Farms Research Campus Conference: What Can Computer Vision Do for Neuroscience and Vice Versa?	11/2010
Congress of the International Society for Advanced Cytometry, Seattle, invited workshop presentation	05/2010
Albert-Ludwigs-Universität Freiburg, Germany	07/2009
Emory University, Atlanta, USA	01/2009
Yale University, New Haven, USA	07/2008
Asilomar Conference on Signals, Systems, and Computers, Advances in Bioimaging and Analysis	10/2008
Janelia Farm Research Campus Conference: What Can Computer Vision Do for Neuroscience and Vice Versa?	09/2008
University of Ottawa Heart Institute	05/2008
KTH, Stockholm, Sweden	03/2008
Universität Basel, Switzerland	02/2007
DARPA Workshop on Novel Tools for Cell Signaling, Washington, DC	01/2006
University of North Carolina at Chapel Hill	01/2006
University of Texas, Houston	11/2005
ETH, Zurich	09/2005
Carnegie Mellon, Pittsburgh	08/2005
Ohio State University, Columbus	04/2005
Max-Plank-Institut für biologische Kybernetik, Tübingen, DE	07/2005
Max-Plank-Institut für biologische Kyberketik, Tübingen, DE	04/2001
Gatsby Computational Neuroscience Unit, London, UK	05/2000
The Rank Prize Funds - Symposium on Model Selection and Learning in Computer Vision	04/2000

Research Visits

Max-Plank-Institute for Mathematics in the Sciences, Leipzig, DE (short stay)	01/2000
Microsoft Research Ltd., Cambridge, UK (2 months)	08/1999
Max-Plank-Institute for Mathematics in the Sciences, Leipzig, DE (short stay)	01/1999

Academic Collaborators

Prof. Raghu Machiraju, The Ohio State University, Columbus, Ohio, USA, Computer Science
Dr. Stephen Lockett, NIH National Cancer Institute, Frederick, MD, USA, Microscopy Core Facility
Prof. Badri Roysam, Rensselaer Polytechnic Institute, Troy, USA

Reviewer

Grants	Research Program Proposal, INRIA Sophia Antipolis, France, 2012
	National Institute of Health, Advanced Technology Program, Frederick, USA, 2010
	Microsoft Research PhD Scholarship Program, Cambridge, UK 2008
	Center for Commercialization of Research, Toronto, Canada 2005
Journals	IEEE Transactions on Pattern Analysis and Machine Intelligence
	IEEE Transactions on Robotics and Automation, Machine Vision and Applications
	IEEE Transactions on Medical Imaging
	Medical Image Analysis
	IEEE Transactions on Information Technology for Biomedicine, Medical Image Analysis
Conferences	IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR) 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013
	International Conference on Computer Vision (ICCV) 2005, 2007, 2009, 2011, 2012, 2013
	European Conference on Computer Vision (ECCV) 2000, 2006, 2008, 2010, 2012
	Asian Conference on Computer Vision (ACCV) 2006
	International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2006, 2007, 2008, 2009, 2010, 2012, 2013
	IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS) 2005, 2006, 2007
	IEEE International Symposium on Biomedical Imaging (ISBI) 2009, 2010, 2011, 2012
PhD Thesis	Amin Allalou, Center for Image Analysis, Uppsala University Sweden, September 2011

Academic Activities

Conferences	Associate Editor, IEEE International Symposium on Biomedical Imaging (ISBI) 2014
	Industry Chair, IEEE 2014 27th IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
	Area Chair, The 38th International Conference on Acoustics, Speech, and Signal Processing (ICASSP)
	Associate Editor, IEEE International Symposium on Biomedical Imaging (ISBI) 2013
	Tutorial: Microscopy Image Analysis and Visualization, 14^{th} International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Toronto, 2011
	Tutorial: Microscopy Image Analysis and Visualization, 13^{th} International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Beijing, 2010
	Area Chair, 11^{th} International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), New York, 2008

