

# **2014 IEEE 11th International Symposium on Biomedical Imaging**

**(ISBI 2014)**

**Beijing, China  
29 April – 2 May 2014**

**Pages 1-697**



**IEEE Catalog Number: CFP14BIS-POD  
ISBN: 978-1-4673-1960-7**

# Program in Chronological Order

## (Copyrighted Papers)

\* Author Name – Corresponding Author • \* Following Paper Title – Paper not Available

**Tuesday, 29 April 2014**

TuB01: 14:40-16:10

Capital 5

**Functional Imaging** (Poster Session)

14:40-16:10

TuB01.1

**Semi-Supervised Learning of Brain Functional Networks** ..... 1-4

*Du, Yuhui\** (The Mind Research Network and North University of China); *Sui, Jing* (The Mind Research Network); *Yu, Qingbao* (The Mind Research Network); *He, Hao* (The Mind Research Network and University of New Mexico); *Calhoun, Vince D.* (The Mind Research Network and University of New Mexico)

14:40-16:10

TuB01.2

**Functional Parcellation of the Hippocampus by Clustering Resting State fMRI Signals** ..... 5-8

*Cheng, Hwei\** (Chinese Academy of Sciences); *Fan, Yong* (Chinese Academy of Sciences)

14:40-16:10

TuB01.3

**Epileptic Network Activity Revealed by Dynamic Functional Connectivity in Simultaneous EEG-fMRI** ..... 9-12

*Preti, Maria Giulia\** (École Polytechnique Fédérale de Lausanne / Université de Genève); *Leonardi, Nora* (École Polytechnique Fédérale de Lausanne / Université de Genève); *Karahanoğlu, F. İşik* (École Polytechnique Fédérale de Lausanne / Université de Genève); *Grouiller, Frédéric* (Geneva University Hospital); *Genetti, Mélanie* (Geneva University Hospital); *Seeck, Margitta* (Geneva University Hospital); *Vulliemoz, Serge* (Geneva University Hospital); *Van De Ville, Dimitri* (École Polytechnique Fédérale de Lausanne / Université de Genève)

14:40-16:10

TuB01.4

**Discovering Network-Level Functional Interactions from Working Memory fMRI Data** ..... 13-16

*Jiang, Xi\** (University of Georgia); *Lv, Jinglei* (Northwestern Polytechnical University and University of Georgia); *Zhu, Dajiang* (University of Georgia); *Zhang, Tuo* (Northwestern Polytechnical University and University of Georgia); *Li, Xiang* (University of Georgia); *Hu, Xintao* (Northwestern Polytechnical University); *Guo, Lei* (Northwestern Polytechnical University); *Liu, Tianming* (University of Georgia)

14:40-16:10

TuB01.5

**Detecting Cell Assembly Interaction Patterns via Bayesian based Change-Point Detection and Graph Inference Model** ..... 17-20

*Lian, Zhichao* (Yale Univ.); *Li, Xiang\** (Univ. of Georgia); *Zhang, Hongmiao* (Georgia Regents Univ.); *Kuang, Hui* (Georgia Regents Univ.); *Xie, Kun* (Georgia Regents Univ.); *Xing, Jianchuan* (Univ. of Electronic Science and Technology of China and Yale Univ.); *Zhu, Dajiang* (Univ. of Georgia); *Tsien, Joe Z.* (Georgia Regents Univ.); *Liu, Tianming* (Univ. of Georgia); *Zhang, Jing* (Yale Univ.)

14:40-16:10

TuB01.6

**Generalized fMRI Activation Detection via Bayesian Magnitude Change Point Model** ..... 21-24

*Lian, Zhichao\** (Yale University); *Lv, Jinglei* (University of Georgia); *Xing, Jianchuan* (University of Electronic Science and Technology of China and Yale University); *Li, Xiang* (University of Georgia); *Jiang, Xi* (University of Georgia); *Zhu, Dajiang* (University of Georgia); *Xu, Jiansong* (Yale University); *Potenza, Marc N.* (Yale University); *Liu, Tianming* (University of Georgia); *Zhang, Jing* (Yale University)

14:40-16:10

TuB01.7

**The Effect of Temporal Observation Selection on the Prediction of Visual Stimulus from Block Design Functional MRI** ..... 25-28

*Choupan, Jeiran\** (University of Queensland); *Gal, Yaniv* (University of Queensland); *Reutens, David C.* (University of Queensland); *Yang, Zhengyi* (University of Queensland)

14:40-16:10	TuB01.8
<b>Classification of Amnesic Mild Cognitive Impairment using fMRI</b> .....	29-32
<i>Jin, Mingwu* (University of Texas at Arlington); Curran, Tim (University of Colorado at Boulder); Cordes, Dietmar (University of Colorado Boulder and Ryerson University)</i>	
14:40-16:10	TuB01.9
<b>Optimization of MDL-Based Wavelet Denoising for fMRI Data Analysis</b> .....	33-36
<i>Morshedost, Hassan* (K.N. Toosi University of Technology); Asemani, Davud (K.N. Toosi University of Technology); Mirahadi, Neda (K.N. Toosi University of Technology)</i>	
14:40-16:10	TuB01.10
<b>Retrospective Detection of Interleaved Slice Acquisition Parameters from fMRI Data</b> .....	37-40
<i>Parker, David* (Columbia University); Rotival, Georges (Columbia University); Laine, Andrew (Columbia University); Razlighi, Qolamreza R. (Columbia University)</i>	
14:40-16:10	TuB01.11
<b>Exploiting Both Intra-Quadtree and Inter-Spatial Structures for Multi-Contrast MRI</b> .....	41-44
<i>Chen, Chen* (University of Texas at Arlington); Huang, Junzhou (University of Texas at Arlington)</i>	
14:40-16:10	TuB01.12
<b>Constrained Maximum Likelihood based Efficient Dictionary Learning for fMRI Analysis</b> .....	45-48
<i>Khalid, Muhammad Usman (NICTA and The Australian National University); Seghouane, Abd-Krim* (University of Melbourne)</i>	
14:40-16:10	TuB01.13
<b>Dynamic Imaging of Tumor Perfusion using Contrast Enhanced Ultrasound: In Vivo Results</b> .....	49-52
<i>Du, Juan* (University of Minnesota); Ballard, John R. (University of Minnesota); Choi, Jeunghwan (University of Minnesota); Bischof, John C. (University of Minnesota); Ebbini, Emad S. (University of Minnesota)</i>	
<b>TuB02: 14:40-16:10</b> <span style="float: right;"><b>Capital 5</b></span>	
<b>Data Paper (Poster Session)</b>	
14:40-16:10	TuB02.1
<b>Drishti-GS: Retinal Image Dataset for Optic Nerve Head(ONH) Segmentation</b> .....	53-56
<i>Sivaswamy, Jayanthi (IIIT Hyderabad); Krishnadas, S.R. (Arvind Eye Hospital); Joshi, Gopal Dutt (IIIT Hyderabad); Jain, Madhulika (IIIT Hyderabad); Ujjwal* (IIIT Hyderabad); Syed, Tabish A. (IIIT Hyderabad)</i>	
14:40-16:10	TuB02.2
<b>Quantitative Relaxation Templates for the Human Brain at 3T</b> .....	57-60
<i>Cao, Fang* (Inria); Commowick, Olivier (Inria); Maumet, Camille (Inria); Barillot, Christian (Inria)</i>	
14:40-16:10	TuB02.3
<b>2309 Skin Conditions and Crowd-Sourced High-Level Knowledge Dataset for Building a Computer Aided Diagnosis System</b> .....	61-64
<i>Razeghi, Orod* (University of Nottingham); Qiu, Guoping (University of Nottingham)</i>	
14:40-16:10	TuB02.4
<b>Real Phantom Datasets for the Evaluation of Reconstruction Algorithms at Various Dose Conditions</b> .....	65-68
<i>Gong, Hao (Virginia Polytechnic Institute and State University); Miao, Chuang (Wake Forest University); Yu, Hengyong (Wake Forest University); Wang, Ge (Rensselaer Polytechnic Institute); Cao, Guohua* (Virginia Polytechnic Institute and State University)</i>	
14:40-16:10	TuB02.5
<b>Automated Cell Nucleus Detection for Large-Volume Electron Microscopy of Neural Tissue</b> .....	69-72
<i>Tek, F. Boray* (Işık University, İstanbul); Kroeger, Thorben (University of Heidelberg); Mikula, Shawn (Max-Planck Institute for Medical Research, Heidelberg); Hamprecht, Fred A. (University of Heidelberg)</i>	

14:40-16:10		TuB02.6
<b>Generation of Ultra-Realistic Synthetic Echocardiographic Sequences</b> .....		73-76
<i>De Craene, M.* (Medisys, Philips Research Paris); Alessandrini, M. (KU Leuven); Allain, P. (Medisys, Philips Research Paris); Marchesseau, S. (Asclepios Project, Inria); Waechter-Stehle, I. (Philips Research Hamburg); Weese, J. (Philips Research Hamburg); Saloux, E. (University Hospital of Caen); Morales, H.G. (Medisys, Philips Research Paris); Cuingnet, R. (Medisys, Philips Research Paris); Delingette, H. (Asclepios Project, Inria); Sermesant, M. (Asclepios Project, Inria); Bernard, O. (Université de Lyon); D'hooge, J. (KU Leuven)</i>		
14:40-16:10		TuB02.7
<b>Dynamic Morphology-Based Characterization of Stem Cells Enabled by Texture-Based Pattern Recognition from Phase-Contrast Images</b> .....		77-80
<i>Maddah, Mahnaz* (Cellogy Inc.); Loewke, Kevin (Cellogy Inc.)</i>		
14:40-16:10		TuB02.8
<b>High-Resolution Contrast Enhanced Multi-Phase Hepatic Computed Tomography Data from a Porcine Radio-Frequency Ablation Study</b> .....		81-84
<i>Kainz, Bernhard* (Imperial College London); Voglreiter, Philip (Graz University of Technology); Sereinigg, Michael (Medical University Graz); Wiederstein-Grasser, Iris (Medical University Graz); Mayrhauser, Ursula (Medical University Graz); Köstenbauer, Sonja (Medical University Graz); Pollari, Mika (Aalto University); Khlebnikov, Rostislav (Graz University of Technology); Seise, Matthias (Fraunhofer Institute for Applied Information Technology); Alhonnoro, Tuomas (Aalto University); Häme, Yrjö (Aalto University); Seider, Daniel (Leipzig University Hospital); Flanagan, Ronan (NUMA Engineering Services Ltd.); Bost, Claire (NUMA Engineering Services Ltd.); Mühl, Judith (Graz University of Technology); O'Neill, David (Keble College); Peng, Tingying (Keble College); Payne, Stephen (Keble College); Rueckert, Daniel (Imperial College London); Schmalstieg, Dieter (Graz University of Technology); Moche, Michael (Leipzig University Hospital); Kolesnik, Marina (Fraunhofer Institute for Applied Information Technology); Stiegler, Philipp (Medical University of Graz); Portugaller, Rupert H. (Medical University of Graz)</i>		
<b>TuB03: 14:40-16:10</b>		<b>Capital 5</b>
<b>Computer Aided Detection and Diagnosis I (Poster Session)</b>		
14:40-16:10		TuB03.1
<b>Automatic Recognition of Fetal Standard Plane in Ultrasound Image</b> .....		85-88
<i>Lei, Baiying* (Shenzhen University); Zhuo, Liu (Shenzhen University); Chen, Siping (Shenzhen University); Li, Shengli (Nanfang Medical University); Ni, Dong (Shenzhen University); Wang, Tianfu (Shenzhen University)</i>		
14:40-16:10		TuB03.2
<b>An Objective Evaluation Method of Ulcerative Colitis with Optical Colonoscopy Images based on Higher Order Local Auto-Correlation Features</b> .....		89-92
<i>Nosato, Hirokazu* (National Institute of Advanced Industrial Science and Technology); Sakanashi, Hidenori (National Institute of Advanced Industrial Science and Technology); Takahashi, Eiichi (National Institute of Advanced Industrial Science and Technology); Murakawa, Masahiro (National Institute of Advanced Industrial Science and Technology)</i>		
14:40-16:10		TuB03.3
<b>OCM Image Texture Analysis for Tissue Classification</b> .....		93-96
<i>Wan, Sunhua* (Lehigh Univ.); Lee, Hsiang-Chieh (Massachusetts Institute of Technology); Fujimoto, James G. (Massachusetts Institute of Technology); Huang, Xiaolei (Lehigh Univ.); Zhou, Chao (Lehigh Univ.)</i>		
14:40-16:10		TuB03.4
<b>Automatic Polyp Detection from Learned Boundaries</b> .....		97-100
<i>Tajbakhsh, Nima* (Arizona State University); Chi, Changching (Arizona State University); Gurudu, Suryakanth R. (Mayo Clinic); Liang, Jianming (Arizona State University)</i>		
14:40-16:10		TuB03.5
<b>Automatic Detection of Microaneurysms and Haemorrhages in Fundus Images using Dynamic Shape Features</b> .....		101-104
<i>Séoud, Lama* (Polytechnique Montréal and Diagnos Inc.); Faucon, Timothée (Diagnos Inc.); Hurtut, Thomas (Polytechnique Montréal and Université Paris Descartes); Chelbi, Jihed (Diagnos Inc.); Cheriet, Farida (Polytechnique Montréal); Langlois, J.M. Pierre (Polytechnique Montréal)</i>		

