

Microstructure Imaging		
<b>MA01</b>	Leveraging Random Forests for Interactive Exploration of Large Histological Images Loic Peter, Diana Mateus, Pierre Chatelain, Noemi Schworm, Stefan Stangl, Gabriele Multhoff, Nassir Navab	3-001
<b>MA02</b>	Cell detection and segmentation using correlation clustering Chong Zhang, Julian Yarkony, Fred Hamprecht	3-009
<b>MA03</b>	Candidate Sampling for Neuron Reconstruction from Anisotropic Electron Microscopy Volumes Jan Funke, Julien Martel, Stephan Gerhard, Bjoern Andres, Dan Ciresan, Alessandro Giusti, Luca Gambardella, Juergen Schmidhuber, Hanspeter Pfister, Albert Cardona, Matthew Cook	3-017
<b>MA04</b>	A Fully Bayesian Inference Framework for Population Studies of the Brain Microstructure Maxime Taquet, Benoit Scherrer, Jurriaan Peters, Sanjay Prabhu, Simon Warfield	3-025
<b>MA05</b>	Shading Correction for Whole Slide Image Using Low Rank and Sparse Decomposition Tingying Peng, Lichao Wang, Christine Bayer, Sailesh Conjeti, Maximilian Baust, Nassir Navab	3-033
<b>MA06</b>	Cell-Sensitive Microscopy Imaging for Cell Image Segmentation Zhaozheng Yin, Hang Su, Elmer Ker, Mingzhong Li, Haohan Li	3-041
<b>MA07</b>	A Probabilistic Approach to Quantification of Melanin and Hemoglobin Content in Dermoscopy Images Ali Madooei, Mark Drew	3-049
<b>MA08</b>	Automated, Non-Invasive Characterization of Stem Cell-Derived Cardiomyocytes from Phase-Contrast Microscopy Mahnaz Maddah, Kevin Loewke	3-057
<b>MA09</b>	Exploiting Enclosing Membranes and Contextual Cues for Mitochondria Segmentation Aurelien Lucchi, Carlos Becker, Pablo Marquez Neila, Pascal Fua	3-065
<b>MA10</b>	Identifying Neutrophils in H&E Staining Histology Tissue Images Jiazhao Wang, John D. MacKenzie, Rageshree Ramachandran, Danny Z. Chen	3-073
<b>MA11</b>	Active Graph Matching for Automatic Joint Segmentation and Annotation of <i>C. Elegans</i> Dagmar Kainmueller, Florian Jug, Carsten Rother, Gene Myers	3-081
<b>MA12</b>	Semi-automated Query Construction for Content-based Endomicroscopy Video Retrieval Marzieh Kohandani Tafresh, Nicolas Linard, Barbara Andre, Nicholas Ayache, Tom Vercauteren	3-089
<b>MA13</b>	Optree: a Learning-Based Adaptive Watershed Algorithm for Neuron Segmentation Mustafa Uzunbas, Chao Chen, Dimitris Metaxas	3-097

## Image Reconstruction and Enhancement

<b>MA14</b>	Application-driven MRI: Joint reconstruction and segmentation from undersampled MRI data Jose Caballero, Wenjia Bai, Anthony N Price, Daniel Rueckert, Joseph V Hajnal	3-106
<b>MA15</b>	Joint Parametric Reconstruction and Motion Correction Framework for Dynamic PET Data Jieqing Jiao, Alexandre Bousse, Kris Thielemans, Pawel Markiewicz, Ninon Burgos, David Atkinson, Simon R. Arridge, Brian Hutton, Sebastien Ourselin	3-114
<b>MA16</b>	Deformable Reconstruction of Histology Sections using Structural Probability Maps Markus Muller, Mehmet Yigitsoy, Hauke Heibel, Nassir Navab	3-122
<b>MA17</b>	Optimally Stabilized PET Image Denoising Using Trilateral Filtering Awais Mansoor, Ulas Bagci, Daniel Mollura	3-130
<b>MA18</b>	Real time dynamic MRI with dynamic total variation Chen Chen, Yeqing Li, Leon Axel, Junzhou Huang	3-138
<b>MA19</b>	Improved Reconstruction of 4D-MR Images by Motion Predictions Christine Tanner, Golnoosh Samei, Gabor Szekely	3-146
<b>MA20</b>	Efficient Tensor Total-Variation Regularized Deconvolution for Low-Dose CT Perfusion Ruogu Fang, Pina Sanelli, Shaoting Zhang, Tsuhan Chen	3-154
<b>MA21</b>	Speckle Reduction in Optical Coherence Tomography by Image Registration and Matrix Completion Jun Cheng, Lixin Duan, Damon W.K. Wong, Dacheng Tao, Masahiro Akiba, Jiang Liu	3-162
<b>MA22</b>	Signal decomposition for X-ray dark-field imaging Sebastian Kaeppeler, Florian Bayer, Thomas Weber, Andreas Maier, Gisela Anton, Joachim Hornegger, Matthias Beckmann, Peter A. Fasching, Arndt Hartmann, Felix Heindl, Thilo Michel, Gueluemser Oezguel, Georg Pelzer, Claudia Rauh, Jens Rieger, Ruediger Schulz-Wendtland, Michael Uder, David Wachter, Evelyn Wenkel, Christian Riess	3-170

## MA3: Registration

<b>MA23</b>	Iterative Most Likely Oriented Point Registration Seth Billings, Russell Taylor	3-178
<b>MA24</b>	Robust Anatomical Landmark Detection for MR Brain Image Registration Dong Han, Yaozong Gao, Guorong Wu, Pew-Thian Yap, Dinggang Shen	3-186
<b>MA25</b>	Free-form Deformation Using Lower-order B-spline for Nonrigid Image Registration Wei Sun, Wiro Niessen, Stefan Klein	3-194

## Poster Sessions

Monday, September 15th, 10:00-12:00pm

LNCS 8673-PG #

<b>MA26</b>	Multispectral Image Registration Based on Local Canonical Correlation Analysis Mattias P Heinrich, Julia A Schnabel, Bartlomiej W Papiez, Heinz Handels	3-202
<b>MA27</b>	Topology Preservation and Anatomical Feasibility in Random Walker Image Registration Shawn Andrews, Lisa Tang, Ghassan Hamarneh	3-210
<b>MA28</b>	DR-BUDDI - Diffeomorphic Registration for Blip Up-Down Diffusion Imaging M. Okan Irfanoglu, Pooja Modi, Amritha Nayak, Andrew Knutsen, Joelle Sarlls, Carlo Pierpaoli	3-218
<b>MA29</b>	Spatially-varying metric learning for diffeomorphic image registration. A variational framework. Francois-Xavier Vialard, Laurent Rissler	3-227
<b>MA30</b>	Sparse Bayesian Registration Loic Le Folgoc, Herve Delingette, Antonio Criminisi, Nicholas Ayache	3-235
<b>MA31</b>	Histology to microCT Data Matching using Landmarks and a Density Biased RANSAC Natalia Chicherova, Ketut Fundana, Bert Mueller, Philippe C. Cattin	3-243
<b>MA32</b>	Robust Registration of Longitudinal Spine CT Ben Glocker, Darko Zikic, David Haynor	3-251
<b>MA33</b>	Geometric-Feature-Based Spectral Graph Matching in Pharyngeal Surface Registration Qingyu Zhao, Stephen Pizer, Marc Niethammer, Julian Rosenman	3-259
<b>MA34</b>	Gaussian Process Interpolation for Uncertainty Estimation in Image Registration Christian Wachinger, Polina Golland, Martin Reuter, William (Sandy) Wells	3-267
<b>MA35</b>	Hough Space Parametrization: Ensuring Global Consistency in Intensity-based Registration Mehmet Yigitsoy, Javad Fotouhi, Nassir Navab	3-275
<b>MA36</b>	2D/3D Registration of TEE Probe from Two Non-orthogonal C-arm Directions Markus Kaiser, Matthias John, Tobias Heimann, Alexander Brost, Thomas Neumuth, Georg Rose	3-283
<b>MA37</b>	Reduced-dose patient to baseline CT rigid registration in Radon space Guy Medan, Achia Kronman, Leo Joskowicz	3-291
<b>Segmentation I</b>		
<b>MA38</b>	Hierarchical Label Fusion with Multiscale Feature Representation and Label-specific Patch Partition Guorong Wu, Dinggang Shen	3-299