	Industry Chair, IEEE 5^{th} International Conference on Advanced Video and Signal Based Surveillance (AVSS), 2008
Workshops	Co-organizer of the 6^{th} Workshop Microscopic Image Analysis with Applications in Biology, Heidelberg, Germany, 2011 (www.miaab.org)
	Co-organizer of the 5^{th} Workshop Microscopic Image Analysis with Applications in Biology, Chicago, 2011 (www.miaab.org)
	Co-organizer of the 4^{th} Workshop Microscopic Image Analysis with Applications in Biology, Bethesda, MD, 2009 (www.miaab.org)
	Co-organizer of the 3^{rd} MICCAI Workshop Microscopic Image Analysis with Applications in Biology, New York, 2008 (www.miaab.org)
	Co-organizer of the 2^{nd} Workshop Microscopic Image Analysis with Applications in Biology, Piscataway, NJ, 2007 (www.miaab.org)
	Co-organizer of the 1^{st} MICCAI Workshop Microscopic Image Analysis with Applications in Biology, Copenhagen, 2006 (www.miaab.org)
Other	Elected member IEEE Bio Imaging and Signal Processing Technical Committee (2011-2013)

Publications

Books and Edited Volumes

61 J. Rittscher and R. T. Whitaker, Medical Image Analysis Journal, Special Issue on Microscopic Image Analysis, February 2009

60 J. Rittscher, R. Machiraju, and S. T. C. Wong (Editors), Microscopic Image Analysis for Life Science Applications, Artech House, ISBN 978-1-59693-236-4, 2008 (19 chapters, 489 pages)

59 D. N. Metaxas, R. T. Whitaker, J. Rittscher, and T. B. Sebastian, Proceedings of MICCAI Workshop on Microscopic Image Analysis with Applications in Biology, Copenhagen, Denmark, October 2006

Book Chapters

58 A. Santamaria-Pang, Y. Huang, Z. Pang, L. Qing, and J. Rittscher, Epithelial Cell Segmentation via Shape Ranking in S. Li and J.M.R.S Tavares (Editors), Shape Analysis in Medical Image Analysis, Lecture Notes in Computational Vision and Biomechanics 14 (in press)

57 D. Padfield, J. Rittscher, N. Thomas, and B. Roysam, Automated Spatio-Temporal Cell Cycle Phase Analysis Based on Convert GFP Sensors in J. Rittscher, R. Machiraju, und S. T. C. Wong (Editors), Microscopic Image Analysis for Life Science Applications, Artech House, 2008

56 J. Rittscher, A. Blake, A. Hoogs, and G. Stein, Mathematical Modeling of Animate and Intentional Motion, in 'The Neuroscience of Social Interaction - Decoding, imitating and influencing the actions of others', C. Frith and D. Wolpert, Oxford University Press, 2004

55 T. Kelliher, J. Rittscher, and P. H. Tu, Finger and Palm Prints, in J. Payne-James, R. Byard, T. Corey and C. Henderson, Encyclopedia of Forensic and Legal Medicine, Academic Press, 2004

54 P. H. Tu, J. Rittscher, and T. Kelliher, Fingerprint Challenges, in J. Payne-James, R. Byard, T. Corey and C. Henderson, Encyclopedia of Forensic and Legal Medicine, Academic Press, 2004

Peer-Reviewed Journals

53 M. J. Gerdes, C. J. Sevinsky, A. Sood, S. Adak, M. Bello, A. Can, S. Dinn, R. J. Filkins, M. Larsen, Q. Li, M. C. Montalto, J. Rittscher, J. E. Rothman, Z. Pang, B. D. Sarachan, M. L. Seel, A. Seppo, J. Zhang, and F. Ginty, High-Order Multiplexed Fluorescence Imaging for Quantitative, in Situ Subcellular Analysis of Cancer Tissue, PNAS, 2013

52 C. C. Bilgin, J. Rittscher, B. Filkins, A. Can, Digitally Adjusting Chromogenic Dye Proportions in Pathology Images, Journal of Microscopy, 2011