14:40-16:10		TuB03.6
<b>Data Driven Editing of Rib Centerlines</b> .....		105-108
<i>El-Zehiry, Noha Youssry* (Siemens Corporation); Wimmer, Andreas (Siemens Healthcare)</i>		
14:40-16:10		TuB03.7
<b>Multi-Atlas based Pathological Stratification of D-TGA Congenital Heart Disease</b> .....		109-112
<i>Zuluaga, M.A.* (University College of London); Mendelson, A. (University College London); Cardoso, M.J. (University College London); Taylor, A.M. (UCL Institute of Cardiovascular Science and Great Ormond Street Hospital for Children); Ourselin, S. (University College London)</i>		
14:40-16:10		TuB03.8
<b>Efficient Machine Learning Framework for Computer-Aided Detection of Cerebral Microbleeds using the Radon Transform</b> .....		113-116
<i>Fazlollahi, Amir* (CSIRO Computational Informatics); Meriaudeau, Fabrice (University of Burgundy); Villemagne, Victor L. (Austin Hospital); Rowe, Christopher C. (Austin Hospital); Yates, Paul (Austin Hospital); Salvado, Olivier (CSIRO Computational Informatics); Bourgeat, Pierrick (CSIRO Computational Informatics)</i>		
14:40-16:10		TuB03.9
<b>Saliency-Based Rotation Invariant Descriptor for Wrist Detection in Whole Body CT Images</b> .....		117-120
<i>Gao, Mingchen* (Rutgers University); Zhan, Yiqiang (Siemens Medical Solution USA Inc.); Hermosillo, Gerardo (Siemens Medical Solution USA Inc.); Shinagawa, Yoshihisa (Siemens Medical Solution USA Inc.); Metaxas, Dimitris (Rutgers University); Zhou, Xiang Sean (Siemens Medical Solution USA Inc.)</i>		
14:40-16:10		TuB03.10
<b>Computer-Assisted Automated Image Recognition of Celiac Disease using Confocal Endomicroscopy</b> .....		121-124
<i>Grisan, Enrico* (University of Padova); Mirzaei, Hadis (University of New South Wales); Leong, Rupert (University of New South Wales)</i>		
14:40-16:10		TuB03.11
<b>Automatic Quantification of CT Images for Traumatic Brain Injury</b> .....		125-128
<i>Koikkalainen, Juha* (VTT Technical Research Centre of Finland); Lötjönen, Jyrki (VTT Technical Research Centre of Finland); Ledig, Christian (Imperial College London); Rueckert, Daniel (Imperial College London); Tenovuo, Olli (Turku University Hospital); Menon, David (University of Cambridge)</i>		
14:40-16:10		TuB03.12
<b>A Robust and Extendable Framework towards Fully Automated Diagnosis of Nonmass Lesions in Breast DCE-MRI</b> .....		129-132
<i>Wang, Lei* (Fraunhofer MEVIS); Harz, Markus T. (Fraunhofer MEVIS); Boehler, Tobias (Fraunhofer MEVIS); Platel, Bram (Radboud University Nijmegen Medical Centre); Homeyer, André (Fraunhofer MEVIS); Hahn, Horst K. (Fraunhofer MEVIS)</i>		
14:40-16:10		TuB03.13
<b>Coronary Centerline Extraction based on Ostium Detection and Model-Guided Directional Minimal Path</b> .....		133-136
<i>Liu, Liu (Nanjing University of Posts and Telecommunications); Shi, Wenzhe (Imperial College London); Rueckert, Daniel (Imperial College London); Hu, Mingxing (University College London); Ourselin, Sebastien (University College London); Zhuang, Xiahai* (Chinese Academy of Science)</i>		
14:40-16:10		TuB03.14
<b>Multi-Scale Superpixel Classification for Optic Cup Localization</b> .....		137-140
<i>Tan, Ngan-Meng* (A*STAR, Institute for Infocomm Research and Nanyang Technological University); Xu, Yanwu (A*STAR, Institute for Infocomm Research); Liu, Jiang (A*STAR, Institute for Infocomm Research and Nanyang Technological University); Goh, Wooi Boon (Nanyang Technological University); Yin, Fengshou (A*STAR, Institute for Infocomm Research); Wong, Tien Yin (Singapore Eye Research Institute)</i>		
14:40-16:10		TuB03.15
<b>Lung Nodule Detection on Digital Tomosynthesis Images: A Preliminary Study</b> .....		141-144
<i>Orbán, Gergely* (Budapest University of Technology and Economics); Horváth, Gábor (Budapest University of Technology and Economics)</i>		

**Image Reconstruction (Poster Session)**

14:40-16:10	TuB04.1
<b>L1/2 Regularization Method for Multiple-Target Reconstruction in Fluorescent Molecular Tomography</b> .....	145-148
<i>He, Xiaowei* (Northwest University); Guo, Hongbo (Northwest University); Hou, Yuqing (Northwest University); Yu, Jingjing (Shaanxi Normal University); Liu, Hejuan (Northwest University); Zhang, Hai (Northwest University)</i>	
14:40-16:10	TuB04.2
<b>Magnetoacoustic Tomography Imaging of Biological Tissues with Magnetic Induction under the Static Field of MRI Scanner</b> .....	149-152
<i>Mariappan, Leo* (University of Minnesota); Hu, Gang (University of Minnesota); He, Bin (University of Minnesota)</i>	
14:40-16:10	TuB04.3
<b>Reconstruction of Electrical Impedance Tomography Images using Genetic Algorithms and Non-Blind Search</b> .....	153-156
<i>Ribeiro, Reiga R. (Universidade Federal de Pernambuco); Feitosa, Allan R.S. (Universidade Federal de Pernambuco); de Souza, Ricardo E.* (Universidade Federal de Pernambuco); dos Santos, Wellington P. (Universidade Federal de Pernambuco)</i>	
14:40-16:10	TuB04.4
<b>Estimating the Thickness of Ultra Thin Sections for Electron Microscopy by Image Statistics</b> .....	157-160
<i>Sporring, Jon* (University of Copenhagen); Khanmohammadi, Mahdieh (University of Copenhagen); Darkner, Sune (University of Copenhagen); Nava, Nicoletta (Aarhus University); Randel Nyengaard, Jens (Aarhus University); Jensen, Eva Bjørn Vedel (Aarhus University)</i>	
14:40-16:10	TuB04.5
<b>Accurate T2 Mapping with Sparsity and Linear Predictability Filtering</b> .....	161-164
<i>Peng, Xi (Shenzhen Institutes of Advanced Technology and Chinese Academy of Sciences); Ying, Leslie (The State University of New York at Buffalo); Liu, Xin (Shenzhen Institutes of Advanced Technology and Chinese Academy of Sciences); Liang, Dong* (Shenzhen Institutes of Advanced Technology and Chinese Academy of Sciences)</i>	
14:40-16:10	TuB04.6
<b>Hessian Regularization based Semi-Supervised Dimensionality Reduction for Neuroimaging Data of Alzheimer's Disease</b> .....	165-168
<i>Zhu, Jie (Shanghai University); Shi, Jun* (Shanghai University)</i>	
14:40-16:10	TuB04.7
<b>Adaptive Dictionary Learning in Sparse Gradient Domain for CT Reconstruction</b> .....	169-172
<i>Liu, Qiegen (Nanchang Univ.); Zhang, Minghui (Nanchang Univ.); Zhao, Jun* (Shanghai Jiao Tong Univ.)</i>	
14:40-16:10	TuB04.8
<b>Second Order Total Generalized Variation for Low-Dose Computed Tomography Image Reconstruction</b> .....	173-176
<i>Niu, Shanzhou (Southern Medical University); Ma, Jianhua* (Southern Medical University); Huang, Jing (Southern Medical University); Bian, Zhaoying (Southern Medical University); Liang, Zhengrong (State University of New York at Stony Brook); Chen, Wufan (Southern Medical University)</i>	
14:40-16:10	TuB04.9
<b>Helical Dual Source Cone-Beam Micro-CT</b> .....	177-180
<i>Johnston, Samuel M. (Duke University Medical Center); Johnson, G. Allan (Duke University Medical Center); Badea, Cristian T.* (Duke University Medical Center)</i>	
14:40-16:10	TuB04.10
<b>Investigation of an Adaptive Regularization Parameter Selection Method in Bioluminescence Tomography</b> .....	181-184
<i>Feng, Jinchao* (Beijing University of Technology); Yang, Mingjie (Beijing University of Technology); Jia, Kebin (Beijing University of Technology)</i>	



14:40-16:10	<b>Image Reconstruction by Electrical Impedance Tomography using Multi-Objective Simulated Annealing</b> .....	TuB05.1 185-188
<i>Martins, Thiago de Castro (Escola Politécnica da Universidade de São Paulo); Fernandes, Amanda Vieira (Escola Politécnica da Universidade de São Paulo); Tsuzuki, Marcos de Sales Guerra* (Escola Politécnica da Universidade de São Paulo)</i>		
14:40-16:10	<b>Fast Random Walker Image Registration using Precomputation</b> .....	TuB05.2 189-192
<i>Andrews, Shawn* (Simon Fraser University); Tang, Lisa (Simon Fraser University); Hamarneh, Ghassan (Simon Fraser University)</i>		
14:40-16:10	<b>Image-Based Ciliary Beating Frequency Estimation for Therapeutic Assessment on Defective Mucociliary Clearance Diseases</b> .....	TuB05.3 193-196
<i>Zhang, Fan* (University of Sydney); Cai, Weidong (University of Sydney); Song, Yang (University of Sydney); Young, Paul (Woolcock Institute of Medical Research and University of Sydney); Traini, Daniela (Woolcock Institute of Medical Research and University of Sydney); Morgan, Lucy (Concord Repatriation General Hospital); Ong, Hui-Xin (Woolcock Institute of Medical Research and University of Sydney); Buddle, Lachlan (Concord Repatriation General Hospital); Feng, Dagan (University of Sydney)</i>		
14:40-16:10	<b>A Bayesian Averaged Response-Driven Multinomial Model for Lateralization of Temporal Lobe Epilepsy</b> .....	TuB05.4 197-200
<i>Nazem-Zadeh, Mohammad-Reza (Henry Ford Hospital); Schwalb, Jason M. (Henry Ford Hospital); Bagher-Ebadian, Hassan (Henry Ford Hospital); Jafari-Khouzani, Kourosh (Henry Ford Hospital and Harvard Medical School); Soltanian-Zadeh, Hamid* (Henry Ford Hospital and University of Tehran)</i>		
14:40-16:10	<b>General Thresholding Representation for the Lp Regularization Problem</b> .....	TuB05.5 201-204
<i>Yu, Hengyong* (Wake Forest Univ. Health Sciences); Miao, Chuang (Wake Forest Univ. Health Sciences)</i>		
14:40-16:10	<b>Computational Removal of Background Fluorescence for Biological Fluorescence Microscopy</b> .....	TuB05.6 205-208
<i>Lee, Hao-Chih* (Carnegie Mellon University); Yang, Ge (Carnegie Mellon University)</i>		
14:40-16:10	<b>A Tomographical Reconstruction Method from Unknown Direction Projections for 2D Gray-Level Images</b> .....	TuB05.7 209-212
<i>Ben Cheikh, Bassem (University of Strasbourg, CNRS ICube); Baudrier, Étienne (University of Strasbourg, CNRS ICube); Frey, Gabriel* (University of Strasbourg, CNRS ICube)</i>		

16:20-16:40	<b>Reliable Extraction of the Mid-Sagittal Plane in 3D Brain MRI via Hierarchical Landmark Detection</b> .....	TuC01.1 213-216
<i>Schwing, Alexander G. (ETH Zürich); Zheng, Yefeng* (Siemens Corporate Technology)</i>		
16:40-17:00	<b>Auto-Encoding of Discriminating Morphometry from Cardiac MRI</b> .....	TuC01.2 217-221
<i>Ye, Dong Hye (Purdue University); Desjardins, Benoît (University of Pennsylvania); Ferrari, Victor (University of Pennsylvania); Metaxas, Dimitris (Rutgers University); Pohl, Kilian M.* (Stanford University)</i>		
17:00-17:20	<b>Cell Type-Independent Mitosis Event Detection via Hidden-State Conditional Neural Fields</b> .....	TuC01.3 222-225
<i>Su, Yuting (Tianjin University); Yu, Jing (Tianjin University); Liu, Anan* (Tianjin University); Gao, Zan (Tianjin University of Technology); Hao, Tong (Tianjin Normal University); Yang, Zhaoxuan (Tianjin University)</i>		

17:20-17:40 TuC01.4  
**Active Learning based Segmentation of Crohn's Disease using Principles of Visual Saliency** ..... 226-229  
*Mahapatra, Dwarikanath\* (ETH Zürich); Schüffler, Peter J. (ETH Zürich); Tielbeek, Jeroen A.W. (Academic Medical Center); Makanyanga, Jessica C. (University College London); Stoker, Jaap (Academic Medical Center); Taylor, Stuart A. (University College London); Vos, Franciscus M. (Academic Medical Center and Delft University of Technology); Buhmann, Joachim M. (ETH Zürich)*

17:40-18:00 TuC01.5  
**Automatic Learning-Based Selection of Beam Angles in Radiation Therapy of Lung Cancer** ..... 230-233  
*Amit, Guy\* (Princess Margaret Cancer Centre); Purdie, Thomas G. (Princess Margaret Cancer Centre and University of Toronto); Levinshstein, Alex (Princess Margaret Cancer Centre); Hope, Andrew J. (Princess Margaret Cancer Centre and University of Toronto); Lindsay, Patricia (Princess Margaret Cancer Centre and University of Toronto); Jaffray, David A. (Princess Margaret Cancer Centre and University of Toronto); Pekar, Vladimir (Philips Healthcare)*

TuC02: 16:20-18:00 R&F 1  
**Diffusion Magnetic Resonance Imaging I** (Oral Session)  
**Chair:** Deriche, Rachid (*Inria Sophia Antipolis-Méditerranée*)

16:20-16:40 TuC02.1  
**Understanding Scanner Upgrade Effects on Brain Integrity & Connectivity Measures** ..... 234-237  
*Zhan, L.\* (Univ. of California, Los Angeles and Univ. of Southern California); Jahanshad, Neda (Univ. of California, Los Angeles and Univ. of Southern California); Jin, Yan (Univ. of California, Los Angeles and Univ. of Southern California); Nir, T.M. (Univ. of California, Los Angeles); Leonardo, C.D. (Univ. of Southern California); Bernstein, M.A. (Mayo Clinic); Borowski, B. (Mayo Clinic); Jack Jr., Clifford R. (Mayo Clinic); Thompson, P.M. (Univ. of California, Los Angeles and Univ. of Southern California)*

16:40-17:00 TuC02.2  
**Fast Identification of Optimal Fascicle Configurations from Standard Clinical Diffusion MRI using Akaike Information Criterion** ..... 238-241  
*Stamm, Aymeric\* (Boston Children's Hospital, Harvard Medical School); Commowick, Olivier (Visages INSERM/Inria); Pérez, Patrick (Technicolor); Barillot, Christian (Visages INSERM/Inria)*

17:00-17:20 TuC02.3  
**Mapping Average Axon Diameters under Long Diffusion Time** ..... 242-245  
*Sanguinetti, Gonzalo\* (Inria); Deriche, Rachid (Inria Sophia Antipolis-Méditerranée)*

