

Stathis Hadjidemetriou

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Research Interests

- Identification of anatomy or pathology in multimodal/spatiotemporal anatomic MRI images
- Restoration of MRI images for intensity non-uniformity and noise
- Atlas computation from MRI data sets
- Image analysis for longitudinal preclinical and clinical pharmaceutical studies.

Summary of research projects:

[Link to image analysis group with project summaries](#)

Publications

- Analysis of MRI Data of Patients with ADPKD for the Volume of the Kidneys and of the Enclosed Cysts, Stathis Hadjidemetriou, Wilfried Reichardt, Juergen Hennig, Martin Buechert, IEEE international symposium on biomedical imaging: from nano to macro (ISBI), 2011, Chicago, (Oral presentation)
- Analysis of MRI Data Monitoring the Preclinical Treatment of Polycystic Kidney Disease in a Mouse Model, Stathis Hadjidemetriou, Wilfried Reichardt, Juergen Hennig, Martin Buechert, Dominik von Elverfeldt, MAGMA, Jan, 2011
- Analysis of MR Images of Mice in Preclinical Treatment Monitoring of Polycystic Kidney Disease, Stathis Hadjidemetriou, Wilfried Reichardt, Martin Buechert, Juergen Hennig, and Dominik von Elverfeldt, Proc. of 12th International conference on medical image computing and computer assisted intervention, (MICCAI), 2009, September, London, UK.
- Characterization of white matter degeneration in elderly subjects by magnetic resonance diffusion and FLAIR imaging correlation, Wang Zhan, Yu Zhang, Susanne G. Mueller, Peter Lorenzen, Stathis Hadjidemetriou, Norbert Schuff, Michael W. Weiner, NeuroImage, February, 2009.
- Restoration of MRI Data for Intensity Non-uniformities using Local High Order Intensity Statistics, Stathis Hadjidemetriou, Colin Studholme, Susanne Mueller, Michael Weiner, and Norbert Schuff, Medical image analysis, February, 2009.
- Computational Atlases of Severity of White Matter Lesions in Elderly Subjects with MRI, Stathis Hadjidemetriou, Peter Lorenzen, Michael Weiner, Susanne Mueller, and Norbert Schuff, Proc. of 11th International conference on medical image computing and computer assisted intervention, (MICCAI), 2008, September, New York City.
- Restoration of MRI Data for Field Nonuniformities using High Order Neighborhood Statistics, Stathis Hadjidemetriou, Colin Studholme, Susanne Mueller, Michael Weiner, and Norbert Schuff, Proc. of SPIE conference on medical imaging, Vol. 6512, 2007, February, San Diego, Oral presentation.
- Joint Restoration of Bi-contrast MRI Data for Intensity Non-uniformities, S. Hadjidemetriou, M. Weiner, J. Hennig, ISMRM annual meeting 2011, Montral, Canada (To appear)
- Automated Analysis of MRI Data of Patients with ADPKD for the Volume of the Kidneys and of the Enclosed Cysts, S. Hadjidemetriou, W. Reichardt, J. Hennig, M. Buechert, ISMRM annual meeting 2011, Montral, Canada (To appear)
- Analysis of MRI Data of Patients with ADPKD for the Volume of the Kidneys and of the Enclosed Cysts, Stathis Hadjidemetriou, Wilfried Reichardt, Juergen Hennig, and Martin Buechert, Proc. of the Conference of the German Society of Medical Physics (DGMP), 2010, Freiburg, Germany, Oral presentation.
- Analysis of MRI Data Monitoring the Treatment of Polycystic Kidney Disease in a Preclinical Mouse Model, Stathis Hadjidemetriou, Wilfried Reichardt, Juergen Hennig, Martin Buechert, and Dominik von Elverfeldt, Proc. of ISMRM-ESMRMB Joint Annual Meeting 2010, Stockholm, Sweden, Oral presentation.
- Analysis of Abdominal Fat Tissue Images Acquired with Continuously Moving Table MRI, Stathis Hadjidemetriou, Juergen Hennig, Florian Klausmann, and Ute Ludwig, Proc. of ISMRM-ESMRMB Joint Annual Meeting 2010, Stockholm, Sweden.
- Tracking the Motion of the Outer Tips of Microtubules, Stathis Hadjidemetriou, Derek Toomre, and James S. Duncan, Medical image analysis, November, 2008.
- Detection and Tracking of Cell Divisions in Phase Contrast Video Microscopy, Stathis Hadjidemetriou, Brian Gabrielli, Tanya Pike, Frankie Stevens, Katarina Mele, and Pascal Vallotton, Proc. of microscopic image analysis with applications in biology (MIAAB), in conjunction with MICCAI, 2008, September, New York City, Oral presentation.