51 G. Doretto, T. Sebastian, P. Tu and J. Rittscher, T., Tu, P., Appearance-based person re-identification in camera networks: Problem overview and current approaches, Journal of Ambient Intelligence and Humanized Computing, 2011

50 D. Padfield, J. Rittscher and B. Roysam, Coupled Minimum-Cost Flow Cell Tracking for High-Throughput Quantitative Analysis, Medical Image Analysis, August 2010

49 J. Rittscher, Characterization of Biological Processes through Automated Image Analysis (Review), Annual Review of Biomedical Engineering, 12, pages 315-344, August 2010

48 D. Padfield, J. Rittscher, N. Thomas, and B. Roysam, Spatio-Temporal Cell Cycle Phase Analysis Using Level Set Methods and Fast Marching Methods, Medical Image Analysis, vol. 13, no. 1, pp. 143155, February 2009

47 J. Rittscher, A. Blake, A. Hoogs, and G. Stein, Mathematical Modeling of Animate and Intentional Motion, Philosophical Transactions: Biological Sciences, 358(1431), pages 475–490, The Royal Society, London, UK, April 2003

46 J. Rittscher, A. Blake, and S. Roberts, Towards the Automatic Analysis of Complex Human Body Motion, Image and Vision Computing, 20(12), pages 905–916, December 2002

45 J. Kato, T. Watanabe, S. Joga, J. Rittscher, and A. Blake, An HMM-based Segmentation Method for Traffic Monitoring Movies, IEEE Transactions on Pattern Analysis and Machine Intelligence, 24(9), pages 1291 – 1296, September 2002

44 B. North, A. Blake, M. Isard, and J. Rittscher, Learning and Classification of Complex Dynamics. IEEE Transactions on Pattern Analysis and Machine Intelligence, 22(9), pages 1016–1034, September 2000

Peer-Reviewed Conference Contributions

43 A. Santamaria, Y. Huang, and J. Rittscher, Cell Segmentation and Classification Via Unsupervised Shape Ranking, IEEE International Symposium on Biomedical Imaging, San Francisco, 2013

42 X. Liu, S. Iyengar, and J. Rittscher, Monitoring Cardiomyocyte Motion in Real Time Through Image Registration and Time Series Analysis, IEEE International Symposium on Biomedical Imaging, Barcelona, 2012

41 D. Margolis, A. Santamaria-Pang, and J. Rittscher, Tissue Segmentation and Classification using Graph-Based Unsupervised Clustering, IEEE International Symposium on Biomedical Imaging, Barcelona, 2012

40 S. Singh, F. Janoos, T. P ecot, E. Caserta, G. Leone, J. Rittscher, and R. Machiraju, Identifying Nuclear Phenotypes using Semi-supervised Metric Learning, The 22nd International Conference on Information Processing in Medical Imaging

39 D. Padfield, J. Ritscher and B. Roysam, Quantitative Biological Studies Enabled by Robust Cell Tracking, IEEE International Symposium on Biomedical Imaging (ISBI), Chicago, 2011

38 J. Tu, B. Laflen, X. Liu, M. Bello, J. Rittscher, and P. Tu, LPSM: Fitting Shape Model by Linear Programming, IEEE Conference on Automatic Face and Gesture Recognition, Santa Barbara, 2011

37 D. Gao, D. Padfield, J. Rittscher, R. McKay, Automated Training Data Generation for Microscopy Focus Classification, International Conference on Medical Image Computing and Computer Assisted Intervention, Beijing, 2010

36 S.-N. Lim, G. Doretto and J. Rittscher, Object Constellations: Scalable, Simultaneous Detection and Recognition of Multiple Specific Objects, 11^{th} European Conference on Computer Vision, ECCV Workshop on Vision for Cognitive Tasks, Crete, 2010