17:20-17:40 TuC02.4  
**Elucidating Brain Connectivity Networks in Major Depressive Disorder using Classification-Based Scoring** ..... 246-249  
*Sacchet, Matthew D. (Stanford Univ.); Prasad, Gautam\* (Univ. of Southern California); Foland-Ross, Lara C. (Stanford Univ.); Thompson, Paul M. (Univ. of California, Los Angeles); Gotlib, Ian H. (Stanford Univ.)*

17:40-18:00 TuC02.5  
**Effects of Tractography Approach on Consistency Between Anatomical and Functional Connectivity Estimates** ..... 250-253  
*Yoldemir, Burak\* (University of British Columbia); Ng, Bernard (Inria and Stanford University); Abugharbieh, Rafeef (University of British Columbia)*

TuC03: 16:20-18:00 R&F 2  
**Shape Modeling in Biomedical Imaging I** (Oral Session)  
**Chair:** Chen, XinJian (*Soochow University*)

16:20-16:40 TuC03.1  
**Integrating Dimension Reduction with Mean-Shift Clustering for Biological Shape Classification** ..... 254-257  
*Lee, Hao-Chih\* (Carnegie Mellon University); Yang, Ge (Carnegie Mellon University)*



16:40-17:00		TuC03.2
<b>A Sparse Approach to Build Shape Models with Routine Clinical Data</b> .....		258-261
<i>Gutierrez, Benjamin* (Technische Universität München); Mateus, Diana (Technische Universität München and Helmholtz Zentrum München); Shiban, Ehab (Technische Universität München); Meyer, Bernhard (Technische Universität München); Lehmborg, Jens (Technische Universität München); Navab, Nassir (Technische Universität München)</i>		
17:00-17:20		TuC03.3
<b>Fluid Dynamics Modeling of Cell and Membrane Deformations</b> .....		262-265
<i>Simoncini, Costanza (Institut Pasteur); Lecomte, Timothée* (Institut Pasteur); Thibeaux, Roman (Institut Pasteur); Guillen, Nancy (Institut Pasteur); Dufour, Alexandre (Institut Pasteur); Olivo-Marin, Jean-Christophe (Institut Pasteur)</i>		
17:20-17:40		TuC03.4
<b>Neuron Recognition with Hidden Neural Network Random Fields</b> .....		266-269
<i>Chang, X. (Indiana University-Purdue University Indianapolis); Kim, M.D. (University of Miami); Stephens, R. (Indiana University-Purdue University Indianapolis); Qu, T. (Indiana University-Purdue University Indianapolis); Gulyanov, S. (Indiana University-Purdue University Indianapolis); Chiba, A. (University of Miami); Tsechpenakis, G.* (Indiana University-Purdue University Indianapolis)</i>		
17:40-18:00		TuC03.5
<b>Robust Shape Prior Modeling based on Gaussian-Bernoulli Restricted Boltzmann Machine</b> .....		270-273
<i>Zhang, Han (Rutgers University); Zhang, Shaoting* (University of North Carolina at Charlotte); Li, Kang (Rutgers University); Metaxas, Dimitris (Rutgers University)</i>		

TuC04: 16:20-18:00		R&F 3
<b>Advances in Computer-Aided Histopathology</b> (Special Session)		
<b>Chair:</b> Wählby, Carolina (Centre for Image Analysis/SciLifeLab, Uppsala University, Broad Institute of Harvard and MIT, Cambridge)		
<b>Co-Chair:</b> Carlbom, Ingrid (Uppsala University)		

16:20-16:40		TuC04.1
<b>Quantitative and Automated Microscopy — Where Do We Stand after 80 Years of Research?</b> .....		274-277
<i>Bengtsson, Ewert* (Uppsala University)</i>		
17:00-17:20		TuC04.3
<b>Mapping for Tissue based Cytometry</b> .....		278-281
<i>Rittscher, Jens* (GE Global Research); Santamaria-Pang, Alberto (GE Global Research)</i>		
17:20-17:40		TuC04.4
<b>Picro-Sirius-Htx Stain for Blind Color Decomposition of Histopathological Prostate Tissue</b> .....		282-285
<i>Carlbon, Ingrid B.* (Uppsala Univ.); Avenel, Christophe (Uppsala Univ.); Busch, Christer (Uppsala Univ.)</i>		
17:40-18:00		TuC04.5
<b>Image based in Situ Sequencing for RNA Analysis in Tissue</b> .....		286-289
<i>Pacureanu, Alexandra* (Uppsala University); Ke, Rongqin (Stockholm University); Mignardi, Marco (Stockholm University); Nilsson, Mats (Stockholm University); Wählby, Carolina (Uppsala University)</i>		

### Wednesday, 30 April 2014

WeA01: 08:20-09:50		Capital 5
<b>Tracking</b> (Poster Session)		
08:20-09:50		WeA01.1
<b>Automated Cell Junction Tracking with Modified Active Contours Guided by SIFT Flow</b> .....		290-293
<i>Lee, Chen-Yu* (Univ. of California, San Diego); Kang, Sukryool (Univ. of California, San Diego); Chisholm, Andrew D. (Univ. of California, San Diego); Cosman, Pamela C. (Univ. of California, San Diego)</i>		

08:20-09:50		WeA01.2
<b>Robust Real-Time Bronchoscope Electromagnetic Tracking using an Adaptive Hybrid Registration Approach without Fiducials</b> .....	294-297	
<i>Luo, Xiongbiao* (Nagoya University); Mori, Kensaku (Nagoya University)</i>		
08:20-09:50		WeA01.3
<b>Optical Flow Guided Cell Segmentation and Tracking in Developing Tissue</b> .....	298-301	
<i>Liu, Kun (University of Freiburg); Lienkamp, Soeren S. (University of Freiburg Medical Center); Shindo, Asako (University of Texas at Austin); Wallingford, John B. (University of Texas at Austin); Walz, Gerd (University of Freiburg); Ronneberger, Olaf* (University of Freiburg)</i>		
08:20-09:50		WeA01.4
<b>Tracking Swimmers Bacteria and Pores within a Biofilm</b> .....	302-305	
<i>Li, Yingbo* (INRA); Briandet, Romain (INRA and AgroParisTech, Micalis Institute); Trubuil, Alain (INRA)</i>		
08:20-09:50		WeA01.5
<b>Vessel Tracking for Ultrasound-Based Venous Pressure Measurement</b> .....	306-309	
<i>Crimi, A.* (ETH Zürich); Makhinya, M. (ETH Zürich); Baumann, U. (Muensingen Hospital); Szekely, G. (ETH Zürich); Goksel, O. (ETH Zürich)</i>		
08:20-09:50		WeA01.6
<b>Head Tracking and Flagellum Tracing for Sperm Motility Analysis</b> .....	310-313	
<i>Yang, H.-F.* (Univ. Nice Sophia Antipolis); Descombes, X. (Inria); Prigent, S. (Univ. Nice Sophia Antipolis); Malandain, G. (Inria); Druart, X. (INRA, CNRS-Université de Tours-Haras Nationaux); Plouraboué, F. (IMFT UMR)</i>		
08:20-09:50		WeA01.7
<b>A Unified Graphical Models Framework for Automated Human Embryo Tracking in Time Lapse Microscopy</b> .....	314-320	
<i>Moussavi, F.* (Auxogyn, Inc.); Wang, Y. (Auxogyn, Inc.); Lorenzen, P. (Auxogyn, Inc.); Oakley, J. (Voxeleron LLC); Russakoff, D. (Voxeleron LLC); Gould, S. (Australian National University)</i>		
<b>WeA02: 08:20-09:50</b>		<b>Capital 5</b>
<b>Brain Exploration by Magnetic Resonance Imaging (Poster Session)</b>		
08:20-09:50		WeA02.1
<b>Baseline Constrained Reconstruction of DSC-MRI Tracer Kinetics from Sparse Fourier Data</b> .....	321-324	
<i>Boschetto, D. (IMT Institute for Advanced Studies Lucca); Di Prima, P. (University of Padova); Castellaro, M. (University of Padova); Bertoldo, A. (University of Padova); Grisan, E.* (University of Padova)</i>		
08:20-09:50		WeA02.2
<b>Connectomics Signature for Characterization of Mild Cognitive Impairment and Schizophrenia</b> .....	325-328	
<i>Zhu, Dajiang* (University of Georgia); Shen, Dinggang (University of North Carolina, Chapel Hill); Jiang, Xi (University of Georgia); Liu, Tianming (University of Georgia)</i>		
08:20-09:50		WeA02.3
<b>Spatial Alignment of Human Cortex by Matching Hierarchical Patterns of Functional Connectivity</b> .....	329-332	
<i>Li, Hongming* (Chinese Academy of Sciences); Fan, Yong (Chinese Academy of Sciences)</i>		
08:20-09:50		WeA02.4
<b>Contusion Segmentation from Subjects with Traumatic Brain Injury: A Random Forest Framework</b> .....	333-336	
<i>Rao, A.* (Imperial College London); Ledig, C. (Imperial College London); Newcombe, V. (University of Cambridge); Menon, D. (University of Cambridge); Rueckert, D. (Imperial College London)</i>		
08:20-09:50		WeA02.5
<b>An Unsupervised Random Walk Approach for the Segmentation of Brain MRI</b> .....	337-340	
<i>Desrosiers, Christian* (École de technologie Supérieure)</i>		
08:20-09:50		WeA02.6
<b>An Efficient Parallel Algorithm for Hierarchical Geodesic Models in Diffeomorphisms</b> .....	341-344	
<i>Singh, Nikhil* (University of Utah); Hinkle, Jacob (University of Utah); Joshi, Sarang (University of Utah); Fletcher, P. Thomas (University of Utah)</i>		

08:20-09:50		WeA02.7
<b>Increasing the Credibility of MR Spectroscopy-Based Automatic Brain Tumor Classification Systems</b> .....	345-348	
<i>Berger, Martin* (Friedrich-Alexander-Universität Erlangen-Nürnberg); Sembritzki, Klaus (Friedrich-Alexander-Universität Erlangen-Nürnberg); Hornegger, Joachim (Friedrich-Alexander-Universität Erlangen-Nürnberg); Bauer, Christina (Siemens AG, Erlangen)</i>		
08:20-09:50		WeA02.8
<b>Exploring Consistent Functional Brain Networks During Free Viewing of Videos via Sparse Representation</b> .....	349-352	
<i>Lv, Cheng (Northwestern Polytechnical Univ.); Hu, Xintao* (Northwestern Polytechnical Univ.); Han, Junwei (Northwestern Polytechnical Univ.); Cheng, Gong (Northwestern Polytechnical Univ.); Li, Xiang (Univ. of Georgia); Guo, Lei (Northwestern Polytechnical Univ.); Liu, Tianming (Univ. of Georgia)</i>		
08:20-09:50		WeA02.9
<b>Identifying Candidate Gene Effects by Restricting Search Space in a Multivariate Genetic Analysis of White Matter Microstructure</b> .....	353-356	
<i>Warstadt, Nicholas M.* (Univ. of California, Los Angeles); Jahanshad, Neda (Univ. of California, Los Angeles); Dennis, Emily L. (Univ. of California, Los Angeles); Kohannim, Omid (Univ. of California, Los Angeles); McMahon, Katie L. (Univ. of Queensland); de Zubicaray, Greig I. (Univ. of Queensland); Montgomery, Grant W. (Queensland Inst. of Medical Research); Henders, Anjali K. (Queensland Inst. of Medical Research); Martin, Nicholas G. (Queensland Inst. of Medical Research); Whitfield, John B. (Queensland Inst. of Medical Research); Wright, Margaret J. (Univ. of Queensland); Thompson, Paul M. (Univ. of California, Los Angeles)</i>		
WeA03: 08:20-09:50		Capital 5
<b>Shape Modeling in Biomedical Imaging II (Poster Session)</b>		
08:20-09:50		WeA03.1
<b>Segmentation with a Shape Dictionary</b> .....	357-360	
<i>Liu, Wenyang (University of California, Los Angeles); Ruan, Dan* (University of California Los Angeles)</i>		
08:20-09:50		WeA03.2
<b>An Algorithm for Suggesting Delineation Planes for Interactive Segmentation</b> .....	361-364	
<i>Yifrah, Shahar* (Tel Aviv University); Zadicario, Eyal (Tel Aviv University); Ju, Tao (Washington University in St. Louis); Cohen-Or, Daniel (Tel Aviv University)</i>		
08:20-09:50		WeA03.3
<b>3D Shape Analysis using Overcomplete Spherical Wavelets: Application to Bleb Detection in Cell Biology</b> .....	365-368	
<i>Tournemenne, Robin (Institut Pasteur); Ducroz, Christel (Institut Pasteur); Olivo-Marin, Jean-Christophe (Institut Pasteur); Dufour, Alexandre* (Institut Pasteur)</i>		
08:20-09:50		WeA03.4
<b>Application of Laplacian Surface Deformation and Self-Organizing Maps to Calculate Shape Correspondence for Statistical Shape Modeling</b> .....	369-372	
<i>Vikas, Karade* (Indian Inst. of Technology - Bombay); Bhallamudi, Ravi (Indian Inst. of Technology - Bombay)</i>		
08:20-09:50		WeA03.5
<b>Morphological Analysis of the Papillary Muscles and the Trabeculae</b> .....	373-376	
<i>Gao, Mingchen* (Rutgers University); Chen, Chao (Rutgers University); Zhang, Shaoting (University of North Carolina, Charlotte); Qian, Zhen (Piedmont Heart Institute); Vannan, Mani (Piedmont Heart Institute); Rinehart, Sarah (Piedmont Heart Institute); Metaxas, Dimitris (Rutgers University); Axel, Leon (New York University)</i>		
08:20-09:50		WeA03.6
<b>Scalable Sparse Shape Composition and its Application to the Liver Surgical Planning</b> .....	377-380	
<i>Wang, Guotai (Shanghai Jiao Tong University); Zhang, Shaoting (University of North Carolina at Charlotte); Gu, Lixu* (Shanghai Jiao Tong University)</i>		
08:20-09:50		WeA03.7
<b>Learning and Visualizing Statistical Relationships between Protein Distributions from Microscopy Images</b> .....	381-384	
<i>Kolouri, Soheil (Carnegie Mellon University); Basu, Saurav (Carnegie Mellon University); Rohde, Gustavo K.* (Carnegie Mellon University)</i>		