<b>MA39</b>	Simultaneous Segmentation and Anatomical labeling of the Cerebral Vasculature David Robben, Engin Turetken, Stefan Sunaert, Vincent Thijs, Guido Wilms, Pascal Fua, Frederik Maes, Paul Suetens	3-307
<b>MA40</b>	Atlas-Based Under-Segmentation Christian Wachinger, Polina Golland	3-315
<b>MA41</b>	Bayesian model selection for pathological data Carole H Sudre, Manuel Jorge Cardoso, Willem Bouvy, Geert Jan Biessels, Josephine Barnes, Sebastien Ourselin	3-323
<b>MA42</b>	Automatic Localization of Cochlear Implant Electrodes in CT Yiyuan Zhao, Benoit Dawant, Robert Labadie, Jack Noble	3-331
<b>MA43</b>	Coronary Lumen and Plaque Segmentation from CTA Using Higher-Order Shape Prior Yoshiro Kitamura, Yuanzhong Li, Wataru Ito, Hiroshi Ishikawa	3-339
<b>MA44</b>	Multi-atlas Spectral PatchMatch: Application to cardiac image segmentation Wenzhe Shi, Herve Lombaert, Wenjia Bai, Christian Ledig, Xiahai Zhuang, Antonio M Simoes Monteiro de Marvao, Timothy Dawes, Declan O'Regan, Daniel Rueckert	3-348
<b>MA45</b>	Robust Bone Detection in Ultrasound Using Combined Strain Imaging and Envelope Signal Power Detection Mohammad Arafat Hussain, Antony Hodgson, Rafeef Abugharbieh	3-356
<b>MA46</b>	SIMPLE Is a Good Idea (and Better with Context Learning) Zhoubing Xu, Andrew Asman, Peter Shanahan, Richard Abramson, Bennett Landman	3-364
<b>MA47</b>	Segmentation of Multiple Knee Bones from CT for Orthopedic Knee Surgery Planning Dijia Wu, Michal Sofka, Neil Birkbeck, S. Kevin Zhou	3-372
<b>MA48</b>	TRIC: Trust Region for Invariant Compactness and its application to abdominal aorta segmentation Ismail Ben Ayed, Michael Wang, Brandon Miles, Gregory Garvin	3-381
<b>MA49</b>	Small Sample Learning of Superpixel Classifiers for EM Segmentation Toufiq Parag, Stephen Plaza, Louis Scheffer	3-389
<b>MA50</b>	A Critical Analysis of STAPLE Using Direct Inference of Segmentation Truth Koen Van Leemput, Mert Rory Sabuncu	3-398

## Poster Sessions

Monday, September 15th, 3:00-5:00pm

LNCS 8673-PG #

Intervention Planning and Guidance I		
<b>MP01</b>	Auto Localization and Segmentation of Occluded Vessels in Robot-Assisted Partial Nephrectomy Alborz Amir-Khalili, Jean-Marc Peyrat, Julien Abi-Nahed, Osama Al-Alao, Abdulla Al-Ansari, Ghassan Hamarneh, Rafeef Abugharbieh	3-407
<b>MP02</b>	3D Global Estimation and Augmented Reality Visualization of Intra-operative X-ray Dose Nicolas Loy Rodas, Nicolas Padoy	3-415
<b>MP03</b>	An Augmented Reality Framework for Soft Tissue Surgery Peter Mountney, Johannes Fallert, stephane nicolau, Luc Soler, Philip Mewes	3-423
<b>MP04</b>	Pico Lantern: A Pick-up Projector for Augmented Reality in Laparoscopic Surgery Philip Edgcumbe, Philip Pratt, Guang Zhong Yang, Chris Nguan, Robert Rohling	3-432
<b>MP05</b>	Efficient Stereo Image Geometrical Reconstruction at Arbitrary Camera Settings from a Single Calibration Songbai Ji, Xiaoyao Fan, David Roberts, Keith Paulsen	3-440
<b>MP06</b>	A Compact Active Stereovision System with Dynamic Reconfiguration for Endoscopy or Colonoscopy Applications Yingfan Hou, Erwan Dupont, Tanneguy Redarce, Frederic Lamarque	3-448
<b>MP07</b>	Continuous Zoom Calibration by Tracking Salient Points in Endoscopic Video Miguel Lourenco, Joao P. Barreto, Fernando Fonseca, Helder Ferreira, Rui M. Duarte, Jorge Correia-Pinto	3-456
<b>MP08</b>	Instrument Tracking via Online Learning in Retinal Microsurgery Yeqing Li, Chen Chen, Xiaolei Huang, Junzhou Huang	3-464
<b>MP09</b>	Estimating Patient Surface Model for Optimizing Medical Scanning Workflow Vivek Singh, Kevin Chang, Kai Ma, Michael Wels, Grzegorz Soza, Terrence Chen	3-472
<b>MP10</b>	3D steering of a flexible needle by visual servoing Alexandre Krupa	3-480
<b>MP11</b>	Improved Screw Placement for Slipped Capital Femoral Epiphysis (SCFE) using Robotically-Assisted Drill Guidance Bamshad Azizi Koutenaee, Ozgur Guler, Emmanuel Wilson, Ramesh Thoranaghatte, Matthew Oetgen, Nassir Navab, Kevin Cleary	3-488
<b>MP12</b>	Hierarchical HMM Based Learning of Navigation Primitives for Cooperative Robotic Endovascular Catheterization Hedyeh Rafii-Tari, Jindong Liu, Christopher Payne, Colin Bicknell, Guang Zhong Yang	3-496
<b>MP13</b>	Towards personalized interventional SPECT-CT imaging Jose Gardiazabal, Marco Esposito, Philipp Matthies, Asli Okur, Jakob Vogel, Silvan Kraft, Benjamin Frisch, Tobias Lasser, Nassir Navab	3-504
<b>MP14</b>	Chest Modeling and Personalized Surgical Planning for Pectus Excavatum Qian Zhao, Nabile Safdar, Chunzhe Duan, Emmarie Myers, Anthony Sandler, Marius George Linguraru	3-512