35 S. Singh, S. Raman, E. Caserta, G. Leone, M. Ostrowski, J. Rittscher, and R. Machiraju, Analysis of Spatial Variation of Nuclear Morphology in Tissue Microenvironments, IEEE International Symposium on Biomedical Imaging, Rotterdam, NL, 2010

34 S. Singh, S. Raman, J. Rittscher, and R. Machiraju, Segmentation Evaluation for Fluorescence Microscopy Images of Biological Objects, 4th Workshop on Microscopic Image Analysis with Applications in Biology, Bethesda, MD, 2009

33 D. Padfield, J. Rittscher, and B. Roysam, Coupled Minimum-Cost Flow Cell Tracking, Information Processing in Medical Imaging, Williamsburg, VA, 2009

32 J. Kim, G. Doretto, J. Rittscher, P.H. Tu, N. Krahnstoever, and M. Pollefeys, A model change detection approach to dynamic scene modeling, IEEE International Conference on Advanced Video and Signal Based Surveillance, Italy, 2009

31 P. Tu, T. Sebastian, G. Doretto, N. Krahnstoever, J. Rittscher, and T. Yu, Unified Crowd Segmentation, 6th European Conference on Computer Vision, Marseilles, France, 2008

30 D. Padfield, J. Rittscher, and B. Roysam, Defocus and Low CNR Detection for Cell Tracking Applications, 3^{rd} MICCAI Workshop on Microscopic Image Analysis with Applications in Biology, New York, NY, September, 2008

29 K. Mosaliganti, S. Singh, S. Naidu, J. Rittscher, R. Bhotika, R. Machiraju, K. Huang, and G. Leone Estimating Intensity Bias Fields in Confocal Images Showing Salient Cellular Arrangements, 3^{rd} MICCAI Workshop on Microscopic Image Analysis with Applications in Biology, New York, NY, September, 2008

28 D. Padfield, J. Rittscher, and B. Roysam, Spatio-Temporal Cell Segmentation and Tracking for Automated Screening, IEEE International Symposium on Biomedical Imaging, Paris, France, 2008

27 X. Wang, G. Doretto, T.B. Sebastian, J. Rittscher, and P.H. Tu, Shape and Appearance Context Modeling, IEEE International Conference on Computer Vision, 2007

26 T. Sebastian, J. Rittscher, D. Nelson, and S. Abbot, Automatic Characterization of In Vitro Cardiomyocyte Motion, 2nd Workshop on Microscopic Image Analysis with Applications in Biology, Piscataway, NJ, 2007

25 D. Padfield, J. Rittscher, N. Thomas, and B. Roysam, Spatio-temporal Cell Cycle Phase Analysis Using Level Sets and Fast Marching Methods, MICCAI Workshop on Microscopic Image Analysis with Applications in Biology, Copenhagen, 2006

24 N. Gheissari, T. Sebastian, P.H. Tu, J. Rittscher, and R. Hartley, A Novel Approach to Person Reidentification, IEEE Computer Vision and Pattern Recognition, 2006

23 X. Liu, T. Chen, and J. Rittscher, Optimal Pose for Face Recognition, IEEE Conference on Computer Vision and Pattern Recognition, 2006

22 D. Padfield, J. Rittscher, T. Sebastian, N. Thomas, and B. Roysam, Spatio-temporal Cell Cycle Analysis Using 3D Level Set Segmentation of Unstained Confocal Fluorescence Images, IEEE International Symposium on Biomedical Imaging, Arlington, USA, 2006

21 T. Sebastian, J. Rittscher, and L. Yu, Computing Phagocytosis Index for High-Throughput Applications, IEEE International Symposium on Biomedical Imaging, Arlington, USA, 2006

20 X. Liu, P.H. Tu, J. Rittscher, A. Perera, and N. Krahnstoever, Detecting and Counting People in Surveillance Applications, IEEE Conference on Advanced Video and Signal Based Surveillance, Como, Italy, 2005