08:20-09:50	WeA03.8
<b>Geodesic Regression of Image and Shape Data for Improved Modeling of 4D Trajectories</b> .....	385-388
<i>Fishbaugh, James* (University of Utah); Prastawa, Marcel (University of Utah); Gerig, Guido (University of Utah); Durrleman, Stanley (Inria/ICM)</i>	
08:20-09:50	WeA03.9
<b>Signed Poisson Map for Shape Analysis</b> .....	389-392
<i>Gao, A. Yi* (University of Alabama at Birmingham); Bouix, B. Sylvain (Psychiatry Neuroimaging Laboratory)</i>	
08:20-09:50	WeA03.10
<b>Analyzing Anatomical Structures of Branching Topology through Elastic Matching of Tree Encodings</b> .....	393-396
<i>Skoura, Aggeliki* (Univ. of Patras); Megalooikonomou, Vasileios (Univ. of Patras and Temple Univ.)</i>	
08:20-09:50	WeA03.11
<b>Automated Extraction of Anatomic Landmarks on Vertebrae based on Anatomic Knowledge and Geometrical Constraints</b> .....	397-400
<i>Yao, Jianhua* (National Institutes of Health); Burns, Joseph E. (University of California, Irvine); Getty, Sasha (University of California, Irvine); Stieger, James (National Institutes of Health); Summers, Ronald M. (National Institutes of Health)</i>	
08:20-09:50	WeA03.12
<b>Discriminating Normal and Abnormal Left Ventricular Shapes in Four-Chamber View 2D Echocardiography</b> .....	401-404
<i>Syeda-Mahmood, Tanveer* (IBM Almaden Research Center); Wang, Quan (Rensselaer Polytechnic Institute); McNeillie, Patrick (IBM Almaden Research Center); Beymer, David (IBM Almaden Research Center); Compas, Colin (IBM Almaden Research Center)</i>	
08:20-09:50	WeA03.13
<b>Model-to-Volume Registration for Endovascular Aneurysm Repair</b> .....	405-408
<i>Huynh, Tri (Siemens Corporation); Miao, Shun* (Siemens Corporation); Liao, Rui (Siemens Corporation)</i>	
08:20-09:50	WeA03.14
<b>Cartilage Estimation in Noncontrast Thoracic CT</b> .....	409-412
<i>Zhao, Qian* (Children's National Medical Center); Safdar, Nabile (Children's National Medical Center); Yu, Glenna (Princeton University); Myers, Emmarie (Children's National Medical Center); Koroulakis, Antony (George Washington University); Duan, Chunzhe (Children's National Medical Center); Sandler, Antony (Children's National Medical Center); Linguraru, Marius George (Children's National Medical Center)</i>	

WeA04: 08:20-09:50	Capital 5
<b>Cardiac and Vascular Imaging I (Poster Session)</b>	

08:20-09:50	WeA04.1
<b>Automatic Left Ventricle Segmentation based on Multi-Atlas Registration in 4d CT Images</b> .....	413-416
<i>Yang, Guanyu* (Southeast Univ.); Chen, Yang (Southeast Univ.); Tang, Lijun (First Affiliated Hospital of Nanjing Medical Univ.); Shu, Huazhong (Southeast Univ.); Toumoulin, Christine (Univ. de Rennes I)</i>	
08:20-09:50	WeA04.2
<b>Relative Pressure Field Computation in Human Arteries based on 4D PC-MRI Velocities</b> .....	417-420
<i>Berg, Philipp* (University of Magdeburg); Baumgarten, Kathrin (University of Magdeburg); Geist, Silvio (University of Magdeburg); Stucht, Daniel (University of Magdeburg); Speck, Oliver (University of Magdeburg); Janiga, Gábor (University of Magdeburg)</i>	
08:20-09:50	WeA04.3
<b>Bifurcation Detection in 3D Vascular Images using Novel Features and Random Forest</b> .....	421-424
<i>Zhao, Mengliu* (Simon Fraser University); Hamarneh, Ghassan (Simon Fraser University)</i>	
08:20-09:50	WeA04.4
<b>Skeleton Calculation for Automatic Extraction of Arteriovenous Malformation in 3-D CTA Images</b> .....	425-428
<i>Babin, Danilo* (Ghent University); Spyrtanis, Michail (University of Leuven - KU Leuven); Pižurica, Aleksandra (Ghent University); Philips, Wilfried (Gent University)</i>	

08:20-09:50		WeA04.5
<b>Joint Segmentation of Right and Left Cardiac Ventricles using Multi-Label Graph Cut</b> .....		429-432
<i>Grosgeorge, D. (Université de Rouen); Petitjean, C. (Université de Rouen); Ruan, Su* (Université de Rouen)</i>		
08:20-09:50		WeA04.6
<b>Uncertainty Quantification in Medical Image-Based Hemodynamic Computations</b> .....		433-436
<i>Chen, Weijia (Siemens Corporation); Itu, Lucian (Siemens Corporate Technology); Sharma, Puneet* (Siemens Corporate Technology); Kamen, Ali (Siemens Corporate Technology)</i>		
08:20-09:50		WeA04.7
<b>ECG-Gated Cardiac CT Reconstruction using Patch based Lowrank Regularization</b> .....		437-440
<i>Kim, Kyungsang (KAIST); Ye, Jong Chul* (KAIST)</i>		
<b>WeA05: 08:20-09:50</b>		<b>Capital 5</b>
<b>Image Sequence Analysis (Poster Session)</b>		
08:20-09:50		WeA05.1
<b>Fast Algorithm for Estimating the Regional Mechanical Function of the Left Ventricle from 4D Cardiac CT Data</b> .....		441-444
<i>Lamash, Yechiel* (Technion – Israel Institute of Technology Haifa); Fischer, Anath (Technion – Israel Institute of Technology Haifa); Lessick, Jonathan (Rambam Health Care Campus Haifa)</i>		
08:20-09:50		WeA05.2
<b>Motion Factorization for Echocardiogram Classification</b> .....		445-448
<i>Wu, Hui* (University of North Carolina at Charlotte); Huynh, Toan T. (Carolinas Medical Center); Souvenir, Richard (University of North Carolina at Charlotte)</i>		
08:20-09:50		WeA05.3
<b>Accelerated Dynamic MRI via Inter-Frame Motion Estimation</b> .....		449-452
<i>Cao, Chuqing* (National University of Singapore); Sun, Ying (National University of Singapore)</i>		
08:20-09:50		WeA05.4
<b>Estimation of the Flow of Particles within a Partition of the Image Domain in Fluorescence Video-Microscopy</b> .....		453-456
<i>Pécot, Thierry* (Inria); Boulanger, Jérôme (Curie Institute/CNRS); Kervrann, Charles (Inria); Bouthemy, Patrick (Inria); Salamero, Jean (Curie Institute/CNRS)</i>		
08:20-09:50		WeA05.5
<b>Autoadaptive Motion Modelling</b> .....		457-460
<i>Baumgartner, C.F.* (King's College London); Kolbitsch, C. (King's College London); McClelland, J.R. (University College London); Rueckert, D. (Imperial College London); King, A.P. (King's College London)</i>		
08:20-09:50		WeA05.6
<b>Automated Surgical OSATS Prediction from Videos</b> .....		461-464
<i>Sharma, Yachna* (Georgia Institute of Technology); Plötz, Thomas (Newcastle University); Hammerla, Nils (Newcastle University); Mellor, Sebastian (Newcastle University); McNaney, Roisin (Newcastle University); Olivier, Patrick (Newcastle University); Deshmukh, Sandeep (Newcastle University); McCaskie, Andrew (Newcastle University); Essa, Irfan (Georgia Institute of Technology)</i>		
08:20-09:50		WeA05.7
<b>Counting Cells from Microscopy Videos without Tracking Individual Cells</b> .....		465-468
<i>Mukherjee, Satarupa (Univ. of Alberta); Ray, Nilanjan* (Univ. of Alberta); Acton, Scott T. (Univ. of Virginia)</i>		
08:20-09:50		WeA05.8
<b>The Benchmark Data Set Cetres.b-Mi for in Vitro Mitosis Detection</b> .....		469-472
<i>Becker, T.* (Fraunhofer Institution for Marine Biotechnology); Kanje, W. (Fraunhofer Institution for Marine Biotechnology and University of Lübeck); Rapoport, D. (Fraunhofer Institution for Marine Biotechnology); Thierbach, K. (Dresden University of Technology); Scherf, N. (Dresden University of Technology); Roeder, I. (Dresden University of Technology); Mamlouk, A. Madany (University of Lübeck)</i>		



08:20-09:50		WeA05.9
<b>High-Speed X-Ray Imaging of Needle-Free Jet Injections</b> .....		473-476
<i>Chang, Jean H.* (Massachusetts Institute of Technology); Hogan, N. Catherine (Massachusetts Institute of Technology); Hunter, Ian W. (Massachusetts Institute of Technology)</i>		
08:20-09:50		WeA05.10
<b>ROI Detection in High Speed Laryngeal Images</b> .....		477-480
<i>Andrade-Miranda, Gustavo* (Universidad Politécnica de Madrid); Godino-Llorente, Juan Ignacio (Universidad Politécnica de Madrid)</i>		
08:20-09:50		WeA05.11
<b>Neurodynamics: A Method for Neurotransmitter Vesicle Movement Characterization in Neurons</b> .....		481-484
<i>Carpinteiro, Frederico A. (University of Porto); Costa, Pedro M. (University of Porto); Sáenz Espinoza, Mario (University of Porto); Silva, Ivo M. (University of Porto); Cunha, João P.S.* (University of Porto)</i>		
08:20-09:50		WeA05.12
<b>Automated Segmentation of Abnormal Cervical Cells using Global and Local Graph Cuts</b> .....		485-488
<i>Zhang, Ling* (Shenzhen University); Kong, Hui (Massachusetts Institute of Technology); Chin, Chien Ting (Shenzhen University); Liu, Shaoxiong (People's Hospital of Nanshan District); Wang, Tianfu (Shenzhen University); Chen, Siping (Shenzhen University)</i>		
<b>WeA06: 08:20-09:50</b>		<b>Capital 5</b>
<b>Image Restoration and Artifact Reduction (Poster Session)</b>		
08:20-09:50		WeA06.1
<b>Contrast Enhancement of Micro Dose X-Ray Images</b> .....		489-492
<i>Irrera, Paolo* (Télécom ParisTech and EOS Imaging); Bloch, Isabelle (Télécom ParisTech); Delplanque, Maurice (EOS Imaging)</i>		
08:20-09:50		WeA06.2
<b>Multi-Scale Non-Local Means with Shape Prior for Enhancement of Cell Membrane Images</b> .....		493-496
<i>Du, Cheng-Jin* (University of Warwick); Tyson, Richard (University of Warwick); Rozbicki, Emil (University of Dundee); Weijer, Cornelis J. (University of Dundee); Bretschneider, Till (University of Warwick)</i>		
08:20-09:50		WeA06.3
<b>Spectral CT Image Restoration using Average Image Induced Nonlocal Means Filter</b> .....		497-500
<i>Zeng, Dong (Southern Medical University); Ma, Jianhua* (Southern Medical University); Zhang, Hua (Southern Medical University); Bian, Zhaoying (Southern Medical University); Niu, Shanzhou (Southern Medical University); Huang, Jing (Southern Medical University); Chen, Wufan (Southern Medical University)</i>		
08:20-09:50		WeA06.4
<b>An Adaptive Denoising Method Used in MRI</b> .....		501-504
<i>Zhang, Huaizhong (Swansea University); Xie, Xianghua* (Swansea University)</i>		
08:20-09:50		WeA06.5
<b>Estimation and Compensation of the Signal-to-Noise Ratios in Radiography Imaging under Irregular Detector Gains</b> .....		505-508
<i>Kim, Dong Sik* (Hankuk University of Foreign Studies)</i>		
08:20-09:50		WeA06.6
<b>Patch based Specular Reflection Removal for Range Images in Hybrid 3-D Endoscopy</b> .....		509-512
<i>Haase, Sven* (Friedrich-Alexander-Univ. Erlangen-Nürnberg); Wasza, Jakob (Friedrich-Alexander-Univ. Erlangen-Nürnberg); Safak, Mustafa (Friedrich-Alexander-Univ. Erlangen-Nürnberg); Kilgus, Thomas (German Cancer Research Center); Maier-Hein, Lena (German Cancer Research Center); Feußner, Hubertus (Technical Univ. of Munich); Hornegger, Joachim (Friedrich-Alexander-Univ. Erlangen-Nürnberg)</i>		
08:20-09:50		WeA06.7
<b>Metal Artifacts Reduction for Tomosynthesis</b> .....		513-516
<i>Zhang, Zhaoxia* (General Electric Global Research); Yan, Ming (General Electric Global Research); Tao, Kun (General Electric Global Research); Xuan, Xiao (General Electric Healthcare)</i>		
08:20-09:50		WeA06.8
<b>Calibration Image Pre-Processing in 3D Body Surface Measurement System</b> .....		517-520
<i>Liu, Xinran* (Southeast University); Zhou, Ping (Southeast University); Zhu, Tongjing (Southeast University)</i>		



WeB01: 11:00-12:40 <b>Image Segmentation I</b> (Oral Session) <b>Chair:</b> Rittscher, Jens ( <i>University of Oxford</i> )	Capital 3
---	-----------

11:00-11:20	WeB01.1
<b>Robust Muscle Cell Segmentation using Region Selection with Dynamic Programming</b> .....	521-524
<i>Liu, Fujun (University of Kentucky); Xing, Fuyong* (University of Kentucky); Yang, Lin (University of Kentucky)</i>	
11:20-11:40	WeB01.2
<b>Graph-Based Optimal Multi-Surface Segmentation with a Star-Shaped Prior: Application to the Segmentation of the Optic Disc and Cup</b> .....	525-528
<i>Bai, Junjie* (University of Iowa); Miri, Mohammad Saleh (University of Iowa); Liu, Yinxiao (University of Iowa); Saha, Punam (University of Iowa); Garvin, Mona (University of Iowa); Wu, Xiaodong (University of Iowa)</i>	
11:40-12:00	WeB01.3
<b>4D Active Cut: An Interactive Tool for Pathological Anatomy Modeling</b> .....	529-532
<i>Wang, Bo* (Univ. of Utah); Liu, Wei (Univ. of Utah); Prastawa, Marcel (Univ. of Utah); Irimia, Andrei (Univ. of Southern California); Vespa, Paul M. (Univ. of California, Los Angeles); Van Horn, John D. (Univ. of Southern California); Fletcher, P. Thomas (Univ. of Utah); Gerig, Guido (Univ. of Utah)</i>	
12:00-12:20	WeB01.4
<b>SLT-LoG: A Vesicle Segmentation Method with Automatic Scale Selection and Local Thresholding Applied to TIRF Microscopy</b> .....	533-536
<i>Basset, Antoine* (Inria); Boulanger, Jérôme (CNRS, Institute Curie); Bouthemy, Patrick (Inria); Kervrann, Charles (Inria); Salamero, Jean (CNRS, Institute Curie)</i>	
12:20-12:40	WeB01.5
<b>Hierarchical Organization of the Functional Brain Identified using Floating Aggregation of Functional Signals</b> .....	537-540
<i>Li, Hongming* (Chinese Academy of Sciences); Fan, Yong (Chinese Academy of Sciences)</i>	