## Oncology

<b>MP15</b>	New 2.5D representation for Lymph Node Detection using Random Sets of Deep Convolutional Neural Network Observations Holger Roth, Le Lu, Ari Seff, Kevin Cherry, Joanne Hoffman, Shijun Wang, Jiamin Liu, Evrim Turkbey, Ronald Summers	3-520
<b>MP16</b>	Towards automatic plan selection for radiotherapy of cervical cancer by fast automatic segmentation of Cone Beam CT scans Thomas Langerak, Sabrina Heijkoop, Sandra Quint, Jan Willem Mens, Ben Heijmen, Mischa Hoogeman	3-528
<b>MP17</b>	Breast Cancer Risk Analysis based on a Novel Segmentation Framework for Digital Mammograms Xin Chen, Emmanouil Moschidis, Chris Taylor, Susan Astley	3-536
<b>MP18</b>	2D View Aggregation for Lymph Node Detection Using Hierarchical Linear Classifiers Ari Seff, Le Lu, Kevin M. Cherry, Holger Roth, Jiamin Liu, Shijun Wang, Joanne Hoffman, Evrim B. Turkbey, Ronald M. Summers	3-544
<b>MP19</b>	Patient Specific Image Driven Evaluation of the Aggressiveness of Metastases to the Lung Julien Jouganous, Olivier Saut, Thierry Colin, Marie Martin, Francois Cornelis	3-553
<b>MP20</b>	Multi-parametric 3D Quantitative Ultrasound Elastography Imaging for Detecting Palpable Prostate Tumors Omid Mohareri, Angelica Ruzskowski, Julio Lobo, Ali Baghani, Guy Nir, Joseph Ischia, Edward Jones, Ladan Fazli, Larry Goldenberg, Mehdi Moradi, Tim Salcudean	3-561
<b>MP21</b>	Multi-stage Thresholded Regions Classification on Whole-Body PET-CT Lymphoma Studies Lei Bi, Jinman Kim, Dagan Feng, Michael Fulham	3-569
<b>MP22</b>	fhSPECT-US Guided Punch Biopsy of Sentinel Lymph Nodes in the Axilla: Is it Feasible? Asli Okur, Christoph Hennersperger, Brent Runyan, Jose Gardiazabal, Stefan Peapke, Thomas Wendler, Nassir Navab	3-577
<b>MP23</b>	Gland Ring Morphometry for Prostate Cancer Prognosis in Multispectral Immunofluorescence Images Richard Scott, Faisal Khan, Jack Zeineh, Michael Donovan, Gerardo Fernandez	3-585
<b>MP24</b>	Automated detection of new or evolving melanocytic lesions using a 3D body model Federica Bogo, Javier Romero, Enoch Peserico, Michael Black	3-593
<b>MP25</b>	Bone Tumor Segmentation on Bone Scans Using Context Information and Random Forests Gregory Chu, Pechin Lo, Bharath Ramakrishna, Hyun Kim, Darren Morris, Jonathan Goldin, Matthew Brown	3-601
<b>MP26</b>	Automated Colorectal Tumour Segmentation in DCE-MRI using Supervoxel Neighbourhood Contrast Characteristics Benjamin Irving, Amalia Cifor, Bartlomiej W. Papiez, Jamie Franklin, Ewan M. Anderson, Michael Brady, Julia A. Schnabel	3-609
<b>MP27</b>	Real-time Visualisation and Analysis of Internal Examinations- Seeing the Unseen Alejandro Granados, Niels Hald, Aimee Di Marco, Shahla Ahmed, Naomi Low-Ber, Jenny Higham, Roger Kneebone, Fernando Bello	3-617

MP3: Optical Imaging

<b>MP28</b>	Tracing Retinal Blood Vessels by Matrix-Forest Theorem of Directed Graphs Li Cheng, Jaydeep De, Xiaowei Zhang, Feng Lin, Huiqi Li	3-626
<b>MP29</b>	Learning fully-connected CRFs for blood vessel segmentation in retinal images Jose Ignacio Orlando, Matthew Blaschko	3-634
<b>MP30</b>	Feature space optimization for virtual chromoendoscopy augmented by topography German Gonzalez, Vicente Parot, William Lo, Benjamin J. Vakoc, Nicholas J. Durr	3-642
<b>MP31</b>	Multi-Frame Super-Resolution with Quality Self-Assessment for Retinal Fundus Videos Thomas Kohler, Alexander Brost, Katja Mogalle, Qianyi Zhang, Christiane Kohler, Georg Michelson, Joachim Hornegger, Ralf P. Tornow	3-650
<b>MP32</b>	An Automated System for Detecting and Measuring Nailfold Capillaries Michael Berks, Philip Tresadern, Graham Dinsdale, Andrea Murray, Tonia Moore, Ariane Herrick, Chris Taylor	3-658

MP4: Segmentation II

<b>MP33</b>	Geodesic Patch-based Segmentation Zehan Wang, Kanwal Bhatia, Ben Glocker, Antonio M Simoes Monteiro de Marvao, Tim Dawes, Kazunari Misawa, Kensaku Mori, Daniel Rueckert	3-666
<b>MP34</b>	Tagged Template Deformation Raphael Prevost, Remi Cuingnet, Benoit Mory, Laurent Cohen, Roberto Ardon	3-674
<b>MP35</b>	Segmentation of the Right Ventricle Using Diffusion Maps and Markov Random Fields Oliver Moolan-Feroze, Majid Mirmehdi, Mark Hamilton, Chiara Bucciarelli-Ducci	3-682
<b>MP36</b>	Relaxed and Differential Image Foresting Transform for Graph-Cut Segmentation of Multiple 3D Objects Nikolas Moya, Alexandre Falcao, Krzysztof Ciesielski, Jayaram K. Udupa	3-690
<b>MP37</b>	Segmentation Based Denoising of PET Images: An Iterative Approach via Regional Means and Affinity Propagation Ziyue Xu, Ulas Bagci, Jurgen Seidel, David Thomasson, Jeffrey Solomon, Daniel J Mollura	3-698
<b>MP38</b>	Detection and Registration of Ribs in MRI using Geometric and Appearance Models Golnoosh Samei, Christine Tanner, Gabor Szekely	3-706

<b>MP39</b>	Patient-Specific Semi-Supervised Learning for Postoperative Brain Tumor Segmentation Raphael Meier, Stefan Bauer, Johannes Slotboom, Roland Wiest, Mauricio Reyes	3-714
<b>MP40</b>	Robust Cortical Thickness Measurement with LOGISMOS-B Ipek Oguz, Milan Sonka	3-722
<b>MP41</b>	Label Inference with Registration and Patch Priors Siqi Bao, Albert C. S. Chung	3-731
<b>MP42</b>	Automated 3D Segmentation of Multiple Surfaces with a Shared Hole: Segmentation of the Neural Canal Opening in SD-OCT Volumes Bhavna Antony, Mohammad Saleh Miri, Michael Abramoff, Young Kwon, Mona Garvin	3-739
<b>MP43</b>	Coupled Sparse Dictionary for Depth-based Cup Segmentation from Single Color Fundus Image Arunava Chakravarty, Jayanthi Sivaswamy	3-747
<b>MP44</b>	Topo-Geometric Filtration Scheme for Geometric Active Contours and Level Sets: Application to Cerebrovascular Segmentation Helena Molina-Abril, Alejandro Frangi	3-755
<b>MP45</b>	Combining Generative Models for Multifocal Glioma Segmentation and Registration Dongjin Kwon, Russell T. Shinohara, Hamed Akbari, Christos Davatzikos	3-763
<b>MP46</b>	Partial volume estimation in brain MRI revisited Alexis Roche, Florence Forbes	3-771
<b>MP47</b>	Sparse Appearance Learning Based Automatic Coronary Sinus Segmentation in CTA Shiyang Lu, Xiaojie Huang, Zhiyong Wang, Yefeng Zheng	3-779
<b>MP48</b>	Optic Cup Segmentation for Glaucoma Detection Using Low-Rank Superpixel Representation Yanwu Xu, Lixin Duan, Stephen Lin, Xiangyu Chen, Damon W.K. Wong, Tien Yin Wong, Jiang Liu	3-788
<b>MP49</b>	3D Prostate TRUS Segmentation Using Globally Optimized Volume-Preserving Prior Wu Qiu, Martin Rajchl, Fumin Guo, Yue Sun, Eranga Ukwatta, Aaron Fenster, Jing Yuan	3-796
<b>MP50</b>	Lung Segmentation from CT with Severe Pathologies Using Anatomical Constraints Neil Birkbeck, Timo Kohlberger, Jingdan Zhang, Michal Sofka, Jens Kaftan, Dorin Comaniciu, S. Kevin Zhou	3-804