- Automatic Segmentation of Microtubule Plus End Motion into Phases of Growth and Shortening, Stathis Hadjidemetriou, Derek Toomre, and James Duncan, Proc. of Workshop on Multiscale Biological Imaging, Data Mining and Informatics, 2008, January, Santa Barbara, California, Oral presentation.
- Motion Tracking of the Outer Tips of Microtubules, Stathis Hadjidemetriou, Derek Toomre, and James Duncan, Proc. of Workshop on Multiscale Biological Imaging, Data Mining and Informatics, 2006, September, Santa Barbara, California, Invited oral presentation, abstract.
- Tracking the Motion of the Outer Tips of Microtubules, Stathis Hadjidemetriou, Derek Toomre, and James S. Duncan, Proc. of IEEE international symposium on biomedical imaging: From nano to macro, (ISBI), 2006, April, Arlington, Virginia.
- Segmentation and 3D Reconstruction of Microtubules in Total Internal Reflection Fluorescence Microscopy (TIRFM), Stathis Hadjidemetriou, Derek Toomre, and James S. Duncan, Proc. of 8th International conference on medical image computing and computer assisted intervention, (MICCAI), 2005, October, Palm Springs, California, Oral presentation.
- Automatic Quantification of Microtubule Dynamics, Stathis Hadjidemetriou, James S. Duncan, Derek Toomre, and David Tuck, Proc. of IEEE international symposium on biomedical imaging: From nano to macro, (ISBI), 2004, April, Arlington, Virginia, Oral presentation.
- Multiresolution Histograms and their Use for Recognition, Efstathios Hadjidemetriou, Michael Grossberg, and Shree K. Nayar, IEEE transactions on pattern analysis and machine intelligence, 26(7), July, 2004.
- Histogram Preserving Image Transformations, Efstathios Hadjidemetriou, Michael Grossberg, and Shree Nayar, International journal of computer vision, 45(1), 5-23, October, 2001.
- Multiresolution Histograms and their Use for Texture Classification, Efstathios Hadjidemetriou, Michael Grossberg, and Shree K. Nayar, Proc. of the 3rd international workshop on texture analysis and synthesis, in conjunction with ICCV 2003, Nice, France, Oral presentation.
- Spatial Color Component Matching of Images, Jianying Hu, and Efstathios Hadjidemetriou, Proc. of the international conference of pattern recognition (ICPR), 2002, August, Quebec city.
- Resolution Selection Using Generalized Entropies of Multiresolution Histograms, Efstathios Hadjidemetriou, Michael Grossberg, and Shree Nayar, Proc. of the European conference on computer vision (ECCV), 2002, May, Copenhagen.
- Spatial Information in Multiresolution Histograms, Efstathios Hadjidemetriou, Michael Grossberg, and Shree Nayar, Proc. of IEEE conference on computer vision and pattern recognition (CVPR), 2001, December, Hawaii.
- Histogram Preserving Image Transformations, Efstathios Hadjidemetriou, Michael Grossberg, and Shree Nayar, Proc. of IEEE conference on computer vision and pattern recognition (CVPR), 2000, June, South Carolina.
- Appearance Matching with Partial Data, Efstathios Hadjidemetriou, and Shree Nayar, Proc. of DARPA image understanding workshop (IUW), 1998, November, Monterey, California.

Resume

- 10/2008 – present: Research scientist, Department of Diagnostic Radiology - Medical Physics, University Hospital Freiburg, Germany.
- 1/2006 - 9/07: Post-doctoral associate/scientist, Center of Imaging of Neurodegenerative Diseases, Department of Radiology of the VA Hospital at San Francisco/UCSF.
- 11/02-12/05: Post-doctoral associate, Image Processing and Analysis Group, Department of Diagnostic Radiology and Electrical Engineering, Yale School of Medicine.
- 9/97-10/02: Doctoral (Ph.D.), Department of Computer Science, Columbia University in the City of new York.
- 9/95-12/96: Master´s of science (M.Sc.), Department of Electrical Engineering, Columbia University.
- 1/90-5/95 : Bachelor of engineering (B.Eng.-Honors), Department of Electrical Engineering, McGill University, Montreal, Canada.