19 J. Rittscher, P.H. Tu, and N. Krahnstoever, Simultaneous Estimation of Segmentation and Shape, IEEE Conference on Computer Vision and Pattern Recognition, San Diego, 2005

18 J. Rittscher, N. Krahnstoever, and L. Galup, Multi-Target Tracking Using Hybrid Particle Filtering, IEEE Workshops on Applications of Computer Vision WACV, Breckenridge, 2005

17 N. Krahnstoever, K. Chean, J. Rittscher, T. Tomlinson, and P. H. Tu, Activity Recognition using Visual Tracking and RFID, IEEE Workshops on Applications of Computer Vision (WACV), Breckenridge, 2005

16 N. Krahnstoever, T. Kelliher, and J. Rittscher, Obtaining Pareto Optimal Performance of Visual Surveillance Algorithms, IEEE International Workshops on Performance Evaluation of Tracking and Surveillance (PETS), Breckenridge, 2005

15 P. H. Tu and J. Rittscher, Crowd Segmentation through Emergent Labeling, 2nd ECCV Workshop on Statistical Methods in Video Processing, Prague, 2004

14 A. Hoogs, J. Rittscher, G. Stein, and J. Schmiederer, Video Content Annotation using Visual Analysis and Large Semantic Knowledgebase, IEEE Conference on Computer Vision and Pattern Recognition, 2003

13 G. Stein, J. Rittscher, and A. Hoogs, Enabling Video Annotation using a Semantic Database Extended with Visual Knowledge, IEEE International Conference on Multimedia and Expo, 2003

12 P. Tu, J. Rittscher, and T. Kelliher, Site Calibration for Large Indoor Scenes, IEEE International Conference on Advanced Video and Signal Based Surveillance, Miami, 2003

11 S. Sullivan and J. Rittscher, Guiding Random Particles by Deterministic Search, 8th International Conference on Computer Vision, Vancouver, Canada, 2001

10 J. Rittscher and S. Sullivan, An Integral Criterion for Detecting Boundary Edges and Textured Regions, 15th International Conference on Pattern Recognition, Barcelona, Spain, 2000

9 J. Rittscher, J. Kato, S. Joga, and A. Blake, A Probabilistic Background Model for Tracking, 6th European Conference on Computer Vision, Dublin, Ireland, 2000

8 J. Sullivan, A. Blake, and J. Rittscher, Statistical Foreground Modelling for Object Localisation, 6th European Conference on Computer Vision, Dublin, Ireland, 2000

7 J. Rittscher and A. Blake, Classification of Human Body Motion, 7th International Conference on Computer Vision, Kerkyra, Greece, 1999

Other Publications

6 J. Rittscher and A. Santamaria, Mapping for tissue based cytometry, Special session on "Advances in Computer- Aided Histopathology" at IEEE International Symposium on Biomedical Imaging (ISBI), March 2014

5 J. Rittscher, D. Padfield, A. Santamaria, J. Tu, A. Can, M. Bello, D. Gao, A. Sood, M. Gerdes, and F. Ginty, Methods and Algorithms for Extracting High-Content Signatures from Cells, Tissues and Model Organisms, Special session on "Current challenges in image analysis for high-throughput microscopy" at IEEE International Symposium on Biomedical Imaging (ISBI), March 2011

4 P.H. Tu, F. Wheeler, N. Krahnstoever, T. Sebastian, J. Rittscher, X. Liu, A. Perera, and G. Doretto, Surveillance video analytics for large camera networks, SPIE Letters, 2007

3 P.H. Tu, G. Doretto, N.O. Krahnstoever, A.A.G. Perera, F.W. Wheeler, X. Liu, J. Rittscher, T.B. Sebastian, T. Yu, and K.G. Harding, K. G., An intelligent video framework for homeland protection. In Proceedings of SPIE Defense and Security Symposium - Unattended Ground, Sea, and Air Sensor Technologies and Applications IX, Orlando, FL, USA, April 9–13, 2007. (invited submission)