Biophysical Modeling and Simulation

<b>TA01</b>	Real-time sensitivity analysis of blood flow simulations to lumen segmentation uncertainty Sethuraman Sankaran, Leo J Grady, Charles A Taylor	4-001
<b>TA02</b>	Robust Image-Based Estimation of Cardiac Tissue Parameters and their Uncertainty from Noisy Data Dominik Neumann, Tommaso Mansi, Bogdan Georgescu, Ali Kamen, Elham Kayvanpour, Ali Amr, Farbod Sedaghat-Hamedani, Jan Haas, Hugo Katus, Benjamin Meder, Joachim Hornegger, Dorin Comaniciu	4-009
<b>TA03</b>	Advanced Transcatheter Aortic Valve Implantation (TAVI) Planning from CT with ShapeForest Joshua K.Y. Swee, Sasa Grbic	4-017
<b>TA04</b>	Tumor Growth Prediction with Hyperelastic Biomechanical Model, Physiological Data Fusion, and Nonlinear Optimization Ken C. L. Wong, Ronald Summers, Electron Kebebew, Jianhua Yao	4-025
<b>TA05</b>	Atlas-based Transfer of Boundary Conditions for Biomechanical Simulation Rosalie Plantefeve, Hadrien Courtecuisse, Igor Peterlik, Raffaella Trivisonne, Stephane Cotin, Jean-Pierre Radoux	4-033
<b>TA06</b>	A biophysical model of shape changes due to atrophy in the brain with Alzheimer's disease Bishesh Khanal, Marco Lorenzi, Nicholas Ayache, Xavier Pennec	4-041
<b>TA07</b>	Patient-specific simulation of implant placement and function for cochlear implantation surgery planning Mario Ceresa, Nerea Mangado Lopez, Hector Dejea Velardo, Noemi Carranza Herrezuelo, Pavel Mistrik, Hans Martin Kjer, Sergio Vera, Rasmus Paulsen, Miguel A. Gonzalez Ballester	4-049
<b>TA08</b>	A Computer-Based Simulation of Obstetric Forceps Placement Rudy Lapeer, Vilius Audinis, Zelimkhan Gerikhanov, Olivier Dupuis	4-057
<b>TA09</b>	Real-time Muscle Deformation via Decoupled Modeling of Solid Mechanics and Muscle Fiber Elements Mohamed Yacine Berranen, Mitsuhiro Hayashibe, David Guiraud, Benjamin Gilles	4-065
<b>TA10</b>	Estimating Anatomically-Correct Reference Model for Craniomaxillofacial Deformity via Sparse Representation Yi Ren, Li Wang, Yaozong Gao, Zhen Tang, Ken Chung Chen, Jianfu Li, Steve G.F. Shen, Jin Yan, Philip K.M. Lee, Ben Chow, James Xia, Dinggang Shen	4-073
<b>TA11</b>	Introducing interactive inverse FEM simulation and its application for adaptive radiotherapy Eulalie Coevoet, Nick Reynaert, Eric Lartigau, Luis Schiappacasse, Jeremie Dequidt, Christian Duriez	4-081
<b>TA12</b>	TGIF: Topological Gap In-Fill for Vascular Networks: A Generative Approach Matthias Schneider, Sven Hirsch, Bruno Weber, Gabor Szekely, Bjoern H Menze	4-089

Temporal and Motion Modeling

<b>TA13</b>	Longitudinal Alignment of Disease Progression in Fibrosing Interstitial Lung Disease Wolf-Dieter Vogl, Helmut Prosch, Christina Muller-Mang, Ursula Schmidt-Erfurth, Georg Langs	4-097
<b>TA14</b>	Time-warped Geodesic Regression Yi Hong, Nikhil Singh, Roland Kwitt, Marc Niethammer	4-105
<b>TA15</b>	A Matching Model Based on Earth Mover's Distance for Tracking Myxococcus xanthus Jianxu Chen, Cameron W. Harvey, Mark Alber, Danny Z. Chen	4-113
<b>TA16</b>	Splines for Diffeomorphic Image Regression Nikhil Singh, Marc Niethammer	4-121
<b>TA17</b>	Motion Artefact Correction in Retinal Optical Coherence Tomography using Local Symmetry Alessio Montuoro, Jing Wu, Sebastian Waldstein, Bianca Gerendas, Georg Langs, Christian Simader, Ursula Schmidt-Erfurth	4-130
<b>TA18</b>	Estimating Dynamic Lung Images from High-Dimension Chest Surface Motion Using 4D Statistical Model Tiancheng He, Zhong Xue, Nam Yu, Paige Nitsch, Bin Teh, Stephen Wong	4-138
<b>TA19</b>	Determining Functional Units of Tongue Motion via Graph-regularized Sparse Non-negative Matrix Factorization Jonhye Woo, Fangxu Xing, Junghoon Lee, Maureen Stone, Jerry L Prince	4-146
<b>TA20</b>	Event Detection by Feature Unpredictability in Phase-Contrast Videos of Cell Cultures Melih Kandemir, Jose C. Rubio, Ute Schmidt, Christian Wojek, Johannes Welbl, Bjorn Ommer, Fred A. Hamprecht	4-154

Computer-Aided Diagnosis

<b>TA21</b>	Multi-Modality Canonical Feature Selection for Alzheimer's Disease Diagnosis Xiaofeng Zhu, Heung-Il Suk, Dinggang Shen	4-162
<b>TA22</b>	Multivariate hippocampal subfield analysis of local MRI intensity and volume: application to temporal lobe epilepsy Hosung Kim, Jessie Kulaga-Yoskovitz, Boris C. Bernhardt, Benoit Caldaïrou, Andrea Bernasconi, Neda Bernasconi	4-170
<b>TA23</b>	Automatic Polyp Detection Using Global Geometric Constraints and Local Intensity Variation Patterns Nima Tajbakhsh, Suryakanth Reddy Gurudu, Jianming Liang	4-179
<b>TA24</b>	A Method for Predicting the Outcomes of Combined Pharmacologic and deep brain stimulation therapy for Parkinsons disease Reuben R Shamir, Trygve Dolber, Angela M Noecker, Anneke M Frankemolle, Benjamin L Walter, Cameron C McIntyre	4-188
<b>TA25</b>	Large Margin Aggregation of Local Estimates for Medical Image Classification Yang Song, Weidong Cai, Heng Huang, Yun Zhou, Dagan Feng, Mei Chen	4-196