WeB02: 11:00-12:40 <b>Probabilistic Statistical Methods</b> (Oral Session) <b>Chair:</b> Descombes, Xavier ( <i>Inria</i> )	R&F 1
---	-------

11:00-11:20	WeB02.1
<b>A Statistical Analysis of Spatial Clustering Along Cell Filaments using Ripley's K Function</b> .....	541-544
<i>López Yunta, Mariña (Institut Pasteur); Lagache, Thibault* (Institut Pasteur); Santi-Rocca, Julien (Institut Pasteur); Bastin, Philippe (Institut Pasteur); Olivo-Marin, Jean-Christophe (Institut Pasteur)</i>	
11:20-11:40	WeB02.2
<b>Dynamic Network Partition via Bayesian Connectivity Bi-Partition Change Point Model</b> .....	545-548
<i>Lian, Zhichao (Yale University); Li, Xiang* (University of Georgia); Young, Thomas (Yale University); Hao, Yun (Fudan University); Xing, Jianchuan (University of Electronic Science and Technology of China and Yale University); Lv, Jinglei (University of Georgia); Jiang, Xi (University of Georgia); Zhu, Dajiang (University of Georgia); Liu, Tianming (University of Georgia); Zhang, Jing (Yale University)</i>	
11:40-12:00	WeB02.3
<b>Improving Brain Decoding through Constrained and Parametrized Temporal Smoothing</b> .....	549-553
<i>Markides, Loizos* (Imperial College London); Gillies, Duncan F. (Imperial College London)</i>	
12:00-12:20	WeB02.4
<b>Airway Labeling using a Hidden Markov Tree Model</b> .....	554-558
<i>Ross, James C.* (Brigham and Women's Hospital and Harvard Medical School); Diaz, Alejandro A. (Brigham and Women's Hospital and Harvard Medical School); Okajima, Yuka (Brigham and Women's Hospital and Harvard Medical School); Wassermann, Demian (Brigham and Women's Hospital and Harvard Medical School); Washko, George R. (Brigham and Women's Hospital and Harvard Medical School); Dy, Jennifer (Northeastern University); San José Estepar, Raul (Brigham and Women's Hospital and Harvard Medical School)</i>	

12:20-12:40 WeB02.5  
**Parametric Regression Scheme for Distributions: Analysis of DTI Fiber Tract Diffusion Changes in Early Brain Development** ..... 559-562  
*Sharma, Anuja\* (University of Utah); Fletcher, P. Thomas (University of Utah); Gilmore, John H. (University of North Carolina at Chapel Hill); Escolar, Maria L. (University of Pittsburgh); Gupta, Aditya (University of North Carolina at Chapel Hill and University of Pittsburgh); Styner, Martin (University of North Carolina at Chapel Hill); Gerig, Guido (University of Utah)*

WeB03: 11:00-12:40	R&F 2
<b>Image Registration I (Oral Session)</b>	
<b>Chair:</b> Malandain, gregoire ( <i>Inria</i> )	

11:00-11:20 WeB03.1  
**Automatic Detection of Endoscope in Intraoperative CT Image: Application to AR Guidance in Laparoscopic Surgery** ..... 563-567  
*Bernhardt, S.\* (IHU Strasbourg); Nicolau, S.A. (IRCAD); Agnus, V. (IRCAD); Soler, L. (IRCAD); Doignon, C. (University of Strasbourg); Marescaux, J. (IRCAD)*

11:20-11:40 WeB03.2  
**A Robust Similarity Measure for Nonrigid Image Registration with Outliers** ..... 568-571  
*Pszczolkowski, Stefan\* (Imperial College London); Zafeiriou, Stefanos (Imperial College London); Ledig, Christian (Imperial College London); Rueckert, Daniel (Imperial College London)*

11:40-12:00 WeB03.3  
**Elastic Image Registration using Linear Basis Functions for Non-Continuously Deforming Objects** ..... 572-575  
*Lamash, Yechiel\* (Technion – Israel Institute of Technology Haifa); Fischer, Anath (Technion – Israel Institute of Technology Haifa); Lessick, Jonathan (Rambam Health Care Campus Haifa)*

12:00-12:20 WeB03.4  
**Random Walker Image Registration with Cost Aggregation** ..... 576-579  
*Tang, Lisa Ying Wai\* (Simon Fraser University); Hamarneh, Ghassan (Simon Fraser University)*

12:20-12:40 WeB03.5  
**A Fast and Accurate Parallel Algorithm for Non-Linear Image Registration using Normalized Gradient Fields** ..... 580-583  
*König, Lars\* (Fraunhofer MEVIS); Rühaak, Jan (Fraunhofer MEVIS)*

WeC01: 14:00-15:40	Capital 3
<b>Functional Magnetic Resonance Imaging (Oral Session)</b>	
<b>Chair:</b> Soltanian-Zadeh, Hamid ( <i>University of Tehran</i> )	

14:00-14:20 WeC01.1  
**Sparse Representation of Working Memory Processes based on fMRI Data** ..... 584-587  
*Zhu, Dajiang\* (University of Georgia); Li, Xiang (University of Georgia); Liu, Tianming (University of Georgia)*

14:20-14:40 WeC01.2  
**Investigating the Spatial and Temporal Interactions in Resting-State fMRI with Total Activation** ..... 588-591  
*Karahanoğlu, F. Işık (École Polytechnique Fédérale de Lausanne and University of Geneva); Van De Ville, Dimitri\* (École Polytechnique Fédérale de Lausanne and University of Geneva)*

14:40-15:00 WeC01.3  
**Characterizing White Matter Connectivity in Major Depressive Disorder: Automated Fiber Quantification and Maximum Density Paths** ..... 592-595  
*Sacchet, Matthew D. (Stanford University); Prasad, Gautam\* (Stanford University and University of Southern California); Foland-Ross, Lara C. (Stanford University); Joshi, Shantanu H. (University of California, Los Angeles); Hamilton, J. Paul (Laureate Institute for Brain Research); Thompson, Paul M. (University of California, Los Angeles); Gotlib, Ian H. (Stanford University)*

15:00-15:20 WeC01.4  
**Consistent Hemodynamic Response Estimation Function in fMRI using Sparse Prior Information** ..... 596-599  
*Seghouane, Abd-Krim\* (University of Melbourne); Johnston, Leigh A. (University of Melbourne)*

15:20-15:40 WeC01.5  
**Exploring Functional Brain Dynamics via a Bayesian Connectivity Change Point Model** ..... 600-603  
*Lian, Zhichao\* (Yale Univ.); Li, Xiang (Univ. of Georgia); Xing, Jianchuan (Univ. of Electronic Science and Technology of China, and Yale Univ.); Lv, Jinglei (Univ. of Georgia); Jiang, Xi (Univ. of Georgia); Zhu, Dajiang (Univ. of Georgia); Zhang, Shu (Univ. of Georgia); Xu, Jiansong (Yale Univ.); Potenza, Marc N. (Yale Univ.); Liu, Tianming (Univ. of Georgia); Zhang, Jing (Yale Univ.)*

WeC02: 14:00-15:40 R&F 1  
**Inverse Problem Solving (Oral Session)**  
**Chair:** Boulanger, Jérôme (*Curie Inst.*)

14:00-14:20 WeC02.1  
**A 2-D Spectral Analysis Method to Estimate the Modulation Parameters in Structured Illumination Microscopy** ..... 604-607  
*Condat, Laurent\* (CNRS and University of Grenoble); Boulanger, Jérôme (Curie Institute/CNRS); Pustelnik, Nelly (ENS de Lyon); Sahnoun, Souleyman (CNRS and University of Grenoble); Sengmanivong, Lucie (CNRS/Institut Curie)*

14:20-14:40 WeC02.2  
**A 3D Model with Shape Prior Information for Biological Structures Reconstruction using Multiple-Angle Total Internal Reflection Fluorescence Microscopy** ..... 608-611  
*Soubies, Emmanuel (Univ. Nice Sophia Antipolis); Blanc-Féraud, Laure\* (Univ. Nice Sophia Antipolis); Schaub, Sébastien (Univ. Nice Sophia Antipolis); Aubert, Gilles (Univ. Nice Sophia Antipolis)*

14:40-15:00 WeC02.3  
**Electrophysiological Imaging of Volumetric Infarct Border using a Spatio-Temporal Lp-Norm Constraint** ..... 612-615  
*Rahimi, Azar\* (Rochester Institute of Technology); Xu, Jingjia (Rochester Institute of Technology); Wang, Linwei (Rochester Institute of Technology)*

15:00-15:20 WeC02.4  
**2D Diffuse Optical Imaging using Clustered Sparsity** ..... 616-619  
*Chen, Chen\* (University of Texas at Arlington); Tian, Fenghua (University of Texas at Arlington); Yao, Jixing (University of Texas at Arlington); Liu, Hanli (University of Texas at Arlington); Huang, Junzhou (University of Texas at Arlington)*

15:20-15:40 WeC02.5  
**Sensor Density and Head Surface Coverage in EEG Source Localization** ..... 620-623  
*Song, Jasmine\* (Electrical Geodesics, Inc.); Davey, Colin (Electrical Geodesics, Inc.); Poulsen, Catherine (Electrical Geodesics, Inc.); Turovets, Sergei (Electrical Geodesics, Inc. and University of Oregon); Luu, Phan (Electrical Geodesics, Inc. and University of Oregon); Tucker, Don M. (Electrical Geodesics, Inc. and University of Oregon)*

WeC03: 14:00-15:40 R&F 2  
**Active Contours and Deformable Models (Oral Session)**  
**Chair:** Linguraru, Marius George (*Children's National Medical Center*)

14:00-14:20 WeC03.1  
**Discriminative Learning of Deformable Contour Models** ..... 624-628  
*Boussaid, Haithem\* (Ecole Centrale de Paris/Inria Saclay); Kokkinos, Iasonas (Ecole Centrale de Paris/Inria Saclay); Paragios, Nikos (Ecole Centrale de Paris/Inria Saclay)*

14:20-14:40 WeC03.2  
**Atlas-Free Brain Segmentation in 3D Proton-Density-Like MRI Images** ..... 629-632  
*Schmitter, Daniel\* (École Polytechnique Fédérale de Lausanne); Delgado-Gonzalo, Ricard (École Polytechnique Fédérale de Lausanne); Krueger, Gunnar (Siemens); Unser, Michael (École Polytechnique Fédérale de Lausanne)*

14:40-15:00 WeC03.3  
**Segmentation of Kidney in 3D-Ultrasound Images using Gabor-Based Appearance Models** ..... 633-636  
*Cerrolaza, Juan J.\* (Children's National Medical Center); Safdar, Nabile (Children's National Medical Center); Peters, Craig A. (Children's National Medical Center); Myers, Emmarie (Children's National Medical Center); Jago, James (Philips Healthcare); Linguraru, Marius George (Children's National Medical Center)*

15:00-15:20 WeC03.4  
**Segmentation of Cell Nuclei in 3D Microscopy Images based on Level Set Deformable Models and Convex Minimization** ..... 637-640  
*Bergeest, Jan-Philip\* (Univ. of Heidelberg, DKFZ Heidelberg); Rohr, Karl (Univ. of Heidelberg, DKFZ Heidelberg)*

15:20-15:40 WeC03.5  
**Semi-Automated Liver CT Segmentation using Laplacian Meshes** ..... 641-644  
*Chartrand, G.\* (École de technologie Supérieure); Cresson, T. (École de Technologie Supérieure); Chav, R. (École de Technologie Supérieure); Gotra, A. (Université de Montréal); Tang, A. (Université de Montréal); DeGuisse, J. (École de technologie Supérieure and Université de Montréal)*

WeD01: 16:10-17:50 Capital 3  
**Compressed Sensing** (Oral Session)  
**Chair:** Angelini, Elsa (*Telecom ParisTech*)

16:10-16:30 WeD01.1  
**T2 Prime Mapping from Highly Undersampled Data using Compressed Sensing with Patch based Low Rank Penalty** ..... 645-648  
*Lee, Dongwook (KAIST); Kim, Eung Yeop (Gachon University Gil Medical Center); Yoon, Huisu (KAIST); Park, Sunghong (KAIST); Ye, Jong Chul\* (KAIST)*

16:30-16:50 WeD01.2  
**Low-Rank and (x-f)-Space Sparsity via Fast Composite Splitting for Accelerated Dynamic MR Imaging** ..... 649-652  
*Trémouhéac, Benjamin\* (University College London); Atkinson, David (University College London); Arridge, Simon R. (University College London)*

16:50-17:10 WeD01.3  
**Split-Bregman-Based Group-Sparse Reconstruction of Multidimensional Spectroscopic Imaging Data** ..... 653-656  
*Burns, Brian\* (University of California, Los Angeles); Wilson, Neil (University of California, Los Angeles); Thomas, M. Albert (University of California, Los Angeles)*

17:10-17:30 WeD01.4  
**A Generalized Compressed Sensing Approach to High Angular Resolution Diffusion Imaging** ..... 657-660  
*Michailovich, Oleg\* (University of Waterloo); Rathi, Yogesh (Harvard Medical School)*

17:30-17:50 WeD01.5  
**Accurate Inversion of Absorption and Scattering in Diffuse Optical Tomography without Iterative Green's Function Update** ..... 661-664  
*Lee, Ok Kyun (KAIST); Ye, Jong Chul\* (KAIST)*

WeD02: 16:10-17:50 R&F 1  
**Brain Imaging I** (Oral Session)  
**Chair:** Van De Ville, Dimitri (*EPFL & UniGE*)