2 D. Padfield, J. Rittscher, N. Thomas, and B. Roysam, Validation Methods for Cell Cycle Analysis Algorithms in Confocal Fluorescence Image, IEEE/NLM Life Science Systems & Applications Workshop, July 2006, Bethesda, MD

1 S. Luckhaus, K. Räwer and J. Rittscher, A new Γ-convergent approximation to the Mumford-Shah functional. Preprint Nr. 517, Sonderforschungsbereich 256, Universität Bonn

Patents

39 USPTO Nr. 8,588,503 System and method for detecting and eliminating one or more defocused or low contrast-to-noise ratio images

38 USPTO Nr. 8,508,588 Methods and systems identyfying well wall boundaries of microplates

37 USPTO Nr. 8,457,406 Identifying descriptor for person and object in an image

36 USPTO Nr. 8,452,096 Identifying descriptor for person or object in an image

35 USPTO Nr. 8,355,576 Method and System for crowd segmentation

34 USPTO Nr. 8,295,543 Device and method for detecting targets in images based on user-defined classifiers

33 USPTO Nr. 8,233,662 Method and system for detecting signal color from a moving video platform

32 USPTO Nr. 8,184,915 Device and method for fast computation of region based image features

31 USPTO Nr. 8,165,397 Identifying descriptor for person or object in an image

30 USPTO Nr. 8,154,600 Method and system for distributed multiple target tracking

29 USPTO Nr. 7,940,978 Automatic characterization of cellular motion

28 USPTO Nr. 7,885,429 Standoff detection systems and methods

27 USPTO Nr. 7,817,841 Time-lapse cell cycle analysis of unstained nuclei

26 USPTO Nr. 7,711,146 Method and system for performing image re-identification

25 USPTO Nr. 7,596,241 System and method for automatic person counting and detection of specific events

24 USPTO Nr. 7,356,425 Method and system for camera autocalibration

23 USPTO Nr. 7,049,965 Surveillance systems and methods

22 USPTO Nr. 6,911,907 System and method of providing security for a site

21 USPTO Nr. 6,853,936 Method and system for calibrating multiple cameras with potentially non-overlapping fields of view

20 USPTO Pub. App. No. 20130287283 System and method for performing quality review scoring of biomarkers and image analysis for biological tissue

19 USPTO Pub. App. No. 20120275563 System and method for orienting and X-ray detector

18 USPTO Pub. App. No. 20110051999 Device and method for detecting targets in images based on user-defined classifiers

17 USPTO Pub. App. No. 20110075914 System and method for the quantitative assessment of digital histology images

16 USPTO Pub. App. No. 20110026803 Methods and system for digitally enhancing an image of a stained material

15 USPTO Pub. App. No 20100119127 Systems and methods for automated extraction of high-content information from whole organisms

14 USPTO Pub. App. No. 20100119119 Automated systems and methods for screening zebrafish

13 USPTO Pub. App. No. 20100104513 Method and system for dye assessment

11 USPTO Pub. App. No. 20090310862 Method and system for crowd segmentation

10 USPTO Pub. App. No. 20090034791 Image processing for person and object re-identification

9 USPTO Pub. App. No. 20090238457 Method and system for automated segmentation of dense cell populations

8 USPTO Pub. App. No. 20080291272 Method and System for remote estimation of motion parameters

7 USPTO Pub. App. No. 20080259163 Method and system for distributed multiple target tracking

6 USPTO Pub. App. No. 20080187220 Device and method for fast computation of region based image features

5 USPTO Pub. App. No. 20060120571 System and method for passive face recognition

4 USPTO Pub. App. No. 20060045310 System and method for tracking articulated body motion

3 USPTO Pub. App. No. 20050254546 System and method for segmenting crowded environments into individual objects

2 USPTO Pub. App. No. 20050102183 Monitoring system and method based on information prior to the point of sale

1 USPTO Pub. App. No. 20050068171 Wearable security system and method

References can be provided upon request.