## Poster Sessions

Tuesday September 16th, 10:00-12:00pm

LNCS 8674-PG #

<b>TA26</b>	Incorporating Privileged Genetic Information for Fundus Image Based Glaucoma Detection Lixin Duan, Yanwu Xu, Wen Li, Lin Chen, Damon W.K. Wong, Tien Yin Wong, Jiang Liu	4-204
<b>TA27</b>	Maximum-Margin based Representation Learning from Multiple Atlases for Alzheimer's Disease Classification Rui Min, Jian Cheng, True Price, Guorong Wu, Dinggang Shen	4-212
<b>TA28</b>	Fully Automatic Bone Age Estimation from Left Hand MR Images Darko Stern, Thomas Ebner, Horst Bischof, Sabine Grassegger, Thomas Ehammer, Martin Urschler	4-220
<b>TA29</b>	Empowering multiple instance histopathology cancer diagnosis by cell graphs Melih Kandemir, Chong Zhang, Fred Hamprecht	4-228
<b>TA30</b>	The Empirical Variance Estimator for Computer Aided Diagnosis: Lessons for Algorithm Validation Alex F. Mendelson, Maria A. Zuluaga, Lennart Thurfjell, Brian Hutton, Sebastien Ourselin	4-236
<b>TA31</b>	Colon Flattening by Landmark-Driven Optimal Quasiconformal Mapping Wei Zeng, Yi-Jun Yang	4-244

## Pediatric Imaging

<b>TA32</b>	Efficient Total Variation Algorithm for Fetal Brain MRI Reconstruction Sebastien Tourbier, Xavier Bresson, Patric Hagmann, Jean-Philippe Thiran, Reto Meuli, Meritxell Bach Cuadra	4-252
<b>TA33</b>	Predicting Fetal Neurodevelopmental Age from Ultrasound Images Ana I. L. Namburete, Mohammad Yaqub, Bryn Kemp, Aris T. Papageorgiou, J. Alison Noble	4-260
<b>TA34</b>	Multi-modal measurement of the myelin-to-axon diameter g-ratio in preterm-born neonates and adult controls Andrew Melbourne, Zach Eaton-Rosen, Enrico De Vita, Alan Bainbridge, Manuel Jorge Cardoso, David Price, Ernest Cady, Giles Kendall, Nikki Robertson, Neil Marlow, Sebastien Ourselin	4-268
<b>TA35</b>	Longitudinal measurement of the developing thalamus in the very-preterm brain using multi-modal MRI Zach Eaton-Rosen, Andrew Melbourne, Eliza Orasanu, Marc Modat, Manuel Jorge Cardoso, Alan Bainbridge, Giles S. Kendall, Nikki Robertson, Neil Marlow, Sebastien Ourselin	4-276
<b>TA36</b>	Motion Corrected 3D reconstruction of the Fetal Thorax from Prenatal MRI Bernhard Kainz, Christina Malamateniou, Maria Murgasova, Kevin Keradren, Mary Rutherford, Joseph V. Hajnal, Daniel Rueckert	4-284
<b>TA37</b>	Construction of a Deformable Spatiotemporal MRI Atlas of the Fetal Brain: Evaluation of Similarity Metrics and Deformation Models Ali Gholipour, Catherine Limperopoulos, Sean Clancy, Cedric Clouchoux, Alireza Akhondi-Asl, Judy A. Estroff, Simon K. Warfield	4-292
<b>TA38</b>	Detection of Corpus Callosum Malformations in Pediatric Population Using the Discriminative Direction in Multiple Kernel Learning Denis Peruzzo, Filippo Arrigoni, Cecilia Parazzini, Fabio Triulzi, Umberto Castellani	4-300

<b>TA39</b>	Segmenting Hippocampus from Infant Brains by Sparse Patch Matching with Deep-Learned Features Yanrong Guo, Guorong Wu, Leah A Commander, Stephanie Szary, Valerie Jewells, Weili Lin, Dinggang Shen	4-308
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## Endoscopy

<b>TA40</b>	Online Scene Association for Endoscopic Navigation Menglong Ye, Edward Johns, Stamatia Giannarou, Guang Zhong Yang	4-316
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<b>TA43</b>	A New Endoscopic Navigation Framework Using Optical Mouse Sensor, Enhanced Differential Evolution, and Discriminative Image Patches Xiongbiao Luo, Uditha L. Jayarathne, A. Jonathan McLeod, Kensaku Mori	4-340
<b>TA44</b>	Crowdsourcing for Reference Correspondence Generation in Endoscopic Images Lena Maier-Hein, Sven Mersmann, Daniel Kondermann, Alexandro Sanchez, Christian Stock, Hannes Gotz Kenngott, Martin Wagner, Anas Preukschas, Anna-Laura Wekerle, Stefanie Helfert, Sebastian Bodenstedt, Stefanie Speidel	4-349
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<b>TA48</b>	Real-Time 3D Curved Needle Segmentation Using Combined B-Mode and Power Doppler Ultrasound Joseph Greer, Troy Adebar, Gloria Hwang, Allison Okamura	4-381
<b>TA49</b>	A New Sensor Technology for 2D US-Guided Needle Interventions Huanxiang Lu, Junbo Li, Qiang Lu, Shyam Bharat, Ramon Erkamp, Bin Chen, Jeremy Drysdale, Francois Vignon, Ameet Jain	4-389
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<b>TP02</b>	Spatially Adaptive Registration using Gaussian Processes Thomas Gerig, Kamal Shahim, Mauricio Reyes, Thomas Vetter, Marcel Luthi	4-414
<b>TP03</b>	Towards Automatic Bone Age Estimation from MRI: Localization of 3D Anatomical Landmarks Thomas Ebner, Darko Stern, Rene Donner, Horst Bischof, Martin Urschler	4-422
<b>TP04</b>	Quantifying Progression of Multiple Sclerosis via Classification of Depth Videos Peter Kontschieder, Jonas F. Dorn, Cecily Morrison, Robert Corish, Darko Zikic, Abigail Sellen, Marcus DSouza, Christian P. Kamm, Jessica Burggraaff, Prejaas Tewarie, Thomas Vogel, Michela Azzarito, Ben Glocker, Peter Chin, Frank Dahlke, Chris Polman, Ludwig Kappos, Bernard Uitdehaag, Antonio Criminisi	4-430
<b>TP05</b>	Can Masses of Non-experts Train Highly Accurate Image Classifiers? A Crowdsourcing Approach to Instrument Segmentation in Laparoscopic Images Lena Maier-Hein, Sven Mersmann, Daniel Kondermann, Sebastian Bodenstedt, Alexandro Sanchez, Christian Stock, Hannes Gotz Kenngott, Mathias Eisenmann, Stefanie Speidel	4-439
<b>TP06</b>	Supervised Block Sparse Dictionary Learning for Simultaneous Clustering and Classification in Computational Anatomy Erdem Varol, Christos Davatzikos	4-447
<b>TP07</b>	Do we Need Annotation Experts? A Case Study in Celiac Disease Classification Roland Kwitt, Sebastian Hegenbart, Andreas Vecsei, Andreas Uhl, Nikhil Rasiwasia	4-455
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<b>TP09</b>	Randomized Denoising Autoencoders for Smaller and Efficient Imaging Based AD Clinical Trials Vamsi K Ithapu, Vikas Singh, Ozioma Okonkwo, Sterling C Johnson	4-471
<b>TP10</b>	Scalable Analysis of Histopathological Images via Composite Hashing and Query Specific Learning Xiaofan Zhang, Lin Yang, Wei Liu, Hai Su, Shaoting Zhang	4-480
<b>TP11</b>	Automated Medical Image Modality Recognition by Fusion of Visual and Text Information Noel Codella, Jonathan Connell, Sharathchandra Pankanti, Michele Merler, John Smith	4-488
<b>TP12</b>	Laplacian Forests: Semantic Image Segmentation by Guided Bagging Herve Lombaert, Darko Zikic, Antonio Criminisi, Nicholas Ayache	4-497