16:10-16:30 WeD02.1  
**Joint Identification of Imaging and Proteomics Biomarkers of Alzheimer's Disease using Network-Guided Sparse Learning** ..... 665-668  
*Yan, Jingwen (Indiana Univ.); Huang, Heng (Univ. of Texas at Arlington); Kim, Sungeun (Indiana Univ.); Moore, Jason (Dartmouth College); Saykin, Andrew (Indiana Univ.); Shen, Li\* (Indiana Univ.)*

16:30-16:50 WeD02.2  
**Integrating Group-Wise Functional Brain Activities via Point Processes** ..... 669-672  
*Jiang, Xi\* (Univ. of Georgia); Lv, Jinglei (Northwestern Polytechnical Univ. and Univ. of Georgia); Zhu, Dajiang (Univ. of Georgia); Zhang, Tuo (Northwestern Polytechnical Univ. and Univ. of Georgia); Hu, Xintao (Northwestern Polytechnical Univ.); Guo, Lei (Northwestern Polytechnical Univ.); Liu, Tianming (Univ. of Georgia)*

16:50-17:10 WeD02.3  
**Consistent and Robust 4D Whole-Brain Segmentation: Application to Traumatic Brain Injury** ..... 673-676  
*Ledig, Christian\** (Imperial College London); *Shi, Wenzhe* (Imperial College London); *Makropoulos, Antonios* (Imperial College London); *Koikkalainen, Juha* (VTT Technical Research Centre of Finland); *Heckemann, Rolf A.* (University of Gothenburg and Imperial College London); *Hammers, Alexander* (The Neurodis Foundation and Imperial College London); *Lötjönen, Jyrki* (VTT Technical Research Centre of Finland); *Tenovuo, Olli* (Turku University Hospital); *Rueckert, Daniel* (Imperial College London)

17:10-17:30 WeD02.4  
**A 3D Difference-of-Gaussian-Based Lesion Detector for Brain Pet** ..... 699  
*Cai, Weidong* (University of Sydney); *Liu, Sidong\** (University of Sydney); *Song, Yang* (University of Sydney); *Pujol, Sonia* (Brigham and Women's Hospital, Harvard Medical School); *Kikinis, Ron* (Brigham and Women's Hospital and Harvard Medical School); *Feng, Dagan* (University of Sydney, Shanghai Jiao Tong University, and Hong Kong Polytechnic University)

17:30-17:50 WeD02.5  
**Group-Wise Connection Activation Detection based on DICCCOL** ..... 681-684  
*Lv, Jinglei\** (Northwestern Polytechnical University and University of Georgia); *Zhang, Tuo* (Northwestern Polytechnical University and University of Georgia); *Hu, Xintao* (Northwestern Polytechnical University); *Zhu, Dajiang* (University of Georgia); *Li, Kaiming* (Northwestern Polytechnical University and University of Georgia); *Guo, Lei* (Northwestern Polytechnical University); *Liu, Tianming* (University of Georgia)

WeD03: 16:10-17:50 R&F 2  
**Ultrasound Imaging I** (Oral Session)  
**Chair:** *Ye, Jong Chul* (Korea Advanced Inst. of Science & Tech.)

16:10-16:30 WeD03.1  
**Topological Texture-Based Method for Mass Detection in Breast Ultrasound Image** ..... 685-689  
*Zhao, Fei\** (GE Global Research); *Li, Xiaoxing* (GE Global Research); *Biswas, Soma* (GE Global Research); *Mullick, Rakesh* (GE Global Research); *Mendonça, Paulo R.S.* (GE Global Research); *Vivek, Vaidya* (GE Global Research)

16:30-16:50 WeD03.2  
**Ultrasound Interactive Segmentation with Tensor-Graph Methods** ..... 690-693  
*Rieke, Nicola* (Technische Universität München); *Hennersperger, Christoph\** (Technische Universität München); *Mateus, Diana* (Technische Universität München); *Navab, Nassir* (Technische Universität München)

16:50-17:10 WeD03.3  
**Assessing Duchenne Muscular Dystrophy with Force-Controlled Ultrasound** ..... 694-697  
*Koppaka, Sisir\** (Massachusetts Institute of Technology); *Gilbertson, Matthew W.* (Massachusetts Institute of Technology); *Wu, Jim S.* (Harvard Medical School); *Rutkove, Seward B.* (Harvard Medical School); *Anthony, Brian W.* (Massachusetts Institute of Technology)

17:10-17:30 WeD03.4  
**Decision Fusion for Temporal Prediction of Respiratory Liver Motion** ..... 698-701  
*Tanner, Christine\** (ETH Zürich); *Eppenhof, Koen* (Eindhoven University of Technology); *Gelderblom, Jaap* (Eindhoven University of Technology); *Székely, Gabor* (ETH Zürich)

17:30-17:50 WeD03.5  
**Ultrafast Acoustoelectric Imaging** ..... 702-705  
*Provost, Jean\** (Institut-Langevin - ESPCI ParisTech); *Kwiecinski, Wojciech* (Institut-Langevin - ESPCI ParisTech); *Fink, Mathias* (Institut-Langevin - ESPCI ParisTech); *Tanter, Mickaël* (Institut-Langevin - ESPCI ParisTech); *Pernot, Mathieu* (Institut-Langevin - ESPCI ParisTech)



**Diffusion Magnetic Resonance Imaging II (Poster Session)**

08:20-09:50

ThA01.1

**Analysis of Structural Brain Connectivity in 6 Cases of Hemispherectomy** ..... 706-709

*Eschenburg, Kristian M.\* (University of Southern California); Villalon-Reina, Julio (University of Southern California); Jahanshad, Neda (University of Southern California and University of California, Los Angeles); Nir, Talia M. (University of Southern California); Daianu, Madelaine (University of Southern California and University of California, Los Angeles); Joshi, Anand A. (University of Southern California, Los Angeles); Leonardo, Cassandra D. (University of Southern California); de Bode, Stella (Brain Recovery Project); Bookheimer, Susan Y. (University of California, Los Angeles); Salamon, Noriko (University of California, Los Angeles); Thompson, Paul M. (University of Southern California and University of California, Los Angeles)*

08:20-09:50

ThA01.2

**Evaluation of Diffusion Imaging Protocols for the Alzheimer's Disease Neuroimaging Initiative** ..... 710-713

*Zhan, L.\* (University of California, Los Angeles and University of Southern California); Bernstein, M.A. (Mayo Clinic); Borowski, B. (Mayo Clinic); Jack Jr., Clifford R. (Mayo Clinic); Thompson, P.M. (University of California, Los Angeles and University of Southern California)*

08:20-09:50

ThA01.3

**Simulation of Dynamic DTI of 3D Cardiac Fiber Structures** ..... 714-717

*Wang, Li-Hui (Harbin Institute of Technology and INSA of Lyon); Zhu, Yue-Min (INSA of Lyon); Yang, Feng (INSA of Lyon and Beijing Jiaotong University); Liu, Wan-Yu\* (Harbin Institute of Technology and INSA of Lyon); Magnin, Isabelle E. (INSA of Lyon)*

08:20-09:50

ThA01.4

**Generalized HARDI Invariants by Method of Tensor Contraction** ..... 718-721

*Gur, Yaniv\* (University of Utah); Johnson, Chris R. (University of Utah)*

08:20-09:50

ThA01.5

**ODF Maxima Computation using Hill Climbing Algorithm** ..... 722-725

*Laouchedi, Makhlouf (ParIMéd, LRPE, USTHB); Megherbi, Thinhinane (ParIMéd, LRPE, USTHB); Khabatti, Housseem (EMP); Serrat, Ishak (EMP); Deriche, Rachid (Inria Sophia Antipolis-Méditerranée); Perlberg, Vincent (Université Pierre et Marie Curie-Paris); Oulebsir Boumghar, Fatima\* (ParIMéd, LRPE, USTHB)*

08:20-09:50

ThA01.6

**Improving Intra-Voxel Incoherent Motion MRI Quantification using Wild Bootstrap** ..... 726-729

*Zhang, Qinwei\* (The Chinese University of Hong Kong); King, Ann D. (The Chinese University of Hong Kong); Bhatia, Kunwar S. (The Chinese University of Hong Kong); Yeung, David Ka Wai (The Chinese University of Hong Kong); Wang, Yi-Xiang (The Chinese University of Hong Kong); Liang, Dong (Shenzhen Institutes of Advanced Technology); Yuan, Jing (The Chinese University of Hong Kong)*

08:20-09:50

ThA01.7

**DTI-DeformIt: Generating Ground-Truth Validation Data for Diffusion Tensor Image Analysis Tasks** ..... 730-733

*Booth, Brian G.\* (Simon Fraser University); Hamarneh, Ghassan (Simon Fraser University)*

08:20-09:50

ThA01.8

**Nonnegative ODF Estimation via Optimal Constraint Selection** ..... 734-737

*Wolfers, Sören (Johns Hopkins University); Schwab, Evan\* (Johns Hopkins University); Vidal, René (Johns Hopkins University)*

08:20-09:50

ThA01.9

**Simulation-Based Evaluation of Susceptibility Distortion Correction Methods in Diffusion MRI for Connectivity Analysis** ..... 738-741

*Esteban, Oscar\* (Universidad Politécnica de Madrid and École Polytechnique Fédérale de Lausanne); Daducci, Alessandro (École Polytechnique Fédérale de Lausanne); Caruyer, Emmanuel (University of Pennsylvania); O'Brien, Kieran (University of Geneva); Ledesma-Carbayo, María J. (Universidad Politécnica de Madrid); Bach-Cuadra, Meritxell (Lausanne University and École Polytechnique Fédérale de Lausanne); Santos, Andrés (Universidad Politécnica de Madrid)*



08:20-09:50 ThA01.10  
**Group-Wise Optimization and Individualized Prediction of Structural Connectomes** ..... 742-745  
*Chen, Hanbo\* (University of Georgia); Li, Kaiming (Emory University and Georgia Institute of Technology);  
 Zhu, Dajiang (University of Georgia); Guo, Lei (Northwestern Polytechnical University); Jiang, Xi (University  
 of Georgia); Liu, Tianming (University of Georgia)*

ThA02: 08:20-09:50 Capital 5  
**Image Registration II (Poster Session)**

08:20-09:50 ThA02.1  
**Non-Rigid Contour-Based Temporal Registration of 2D Cell Nuclei Images using the Navier Equation** ..... 746-749  
*Sorokin, Dmitry V.\* (Masaryk University); Tektonidis, Marco (University of Heidelberg);  
 Rohr, Karl (University of Heidelberg); Matula, Pavel (Masaryk University)*

08:20-09:50 ThA02.2  
**A Framework for Building Multi-Tissue Atlas of Zebrafish Embryo** ..... 750-753  
*Le, Yen H.\* (University of Houston); Ducharme, Nicole (University of Houston); Bondesson, Maria (University of  
 Houston); Kakadiaris, Ioannis A. (University of Houston)*

08:20-09:50 ThA02.3  
**Deformable Alignment using Random Projections of Landmark Images** ..... 754-757  
*Wu, Hui\* (Univ. of North Carolina at Charlotte); Bowers, Dustin M. (Univ. of North Carolina at Charlotte);  
 Huynh, Toan T. (Carolinas Medical Center); Souvenir, Richard (Univ. of North Carolina at Charlotte)*

08:20-09:50 ThA02.4  
**Robust and Efficient 3D Registration via Depth Map-Based Feature Point  
 Matching in Image-Guided Neurosurgery** ..... 758-761  
*Yang, Jie (Shanghai Jiao Tong Univ.); Zhang, Shaoting (Univ. of North Carolina at Charlotte); Zhuang, Xiaohai  
 (Chinese Academy of Science); Jiang, Long (Shanghai Jiao Tong Univ.); Gu, Lixu\* (Shanghai Jiaotong Univ.)*

08:20-09:50 ThA02.5  
**A Robust Method for Inter-Marker Whole Slide Registration of Digital Pathology  
 Images using Lines based Features** ..... 762-765  
*Sarkar, Anindya (Ventana Medical Systems, Inc.); Yuan, Quan\* (Ventana Medical Systems, Inc.);  
 Srinivas, Chukka (Ventana Medical Systems, Inc.)*

08:20-09:50 ThA02.6  
**Improvement of Manual 2D/3D Registration by Decoupling the Visual Influence  
 of the Six Degrees of Freedom** ..... 766-769  
*Kaiser, Markus\* (University of Leipzig); John, Matthias (Siemens AG); Heimann, Tobias (Siemens AG);  
 Neumuth, Thomas (University of Leipzig); Rose, Georg (Otto-von-Guericke University Magdeburg)*

08:20-09:50 ThA02.7  
**An Adaptive Finite Element Method to Cope with a Large Scale Lung Deformation  
 in Magnetic Resonance Images** ..... 770-773  
*Zhong, Hualiang\* (Henry Ford Health System); Cai, Jing (Duke University); Glide-Hurst, Carri (Henry Ford  
 Health System); Chetty, Indrin J. (Henry Ford Health System)*

08:20-09:50 ThA02.8  
**Automatic Simultaneous Segmentation and Fast Registration of Histological Images** ..... 774-777  
*Kybic, Jan\* (Czech Technical University in Prague); Borovec, Jiří (Czech Technical University in Prague)*

08:20-09:50 ThA02.9  
**Spatio-Temporal Registration of Embryo Images** ..... 778-781  
*Guignard, L.\* (University Montpellier 1 & 2, Inria); Godin, C. (Inria); Fiuza, U.-M. (University Montpellier 1 & 2);  
 Hufnagel, L. (EMBL); Lemaire, P. (University Montpellier 1 & 2); Malandain, G. (Inria)*

08:20-09:50 ThA02.10  
**Personalized Modeling of Prostate Deformation based on Elastography for MRI-TRUS Registration** ..... 782-785  
*Wang, Yi\* (The Chinese University of Hong Kong); Ni, Dong (Shenzhen University); Qin, Jing (Chinese  
 Academy of Sciences); Yang, Xin (Shenzhen University); Xie, Xiaoyan (Sun Yat-Sen University);  
 Lin, Muqing (Shenzhen University); Heng, Pheng Ann (The Chinese University of Hong Kong)*

08:20-09:50 ThA02.11  
**Sequence Alignment of In-Utero Fetal Tissue MRI in Mice** ..... 786-789  
*Akselrod-Ballin, A.\* (Weizmann Institute of Science); Avni, R. (Weizmann Institute of Science);  
 Neeman, M. (Weizmann Institute of Science)*