Cardiovascular Imaging

<b>TP13</b>	Extracting Vascular Networks under Physiological Constraints via Integer Programming Markus Rempfler, Matthias Schneider, Giovanna D Ielacqua, Xianghui Xiao, Stuart R Stock, Jan Klohs, Gabor Szekely, Bjoern Andres, Bjoern H Menze	4-506
<b>TP14</b>	Construction of a Coronary Atlas from CT Angiography Pau Medrano-Gracia, John Ormiston, Mark Webster, Susann Beier, Chris Ellis, Chunliang Wang, Alistair A Young, Brett R Cowan	4-514
<b>TP15</b>	CTA Coronary Labeling Through Efficient Geodesics Between Trees and Anatomy Priors Mehmet Akif Gulsun, Gareth Funka-Lea, Yefeng Zheng, Matthias Eckert	4-522
<b>TP16</b>	Variational Bayesian Electrophysiological Imaging of Myocardial Infarction Jingjia Xu, John L. Sapp, Azar Rahimi Dehaghani, Fei Gao, Linwei Wang	4-530
<b>TP17</b>	Hierarchical Multiple-Model Bayesian Approach to Transmural Electrophysiological Imaging Azar Rahimi Dehaghani, Jingjia Xu, Linwei Wang	4-539
<b>TP18</b>	Rapid D-Affine Biventricular Cardiac Function with Polar Prediction Kathleen Gilbert, Brett Cowan, Avan Suinesiaputra, Christopher Occleshaw, Alistair Young	4-547
<b>TP19</b>	Myocardial Infarct Segmentation and Reconstruction from 2D Late-Gadolinium Enhanced Magnetic Resonance Images Eranga Ukwatta, Jing Yuan, Wu Qiu, Katherine C Wu, Natalia Trayanova, Fijoy Vadakkumpadan	4-555
<b>TP20</b>	Structured Dictionaries for Ischemia Estimation in Cardiac BOLD MRI at Rest Cristian Rusu, Sotirios Tsaftaris	4-563
<b>TP21</b>	Fully Automatic Catheter Localization in C-arm Images Using a L1-Sparse Coding Fausto Milletari, Vasileios Belagiannis, Nassir Navab, Pascal Fallavollita	4-571
<b>TP22</b>	3D+time Left Ventricular Strain by Unwrapping Harmonic Phase with Graph Cuts Ming Li, Himanshu Gupta, Steven G. Lloyd, Louis J. Dell'Italia, Thomas S. Denney	4-579
<b>TP23</b>	Direct Estimation of Cardiac Bi-ventricular Volumes with Regression Forests Xiantong Zhen, Zhijie Wang, Ali Islam, Mousumi Bhaduri, Ian Chan, Shuo Li	4-587
<b>TP24</b>	Model-Guided Extraction of Coronary Vessel Structures in 2D X-Ray Angiograms Shih-Yu Sun, Peng Wang, Shanhui Sun, Terrence Chen	4-595

## Poster Sessions

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LNCS 8674-PG #

<b>TP25</b>	Crossing-Preserving Multi-Scale Vesselness Julius Hannink, Remco Duits, Erik Bekkers	4-604
<b>TP26</b>	3D Velocity Field and Flow Profile Reconstruction from Arbitrarily Sampled Doppler Ultrasound Data Oliver Zetting, Christoph Hennesperger, Christian Schulte zu Berge, Maximilian Baust, Nassir Navab	4-612
<b>TP27</b>	Reconstruction of Coronary Trees from 3DRA Using a 3D+t Statistical Cardiac Prior Serkan Cimen, Corne Hoogendoorn, Paul D. Morris, Julian Gunn, Alejandro F. Frangi	4-620
<b>TP28</b>	Full-Wave Intravascular Ultrasound Simulation from Histology Silvan Kraft, Sailesh Conjeti, Peter Noel, Stephane Carlier, Nassir Navab, Amin Katouzian	4-628

### Intervention Planning and Guidance II

<b>TP29</b>	6DoF Catheter Detection, Application to Intracardiac Echocardiography Kristof Ralovich, Matthias John, Estelle Camus, Nassir Navab, Tobias Heimann	4-636
<b>TP30</b>	Computer Assisted Planning and Navigation of Periacetabular Osteotomy (PAO) with Range of Motion (ROM) Optimization Li Liu, Timo Michael Ecker, Steffen Schumann, Klaus Siebenrock, Lutz Nolte, Guoyan Zheng	4-644
<b>TP31</b>	SEEG Trajectory Planning: Combining Stability, Structure and Scale in Vessel Extraction Maria A. Zuluaga, Roman Rodionov, Mark Nowell, Sufyan Achhala, Gergely Zombori, Manuel Jorge Cardoso, Anna Miserocchi, Andrew W. McEvoy, John S Duncan, Sebastien Ourselin	4-652
<b>TP32</b>	Desired-viewer-controlled positioning of angiographic C-arms Pascal Fallavollita, Alexander Winkler, Severine Habert, Patrick Wucherer, Philipp Stefan, Reza ghotbi, Riad Mansour, Nassir Navab	4-660
<b>TP33</b>	Practical Intraoperative Stereo Camera Calibration Philip Pratt, Christos Bergeles, Ara Darzi, Guang Zhong Yang	4-668
<b>TP34</b>	Automatic Labelling of Tumourous vs Tumour-Free Frames in Free- Hand Laparoscopic Ultrasound Video Jeremy Kawahara, Jean-Marc Peyrat, Julien Abi-Nahed, Osama Al- Alao, Abdulla Al-Ansari, Rafeef Abugharbieh, Ghassan Hamarneh	4-677
<b>TP35</b>	Needle Guidance Using Handheld Stereo Vision and Projection for Ultrasound-based Interventions Philipp J Stolka, Pezhman Foroughi, Matthew Rendina, Clifford R Weiss, Gregory D. Hager, Emad M Boctor	4-685
<b>TP36</b>	Fast Part-Based Classification for Instrument Detection in Minimally Invasive Surgery Raphael Sznitman, Carlos Becker, Pascal Fua	4-693
<b>TP37</b>	Pericardium Based Model Fusion of CT and Non-Contrasted C-arm CT for Visual Guidance in Cardiac Interventions Yefeng Zheng	4-701

Brain I

<b>TP38</b>	Group-Wise Functional Community Detection through Joint Laplacian Diagonalization Luca Dodero, Alessandro Gozzi, Adam Liska, Vittorio Murino, Diego Sona	4-709
<b>TP39</b>	Group-wise Optimization of Common Brain Landmarks with Joint Structural and Functional Regulations Dajiang Zhu, Jinglei Lv, Hanbo Chen, Tianming Liu	4-717
<b>TP40</b>	Brain Connectivity Hyper-network for MCI Classification Biao Jie, Dinggang Shen, Daoqiang Zhang	4-725
<b>TP41</b>	Evaluating Structural Symmetry of Weighted Brain Networks via Graph Matching Chenhui Hu, Georges Fakhri, Quanzheng Li	4-734
<b>TP42</b>	Principal Component Regression Predicts Functional Responses Across Individuals Bertrand Thirion, Gael Varoquaux, Olivier Grisel, Cyril Poupon, Philippe Pinel	4-742
<b>TP43</b>	Maximum Entropy Estimation of Glutamate and Glutamine in MR Spectroscopic Imaging Yogesh Rathi, Lipeng Ning, Oleg Michailovich, HuiJun Liao, Borjan Gagoski, Ellen Grant, Martha Shenton, Robert Stern, Carl-Fredrik Westin, Alexander Lin	4-750
<b>TP44</b>	Identifying Genetic Associations with MRI-derived Measures via Tree-Guided Sparse Learning Xiaoke Hao, Jintai Yu, Daoqiang Zhang	4-758
<b>TP45</b>	iPGA: Incremental Principal Geodesic Analysis with Applications to Movement Disorder Classification Hesamoddin Salehian, David Vaillancourt, Baba C Vemuri	4-766
<b>TP46</b>	Segmentation of Cerebrovascular Pathologies in Stroke Patients with Spatial and Shape Priors Adrian Dalca, Ramesh Sridharan, Lisa Cloonan, Kaitlin Fitzpatrick, Allison Kanakis, Karen Furie, Jonathan Rosand, Ona Wu, Mert Rory Sabuncu, Natalia Rost, Polina Golland	4-775
<b>TP47</b>	A Modality Agnostic Patch-based Technique for Lesion Filling in Multiple Sclerosis Ferran Prados, Manuel Jorge Cardoso, David MacManus, Claudia Wheeler-Kingshott, Sebastien Ourselin	4-783
<b>TP48</b>	A Unified Kernel Regression for Diffusion, Kernel Smoothing and Wavelet on Manifolds and Its Application to Detecting an Aging Effects on Amygdala and Hippocampus Moo K Chung, Stacey M Schaefer, Carien M van Reekum, Lara Peschke-Schmitz, Matthew J Sutterer, Richard J Davidson	4-791
<b>TP49</b>	Spatial Modeling of Multiple Sclerosis for Disease Subtype Prediction Bernd Taschler, Tian Ge, Kerstin Bendfeldt, Nicole Mueller-Lenke, Timothy D Johnson, Thomas E Nichols	4-799
<b>TP50</b>	Exploiting Feature Embedding for Brain Analysis in Schizophrenia Alessandro Perina, Denis Peruzzo, Maria Kesa, Nebojsa Jojic, Vittorio Murino, Marcella Bellani, Paolo Brambilla, Umberto Castellani	4-807



## Poster Sessions

Wednesday September 17th, 10:00-12:00pm

LNCS 8675-PG #

### Shape and Population Analysis

<b>WA01</b>	Generalized Multiresolution Hierarchical Shape Models via Automatic Landmark Clusterization Juan J. Cerrolaza, Arantxa Villanueva, Mauricio Reyes, Rafael Cabeza, Miguel Angel Gonzalez Ballester, Marius George Linguraru	5-001
<b>WA02</b>	Hierarchical Bayesian Modeling, Estimation, and Sampling for Multigroup Shape Analysis Yen-Yun Yu, P. Thomas Fletcher, Suyash P. Awate	5-009
<b>WA03</b>	Depth-Based Shape-Analysis Yi Hong, Yi Gao, Marc Niethammer, Sylvain Bouix	5-017
<b>WA04</b>	Genus-One Surface Registration via Teichmüller Extremal Mapping Ka Chun Lam, Xianfeng Gu, Lok Ming Lui	5-025
<b>WA05</b>	Subject-specific Prediction Using Nonlinear Population Modeling: Application to Early Brain Maturation from DTI Neda Sadeghi, P. Thomas Fletcher, Marcel Prastawa, John Gilmore, Guido Gerig	5-033
<b>WA06</b>	BrainPrint: Identifying Subjects by their Brain Christian Wachinger, Polina Golland, Martin Reuter	5-041
<b>WA07</b>	Diffeomorphic Shape Trajectories for Improved Longitudinal Segmentation and Statistics Prasanna Muralidharan, James Fishbaugh, Hans J Johnson, Stanley Durrleman, Jane S Paulsen, Guido Gerig, P. Thomas Fletcher	5-049
<b>WA08</b>	Simulating Neuro-Degeneration Through Longitudinal Population Analysis of Structural and Diffusion Weighted MRI Data Marc Modat, Ivor JA Simpson, M. Jorge Cardoso, David M Cash, Nicolas Toussaint, Nick C Fox, Sebastien Ourselin	5-057
<b>WA09</b>	The 4D Hyperspherical Diffusion Wavelet: A New Method for Detection of Localized Anatomical Variation Ameer Pasha Hosseinbor, Moo Chung, Won Hwa Kim, Nagesh Adluru, Hourii Vorperian, Amit Acharya	5-065

### Brain II

<b>WA10</b>	Co-occurrence of Local Anisotropic Gradient Orientations (CoLIAGE): Distinguishing tumor confounders and molecular subtypes on MRI Prateek Prasanna, Pallavi Tiwari, Anant Madabhushi	5-073
<b>WA11</b>	Automatic Clustering and Thickness Measurement of Anatomical Variants of the Human Perirhinal Cortex Long Xie, John Pluta, Hongzhi Wang, Sandhitsu R Das, Lauren Mancuso, Dasha Kloit, Brian B Avants, Songlin Ding, David A Wolk, Paul A Yushkevich	5-081
<b>WA12</b>	Constructing 4D Infant Cortical Surface Atlases Based on Dynamic Developmental Trajectories of the Cortex Gang Li, Li Wang, Feng Shi, Weili Lin, Dinggang Shen	5-089
<b>WA13</b>	Low-Rank to the Rescue -- Atlas-Based Analyses in the Presence of Pathologies Xiaoxiao Liu, Marc Niethammer, Roland Kwitt, Matthew McCormick, Stephen Aylward	5-097

**Wednesday September 17th, 10:00-12:00pm**

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<b>WA14</b>	Optimized PatchMatch for Near Real Time and Accurate Label Fusion Vinh-Thong Ta, Remi Giraud, D. Louis Collins, Pierrick Coupe	5-105
<b>WA15</b>	Functionally Driven Brain Networks Using Multi-Layer Graph Clustering Yasser Ghanbari, Luke Bloy, Varsha Shankar, James Christopher Edgar, Timothy P.L Roberts, Robert T. Schultz, Ragini Verma	5-113
<b>WA16</b>	Bayesian Principal Geodesic Analysis in Diffeomorphic Image Registration Miaomiao Zhang, P. Thomas Fletcher	5-121
<b>WA17</b>	New Partial Volume Estimation Methods for MRI MP2RAGE Quentin Duche, Parnesh Raniga, Gary F. Egan, Oscar Acosta, Giulio Gambarota, Olivier Salvado, Herve Saint-Jalmes	5-129
<b>WA18</b>	Single Subject Structural Networks with Closed Form Rotation Invariant Matching Improves Power in Developmental Studies of the Cortex Benjamin M Kandel, Jiongjiong Wang, James Gee, Brian Avants	5-137
<b>WA19</b>	T2-Relaxometry for Myelin Water Fraction Extraction Using Wald Distribution and Extended Phase Graph Alireza Akhondi-Asl, Onur Afacan, Robert V Mulkern, Simon K Warfield	5-145
<b>WA20</b>	Compact and Informative Representation of Functional Connectivity for Predictive Modeling Raif M. Rustamov, David Romano, Allan L. Reiss, Leonidas J. Guibas	5-153
<b>WA21</b>	Registering Cortical Surfaces Based on Whole-Brain Structural Connectivity and Continuous Connectivity Analysis Boris Gutman, Cassandra Leonardo, Neda Jahanshad, Derrek Hibar, Kristian Eschenburg, Talia Nir, Julio Villalon, Paul Thompson	5-161
<b>WA22</b>	Automatic Method for Thalamus Parcellation Using Multi-modal Feature Classification Joshua V Stough, Jeffrey Glaister, Chuyang Ye, Sarah H Ying, Jerry L Prince, Aaron Carass	5-169
<b>WA23</b>	Multiple-Network Classification of Childhood Autism using Functional Connectivity Dynamics True Price, Chong-Yaw Wee, Wei Gao, Dinggang Shen	5-177
<b>WA24</b>	Deriving a Multi-Subject Functional-Connectivity Atlas to Inform Connectome Estimation Ronald Phlypo, Bertrand Thirion, Gael Varoquaux	5-185
<b>WA25</b>	Discriminative Sparse Connectivity Patterns for Classification of fMRI Data Harini Eavani, Theodore D. Satterthwaite, Raquel E. Gur, Ruben C. Gur, Christos Davatzikos	5-193