08:20-09:50 ThA02.12  
**Successive Convex Optimization for Point Set Registration** ..... 790-793  
*Gao, Yi\* (University of Alabama at Birmingham)*

**ThA03: 08:20-09:50** **Capital 5**  
**Image Segmentation and Active Contours (Poster Session)**

08:20-09:50 ThA03.1  
**Centerline Constrained Minimal Path Propagation for Vessel Extraction** ..... 794-797  
*Chen, Yang\* (Southeast University); Cao, Qin (Southeast University); Yang, Guanyu (Southeast University);  
 Shu, Huazhong (Southeast University); Luo, Limin (Southeast University); Toumoulin, Christine (INSERM-  
 University Rennes 1); Coatrieux, Jean-Louis (INSERM-University Rennes 1)*

08:20-09:50 ThA03.2  
**Rib Detection in MR Images using Shape Priors and Appearance Models** ..... 798-801  
*Samei, G.\* (ETH Zürich); Tanner, C. (ETH Zürich); Székely, G. (ETH Zürich)*

08:20-09:50 ThA03.3  
**Automatic Vessel Tree Structure Extraction by Growing Minimal Paths and a Mask** ..... 802-805  
*Chen, Da (Université Paris Dauphine); Cohen, Laurent D.\* (Université Paris Dauphine)*

08:20-09:50 ThA03.4  
**Snakes with Tangent-Based Control and Energies for Bioimage Analysis** ..... 806-809  
*Uhlmann, Virginie\* (École Polytechnique Fédérale de Lausanne); Delgado-Gonzalo, Ricard (École  
 Polytechnique Fédérale de Lausanne); Unser, Michael (École Polytechnique Fédérale de Lausanne)*

08:20-09:50 ThA03.5  
**Biomechanical Kidney Model for Predicting Tumor Displacement in the  
 Presence of External Pressure Load** ..... 810-813  
*Figuroa-Garcia, Ivan\* (University of British Columbia); Peyrat, Jean-Marc (Qatar Science and Technology  
 Park); Hamarneh, Ghassan (Simon Fraser University); Abugharbieh, Rafeef (University of British Columbia)*

08:20-09:50 ThA03.6  
**Wavelet-Initialized 3D Level-Set Cell Segmentation with Local Background Support** ..... 814-817  
*Yang, Xingwei (GE Global Research); Padfield, Dirk\* (GE Global Research)*

08:20-09:50 ThA03.7  
**Kidney Segmentation from a Single Prior Shape in MRI** ..... 818-821  
*Chav, R.\* (École de Technologie Supérieure École de Technologie Supérieure); Cresson, T. (École de  
 Technologie Supérieure); Chartrand, G. (École de Technologie Supérieure); Kauffmann, C. (Université de  
 Montréal); Soulez, G. (Université de Montréal); de Guise, J.A. (École de Technologie Supérieure)*

**ThA04: 08:20-09:50** **Capital 5**  
**Classification Method I (Poster Session)**

08:20-09:50 ThA04.1  
**Computational Cancer Detection of Pathological Images based on an Optimization  
 Method for Color-Index Local Auto-Correlation Feature Extraction** ..... 822-825  
*Qu, Jia\* (University of Tsukuba); Nosato, Hirokazu (National Institute of Advanced Industrial Science and  
 Technology); Sakanashi, Hidenori (National Institute of Advanced Industrial Science and Technology);  
 Takahashi, Eiichi (National Institute of Advanced Industrial Science and Technology); Terai, Kensuke (Toho  
 University); Hiruta, Nobuyuki (Toho University)*

08:20-09:50 ThA04.2  
**Group-Wise Consistent Cortical Parcellation based on DTI-Derived Connectional Profiles** ..... 826-829  
*Zhang, Tuo\* (Northwestern Polytechnical Univ. and Univ. of Georgia); Zhu, Dajiang (Univ. of Georgia);  
 Jiang, Xi (Univ. of Georgia); Guo, Lei (Northwestern Polytechnical Univ.); Liu, Tianming (Univ. of Georgia)*

08:20-09:50		ThA04.3
<b>Localization and Classification of Membrane Dynamics in TIRF Microscopy Image Sequences</b> .....		830-833
<i>Basset, Antoine* (Inria); Bouthemy, Patrick (Inria); Boulanger, Jérôme (CNRS, Institut Curie); Salamero, Jean (CNRS, Institut Curie); Kervrann, Charles (Inria)</i>		
08:20-09:50		ThA04.4
<b>Optimizing Brain Connectivity Networks for Disease Classification using EPIC</b> .....		834-837
<i>Prasad, Gautam* (University of Southern California); Joshi, Shantanu H. (University of California, Los Angeles); Thompson, Paul M. (University of Southern California)</i>		
08:20-09:50		ThA04.5
<b>Automatic Particle Picking and Multi-Class Classification in Cryo-Electron Tomograms</b> .....		838-841
<i>Chen, Xuanli* (Technical University Munich); Chen, Yuxiang (Max Planck Institute of Biochemistry and Technical University Munich); Schuller, Jan Michael (Max Planck Institute of Biochemistry); Navab, Nassir (Technical University Munich); Förster, Friedrich (Max Planck Institute of Biochemistry)</i>		
08:20-09:50		ThA04.6
<b>Classified Region Growing for 3D Segmentation of Packed Nuclei</b> .....		842-845
<i>Gul Mohammed, J. (Sorbonne Univ.); Boudier, T.* (Sorbonne Univ. and Univ. Pierre et Marie Curie)</i>		
08:20-09:50		ThA04.7
<b>Trabecular Texture Analysis in Dental CBCT by Multi-ROI Multi-Feature Fusion</b> .....		846-849
<i>Li, Peiyi* (Temple Univ.); Yang, Xiong (Temple Univ. and South China Univ. of Technology); Xie, Fangfang (Temple Univ.); Yang, Jie (Temple Univ.); Cheng, Erkang (Temple Univ.); Megalooikonomou, Vasilis (Temple Univ.); Xu, Yong (South China Univ. of Technology); Ling, Haibin (Temple Univ.)</i>		
08:20-09:50		ThA04.8
<b>Axonal Tree Classification using an Elastic Shape Analysis based Distance</b> .....		850-853
<i>Mottini, Alejandro* (Inria); Descombes, Xavier (Inria); Besse, Florence (IBV)</i>		
ThA05: 08:20-09:50		Capital 5
<b>Magnetic Resonance Imaging I (Poster Session)</b>		
08:20-09:50		ThA05.1
<b>Extended Boundary Shift Integral</b> .....		854-857
<i>Lötjönen, Jyrki* (VTT Technical Research Centre of Finland); Ledig, Christian (Imperial College London); Koikkalainen, Juha (VTT Technical Research Centre of Finland); Wolz, Robin (Imperial College London); Thurfjell, Lennart (GE Healthcare); Soininen, Hilikka (Kuopio University Hospital); Ourselin, Sébastien (University College London); Rueckert, Daniel (Imperial College London)</i>		
08:20-09:50		ThA05.2
<b>Anatomical Parcellation of Human Brain using Structural Covariance</b> .....		858-861
<i>Zhang, Yu* (Chinese Academy of Sciences); Fan, Lingzhong (Chinese Academy of Sciences); Yu, Chunshui (Tianjin Medical University General Hospital); Jiang, Tianzi (Chinese Academy of Sciences)</i>		
08:20-09:50		ThA05.3
<b>Interactive Segmentation of MR Images from Brain Tumor Patients</b> .....		862-865
<i>Bauer, Stefan* (University of Bern); Porz, Nicole (Bern University Hospital); Meier, Raphael (University of Bern); Pica, Alessia (Bern University Hospital); Slotboom, Johannes (Bern University Hospital); Wiest, Roland (Bern University Hospital); Reyes, Mauricio (University of Bern)</i>		
08:20-09:50		ThA05.4
<b>Prostate Cancer Segmentation from Multiparametric MRI based on Fuzzy Bayesian Model</b> .....		866-869
<i>Guo, Yu* (Tianjin University); Ruan, Su (Université de Rouen); Walker, Paul (Université de Bourgogne); Feng, Yuanming (Tianjin University)</i>		
08:20-09:50		ThA05.5
<b>MRF Denoising with Compressed Sensing and Adaptive Filtering</b> .....		870-873
<i>Wang, Zhe* (The Chinese University of Hong Kong); Zhang, Qinwei (The Chinese University of Hong Kong); Yuan, Jing (The Chinese University of Hong Kong); Wang, Xiaogang (The Chinese University of Hong Kong)</i>		

08:20-09:50		ThA05.6
<b>Accelerate Data Acquisition using Turbo Spin Echo and O-Space</b> .....		874-877
<i>Wang, Haifeng* (Yale University); Tam, Leo (Yale University); Kopanoglu, Emre (Yale University); Peters, Dana (Yale University); Constable, R. Todd (Yale University); Galiana, Gigi (Yale University)</i>		
08:20-09:50		ThA05.7
<b>Estimating Pharmacokinetic Parameter Maps from Breast DCE-MRI with Implicit Regularization by Guided Image Filtering</b> .....		878-881
<i>Yang, Wei (Southern Medical University); Yu, Liling (Southern Medical University); Lu, Zhentai (Southern Medical University); Yun, Zhaoqiang (Southern Medical University); Feng, Yanqiu (Southern Medical University); Feng, Qianjin* (Southern Medical University); Chen, Wufan (Southern Medical University)</i>		
08:20-09:50		ThA05.8
<b>Pulmonary Blood Flow Analysis based on Two Input Model with Aorta and Pulmonary Artery Contribution using Contrast-Enhanced MRI</b> .....		882-885
<i>Ichikawa, M. (Yokohama National University); Gotoh, T. (Yokohama National University); Kagei, S. (Yokohama National University); Iwasawa, T. (Kanagawa Cardiovascular Respiratory Center); Tsuzuki, M.S.G.* (Escola Politécnica da Universidade de São Paulo)</i>		
08:20-09:50		ThA05.9
<b>Myocardium Segmentation Combining T2 and DE MRI using Multi-Component Bivariate Gaussian Mixture Model</b> .....		886-889
<i>Liu, Jie* (Shanghai Jiao Tong University); Zhuang, Xiahai (Chinese Academy of Science); Liu, Jing (Chinese Academy of Science); Zhang, Shaoting (University of North Carolina at Charlotte); Wang, Guotai (Shanghai Jiao Tong University); Wu, Lianming (Shanghai Jiao Tong University School of Medicine); Xu, Jianrong (Shanghai Jiao Tong University School of Medicine); Gu, Lixu (Shanghai Jiaotong University)</i>		
ThA06: 08:20-09:50		Capital 5
<b>Large Scale Imaging Data, Content based Retrieval (Poster Session)</b>		
08:20-09:50		ThA06.1
<b>Serial Sectioning and Multispectral Imaging System for Versatile Biomedical Applications</b> .....		890-893
<i>Symvoulidis, P.* (Helmholtz Zentrum München and Technische Universität München); Cruz Pérez, C. (Helmholtz Zentrum München); Schwaiger, M. (Technische Universität München); Ntziachristos, V. (Helmholtz Zentrum München and Technische Universität München); Westmeyer, G.G. (Helmholtz Zentrum München and Technische Universität München)</i>		
08:20-09:50		ThA06.2
<b>Associative Algorithm and Policy with Advance Loading and Selftuning for Medical Imaging Storage in Hybrid Cloud</b> .....		894-897
<i>Ghane, Kamran* (Anagira, Inc.)</i>		
08:20-09:50		ThA06.3
<b>Scalable Mammogram Retrieval using Anchor Graph Hashing</b> .....		898-901
<i>Liu, Jingjing* (Rutgers Univ.); Zhang, Shaoting (Univ. of North Carolina at Charlotte); Liu, Wei (IBM T. J. Watson Research Center); Zhang, Xiaofan (Univ. of North Carolina at Charlotte); Metaxas, Dimitris N. (Rutgers Univ.)</i>		
08:20-09:50		ThA06.4
<b>A Hybrid Human-Computer Approach for Large-Scale Image-Based Measurements using Web Services and Machine Learning</b> .....		902-906
<i>Marée, Raphaël* (Univ. of Liège); Rollus, Loïc (Univ. of Liège); Stévens, Benjamin (Univ. of Liège); Louppe, Gilles (Univ. of Liège); Caubo, Olivier (Univ. of Liège); Rocks, Natacha (Univ. of Liège); Bekaert, Sandrine (Univ. of Liège); Cataldo, Didier (Univ. of Liège); Wehenkel, Louis (Univ. of Liège)</i>		
08:20-09:50		ThA06.5
<b>Automated Feedback Extraction for Medical Imaging Retrieval</b> .....		907-910
<i>Cai, Weidong (Univ. of Sydney); Zhang, Fan* (Univ. of Sydney); Song, Yang (Univ. of Sydney); Liu, Sidong (Univ. of Sydney); Wen, Lingfeng (Royal Prince Alfred Hospital); Eberl, Stefan (Royal Prince Alfred Hospital); Fulham, Michael (Royal Prince Alfred Hospital and Univ. of Sydney); Feng, Dagan (Univ. of Sydney)</i>		

08:20-09:50 ThA06.6  
**Co-Neighbor Multi-View Spectral Embedding for Medical Content-Based Retrieval** ..... 911-914  
*Che, Hangyu\* (University of Sydney); Liu, Sidong (University of Sydney); Cai, Weidong (University of Sydney); Pujol, Sonia (Brigham and Women's Hospital, Harvard Medical School); Kikinis, Ron (Brigham and Women's Hospital, Harvard Medical School); Feng, Dagan (University of Sydney)*

ThB01: 11:00-12:40 Capital 3  
**Image Analysis I** (Oral Session)  
**Chair:** Olivo-Marin, Jean-Christophe (*Institut Pasteur*)

11:00-11:20 ThB01.1  
**Real-Time Respiratory Signal Extraction from X-Ray Sequences using Incremental Manifold Learning** ..... 915-918  
*Fischer, Peter\* (Friedrich-Alexander Universität Erlangen-Nürnberg); Pohl, Thomas (Siemens AG, Healthcare Sector); Hornegger, Joachim (Friedrich-Alexander Universität Erlangen-Nürnberg)*

11:20-11:40 ThB01.2  
**Multimodal Graph Theoretical Analysis of Functional Brain Connectivity using Adaptive Two-Step Strategy** ..... 919-922  
*Meskaldji, Djalel Eddine\* (École Polytechnique Fédérale de Lausanne and University of Geneva); Van De Ville, Dimitri (École Polytechnique Fédérale de Lausanne and University of Geneva)*