## Poster Sessions

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Diffusion MRI		
<b>WA26</b>	MesoFT: Unifying Diffusion Modelling and Fiber Tracking Marco Reisert, Valerij G Kiselev, Bibek Dhital, Elias Kellner, Dmitry S Novikov	5-201
<b>WA27</b>	Measurement Tensors in Diffusion MRI: Generalizing the Concept of Diffusion Encoding Carl-Fredrik Westin, Filip Szczepankiewicz, Ofer Pasternak, Evren Ozarslan, Daniel Topgaard, Hans Knutsson, Markus Nilsson	5-209
<b>WA28</b>	From Expected Propagator Distribution to Optimal Q-space Sample Metric Hans Knutsson, Carl-Fredrik Westin	5-217
<b>WA29</b>	Image Quality Transfer via Random Forest Regression: Applications in Diffusion MRI Daniel Alexander, Darko Zikic, Jiaying Zhang, Hui Zhang, Antonio Criminis	5-225
<b>WA30</b>	Complete Set of Invariants of a 4th Order Tensor: The 12 Tasks of HARDI from Ternary Quartics Theo Papadopoulos, Aurobrata Ghosh, Rachid Deriche	5-233
<b>WA31</b>	In vivo Estimation of Dispersion Anisotropy of Neurites Using Diffusion MRI Maira Tariq, Torben Schneider, Daniel Alexander, Claudia Wheeler-Kingshott, Hui Zhang	5-241
<b>WA32</b>	Diffusion of Fiber Orientation Distribution Functions with a Rotation-Induced Riemannian Metric Junning Li, Yonggang Shi, Arthur Toga	5-249
<b>WA33</b>	Machine Learning Based Compartment Models with Permeability for White Matter Microstructure Imaging Gemma L Nedjati-Gilani, Torben Schneider, Matt G Hall, Claudia AM Wheeler-kingshott, Daniel C Alexander	5-257
<b>WA34</b>	Probabilistic Shortest Path Tractography in DTI Using Gaussian Process ODE Solvers Michael Schober, Niklas Kasenburg, Aasa Feragen, Philipp Hennig, Soren Hauberg	5-265
<b>WA35</b>	Construct and Assess Multimodal Mouse Brain Connectomes via Joint Modeling of Multi-scale DTI and Neuron Tracer Data Hanbo Chen, Yu Zhao, Tuo Zhang, Hongmiao Zhang, Hui Kuang, Meng Li, Joe Tsien, Tianming Liu	5-273
<b>WA36</b>	Designing Single- and Multiple-Shell Sampling Schemes for Diffusion MRI Using Spherical Code Jian Cheng, Dinggang Shen, Pew-Thian Yap	5-281
<b>WA37</b>	A Prototype Representation to Approximate White Matter Bundles with Weighted Currents Pietro Gori, Olivier Colliot, Linda Marrakchi-Kacem, Yulia Worbe, Fabrizio de Vico Fallani, Mario Chavez, Sophie Lecomte, Cyril Poupon, Andreas Hartmann, Nicholas Ayache, Stanley Durrleman	5-289

Machine Learning II

<b>WA38</b>	Hole Detection in Metabolic Connectivity of Alzheimer's Disease Using k-Laplacian Hyeyoung Lee, Moo Chung, Hyejin Kang, Dong Soo Lee	5-297
<b>WA39</b>	Deep Learning Based Imaging Data Completion for Improved Brain Disease Diagnosis Rongjian Li, Wenlu Zhang, Heung-Il Suk, Li Wang, Jiang Li, Dinggang Shen, Shuiwang J	5-305
<b>WA40</b>	Human Connectome Module Pattern Detection Using A New Multi-Graph MinMax Cut Model De Wang, Yang Wang, Feiping Nie, Jingwen Yan, Weidong Cai, Andrew Saykin, Li Shen, Heng Huan	5-313
<b>WA41</b>	Max-margin Based Learning for Discriminative Bayesian Network from Neuroimaging Data Luping Zhou, Lei Wang, Lingqiao Liu, Philip Ogunbona, Dinggang Shen	5-321
<b>WA42</b>	A Novel Structure-Aware Sparse Learning Algorithm for Brain Imaging Genetics Lei Du, Jingwen Yan, Sungeun Kim, Shannon Risacher, Heng Huang, Mark Inlow, Jason Moore, Andrew Saykin, Li She	5-329
<b>WA43</b>	Multi-organ Localization Combining Global-to-local Regression and Confidence Maps Romane Gauriau, Remi Cuingnet, David Lesage, Isabelle Bloch	5-337
<b>WA44</b>	Inter-cluster Features for Medical Image Classification Siyamalan Manivannan, Ruixuan Wang, Emanuele Trucco	5-345
<b>WA45</b>	A Universal and Efficient Method to Compute Maps from Image-based Prediction Models Mert Rory Sabuncu	5-353
<b>WA46</b>	3D Spine Reconstruction of Postoperative Patients from Multi-Level Manifold Ensembles Samuel Kadoury, Hubert Labelle, Stefan Paren	5-361
<b>WA47</b>	Histopathological Image Analysis via Active Learning Yan Zhu, Shaoting Zhang, Wei Liu, Dimitris Metaxas	5-369
<b>WA48</b>	Unsupervised Unstained Cell Detection by SIFT Keypoint Clustering and Self-Labeling Algorithm Firas Mualla, Simon Scholl, Bjorn Sommerfeldt, Andreas Maier, Stefan Steidl, Rainer Buchholz, Joachim Hornegger	5-377
<b>WA49</b>	Selecting Features with Group-sparse Nonnegative supervised CCA (GNCCA): Multimodal Prostate Cancer Prognosis Haibo Wang, Asha Singanamalli, Shoshana Ginsburg, Anant Madabhushi	5-385
<b>WA50</b>	Clustering-Induced Multi-Task Learning for AD/MCI Classification Heung-Il Suk, Dinggang Shen	5-393

## Poster Sessions

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<b>WA51</b>	A Novel Multi-Relation Regularization Method for Regression and Classification in AD Diagnosis Xiaofeng Zhu, Heung-Il Suk, Dinggang Shen	5-401
<b>WA52</b>	Fisher Kernel Based Task Boundary Retrieval In Laparoscopic Database With Single Video Query Andru Putra Twinanda, Michel De Mathelin, Nicolas Padoy	5-409
<b>WA53</b>	Multi-Scale Analysis of Imaging Features and its Use in the Study of COPD Exacerbation Susceptible Phenotypes Felix Bragman, Jamie McClelland, Marc Modat, Sebastien Ourselin, John Hurst, David Hawkes	5-417