11:40-12:00 ThB01.3  
**Validation of Consistent Inter-Subject Connectivity-Based Parcellation** ..... 923-926  
*Lefranc, S.\* (NeuroSpin and CATI); Roca, P. (NeuroSpin and Hospital Sainte Anne); Perrot, M. (NeuroSpin and CATI); Poupon, C. (NeuroSpin and CATI); Coulon, O. (Laboratoire des Sciences de l'Information et des Systèmes); Le Bihan, D. (NeuroSpin); Hertz-Pannier, L. (Neurospin); Mangin, J.-F. (NeuroSpin and CATI); Rivière, D. (NeuroSpin and CATI)*

12:00-12:20 ThB01.4  
**Improving Joint Learning of Suspended and Adherent Cell Detection using Low-Pass Monogenic Phase and Transport of Intensity Equation** ..... 927-930  
*Mualla, F.\* (Friedrich-Alexander University); Schöll, S. (Friedrich-Alexander University, ASTRUM IT GmbH, and SAOT Graduate School in Advanced Optical Technologies); Sommerfeldt, B. (Friedrich-Alexander University); Steidl, S. (Friedrich-Alexander University); Buchholz, R. (Friedrich-Alexander University); Hornegger, J. (Friedrich-Alexander University, and SAOT Graduate School in Advanced Optical Technologies)*

12:20-12:40 ThB01.5  
**Segmentation Hierarchies and Border Features for Automatic Pregnancy Detection in Porcine Ultrasound** ..... 931-934  
*Schwier, Michael\* (Fraunhofer MEVIS); Hahn, Horst Karl (Fraunhofer MEVIS)*

ThB02: 11:00-12:40 R&F 1  
**Cardiac and Vascular Imaging II** (Oral Session)  
**Chair:** Amini, Amir (*University of Louisville*)

11:00-11:20 ThB02.1  
**Automatic Image-To-Model Framework for Patient-Specific Electromechanical Modeling of the Heart** ..... 935-938  
*Neumann, Dominik\* (Friedrich-Alexander-Universität Erlangen-Nürnberg and Siemens Corporation Technology); Mansi, Tommaso (Siemens Corporation Technology); Grbic, Sasa (Siemens Corporation Technology); Voigt, Ingmar (Siemens Corporation Technology); Georgescu, Bogdan (Siemens Corporation Technology); Kayvanpour, Elham (University Hospital Heidelberg); Amr, Ali (University Hospital Heidelberg); Sedaghat-Hamedani, Farbod (University Hospital Heidelberg); Haas, Jan (University Hospital Heidelberg); Katus, Hugo (University Hospital Heidelberg); Meder, Benjamin (University Hospital Heidelberg); Hornegger, Joachim (Friedrich-Alexander-Universität Erlangen-Nürnberg); Kamen, Ali (Siemens Corporation); Comaniciu, Dorin (Siemens Corporate Research)*

11:20-11:40 ThB02.2  
**Patient-Specific Aortic Valve Blood Flow Simulations** ..... 939-942  
*Kulp, Scott\* (Rutgers University); Qian, Zhen (Piedmont Heart Institute); Vannan, Mani (Piedmont Heart Institute); Rinehart, Sarah (Piedmont Heart Institute); Metaxas, Dimitris (Rutgers University)*



11:40-12:00 ThB02.3  
**Context-Based Segmentation and Analysis of Multi-Cycle Real-Time Cardiac MRI** ..... 943-946  
*Chitiboi, T.\* (Fraunhofer MEVIS and Jacobs University); Hennemuth, A. (Fraunhofer MEVIS); Tautz, L. (Fraunhofer MEVIS); Hüllebrand, M. (Fraunhofer MEVIS); Frahm, J. (Max Planck Institute for Biophysical Chemistry); Linsen, L. (Jacobs University); Hahn, H. (Fraunhofer MEVIS and Jacobs University)*

12:00-12:20 ThB02.4  
**Super-Resolution Reconstruction of Cardiac MRI using Coupled Dictionary Learning** ..... 947-950  
*Bhatia, Kanwal K.\* (Imperial College London); Price, Anthony N. (King's College London); Shi, Wenzhe (Imperial College London); Hajnal, Jo V. (King's College London); Rueckert, Daniel (Imperial College London)*

12:20-12:40 ThB02.5  
**A Fast Catheter Segmentation and Tracking from Echocardiographic Sequences based on Corresponding X-Ray Fluoroscopic Image Segmentation and Hierarchical Graph Modelling** ..... 951-954  
*Wu, Xianliang\* (Imperial College London); Housden, James (King's College London); Ma, YingLiang (King's College London); Rhode, Kawal (King's College London); Rueckert, Daniel (Imperial College London)*

ThB03: 11:00-12:40 R&F 2  
**Positron Emission Tomography (Oral Session)**  
**Chair:** Yang, Yongyi (*Illinois Institute of Technology*)

11:00-11:20 ThB03.1  
**Improved Resolution and Reliability in Dynamic PET using Bayesian Regularization of MRTM2** ..... 955-958  
*Agn, Mikael\* (Technical University of Denmark and Copenhagen University Hospital); Svarer, Claus (Copenhagen University Hospital); Frokjaer, Vibe G. (Copenhagen University Hospital); Greve, Douglas N. (Harvard Medical School); Knudsen, Gitte M. (Harvard Medical School); Van Leemput, Koen (Technical University of Denmark, Copenhagen University Hospital, and Aalto University)*

11:20-11:40 ThB03.2  
**Anatomy-Guided Brain PET Imaging Incorporating a Joint Prior Model** ..... 959-962  
*Lu, Lijun (Southern Medical University); Ma, Jianhua\* (Southern Medical University); Tang, Jing (Oakland University); Feng, Qianjin (Southern Medical University); Rahmim, Arman (Johns Hopkins University); Chen, Wufan (Southern Medical University)*

11:40-12:00 ThB03.3  
**TOF-PET Ordered Subset Reconstruction using Non-Uniform Separable Quadratic Surrogates Algorithm** ..... 963-966  
*Kim, Kyungsang (Massachusetts General Hospital, Harvard Medical School and KAIST); Ye, Jong Chul (KAIST); Cheng, Li (Tsinghua University); Ying, Kui (Tsinghua University); El Fakhri, Georges (Massachusetts General Hospital and Harvard Medical School); Li, Quanzheng\* (Massachusetts General Hospital and Harvard Medical School)*

12:00-12:20 ThB03.4  
**Simultaneous Reconstruction and Segmentation for Dynamic PET: A Low Rank Framework** ..... 967-970  
*Chen, Shuhang (Zhejiang University); Chen, Zhi (Zhejiang University); Hu, Zhenghui (Zhejiang University); Chen, Yunmei (University of Florida); Liu, Huafeng\* (Zhejiang University)*

12:20-12:40 ThB03.5  
**Locally Weighted Total Variation Denoising for PSF Modeling Artifact Suppression in PET Reconstruction** ..... 971-974  
*Mikhno, Arthur\* (Columbia University); Angelini, Elsa D. (Columbia University and Telecom ParisTech); Laine, Andrew F. (Columbia University)*

ThB04: 11:00-12:40 R&F 3  
**Multimodal Biomedical Imaging (Special Session)**  
**Chair:** Li, Liang (*Tsinghua University*)

11:20-11:40 ThB04.2  
**Top-Level Designs of a Hybrid Low Field MRI-CT System for Pulmonary Imaging** ..... 975-978  
*Yelleswarapu, Venkata R. (Boston University); Liu, Fenglin (Rensselaer Polytechnic Institute and Chongqing University); Cong, Wenxiang\* (Rensselaer Polytechnic Institute); Wang, Ge (Rensselaer Polytechnic Institute)*



12:00-12:20 ThB04.4  
**Preliminary Design of a Multimodality Molecular Imaging System** ..... 979-982  
*Dong, Di\** (Chinese Academy of Sciences); *Hui, Hui* (Chinese Academy of Sciences); *Yang, Caiyun* (Chinese Academy of Sciences); *Guo, Jin* (Harbin University of Science and Technology); *Yang, Yujie* (Chinese Academy of Sciences); *Shi, Liangliang* (Chinese Academy of Sciences); *Mu, Wei* (Chinese Academy of Sciences); *Tian, Jie* (Chinese Academy of Sciences)

ThC01: 14:00-15:40 Capital 3  
**Super-Resolution Microscopy and Methods** (Oral Session)  
**Chair:** *Yang, Ge* (Carnegie Mellon University)

14:00-14:20 ThC01.1  
**A Multiscale/Sparse Representation for Diffusion Weighted Imaging (DWI) Super-Resolution** ..... 983-986  
*Tarquino, Jonathan\** (Universidad Nacional de Colombia); *Rueda, Andrea* (Pontificia Universidad Javeriana); *Romero, Eduardo* (Universidad Nacional de Colombia)

14:20-14:40 ThC01.2  
**Improving Magnetic Resonance Resolution with Supervised Learning** ..... 987-990  
*Jog, Amod\** (Johns Hopkins University); *Carass, Aaron* (Johns Hopkins University); *Prince, Jerry L.* (Johns Hopkins University)

14:40-15:00 ThC01.3  
**Structure-Based Determination of Imaging Length for Super-Resolution Localization Microscopy** ..... 991-994  
*Chen, Kuan-Chieh Jackie\** (Carnegie Mellon University); *Kovačević, Jelena* (Carnegie Mellon University); *Yang, Ge* (Carnegie Mellon University)

15:00-15:20 ThC01.4  
**Non-Smooth Convex Optimization for an Efficient Reconstruction in Structured Illumination Microscopy** ..... 995-998  
*Boulanger, Jérôme\** (Curie Institute/CNRS); *Pustelnik, Nelly* (ENS de Lyon); *Condat, Laurent* (CNRS and University of Grenoble)

15:20-15:40 ThC01.5  
**Stacked Sparse Autoencoder (SSAE) based Framework for Nuclei Patch Classification on Breast Cancer Histopathology** ..... 999-1002  
*Xu, Jun\** (Nanjing University of Information Science and Technology); *Xiang, Lei* (Nanjing University of Information Science and Technology); *Hang, Renlong* (Nanjing University of Information Science and Technology); *Wu, Jiangzhong* (Jiangsu Cancer Hospital)

ThC02: 14:00-15:40 R&F 1  
**Magnetic Resonance Imaging II** (Oral Session)  
**Chair:** *Ourselin, Sebastien* (University Coll. London)

14:00-14:20 ThC02.1  
**Higher Degree Total Variation for 3-D Image Recovery** ..... 1003-1006  
*Ongie, Greg\** (University of Iowa); *Hu, Yue* (University of Rochester); *Jacob, Mathews* (University of Iowa)

14:20-14:40 ThC02.2  
**Group-Wise Analysis on Myelination Profiles of Cerebral Cortex using the Second Eigenvector of Laplace-Beltrami Operator** ..... 1007-1010  
*Kim, Seung-Goo\** (Max Planck Institute for Human Brains and Cognitive Sciences); *Stelzer, Johannes* (Max Planck Institute for Human Brains and Cognitive Sciences); *Bazin, Pierre-Louis* (Max Planck Institute for Human Cognitive and Brain Sciences); *Viehweger, Adrian* (University of Leipzig); *Knösche, Thomas* (Max Planck Institute for Human Cognitive and Brain Sciences)

14:40-15:00 ThC02.3  
**Learning Osteoarthritis Imaging Biomarkers using Laplacian Eigenmap Embeddings with Data from the OAI** ..... 1011-1014  
*Donoghue, C.R.\** (Imperial College London); *Rao, A.* (Imperial College London); *Bull, A.M.J.* (Imperial College London); *Rueckert, D.* (Imperial College London)

15:00-15:20 ThC02.4  
**Early Diagnosis of Alzheimer's Disease with Deep Learning** ..... 1015-1018  
*Liu, Siqi\* (University of Sydney); Liu, Sidong (University of Sydney); Cai, Weidong (University of Sydney); Pujol, Sonia (Brigham and Women's Hospital, Harvard Medical School); Kikinis, Ron (Brigham and Women's Hospital, Harvard Medical School); Feng, Dagan (University of Sydney)*

15:20-15:40 ThC02.5  
**Reproducibility of Brain-Cognition Relationships using Different Cortical Surface-Based Analysis Protocols** ..... 1019-1022  
*Martinez, Kenia\* (Universidad Autónoma de Madrid); Joshi, Anand A. (University of Southern California); Madsen, Sarah K. (University of Southern California); Joshi, Shantanu (University of California, Los Angeles); Karama, Sherif (McGill University); Román, Francisco J. (Universidad Autónoma de Madrid); Villalon-Reina, Julio (University of Southern California); Burgaleta, Miguel (Universität Pompeu Fabra); Thompson, Paul M. (University of Southern California); Colom, Roberto (Universidad Autónoma de Madrid)*

ThC03: 14:00-15:40 R&F 2  
**Classification Methods II (Oral Session)**  
**Chair:** Padfield, Dirk (*GE Global Res.*)

14:00-14:20 ThC03.1  
**Boosted Multifold Sparse Representation with Application to ILD Classification** ..... ~~1015-1018~~  
*Song, Yang\* (University of Sydney); Cai, Weidong (University of Sydney); Huang, Heng (University of Texas at Arlington); Zhou, Yun (Johns Hopkins University); Wang, Yue (Virginia Polytechnic Institute and State University); Feng, David Dagan (University of Sydney, Hong Kong Polytechnic University, and Shanghai Jiaotong University)*

14:20-14:40 ThC03.2  
**Using the Raw Diffusion MRI Signal and the Von Mises-Fisher Distribution for Classification of Alzheimer's Disease** ..... 1027-1030  
*Reynolds, G.K. (Univ. of California, Los Angeles); Nir, T.M. (Univ. of Southern California); Jahanshad, N. (Univ. of Southern California and Univ. of California, Los Angeles); Prasad, G.\* (Univ. of Southern California); Thompson, P.M. (Univ. of Southern California and Univ. of California, Los Angeles)*

14:40-15:00 ThC03.3  
**Ranking and Classification of Monotonic Emphysema Patterns with a Multi-Class Hierarchical Approach** ..... 1031-1034  
*Kurugol, Sila\* (Brigham and Women's Hospital and Harvard Medical School); Washko, George R. (Brigham and Women's Hospital and Harvard Medical School); San Jose Estepar, Raul (Brigham and Women's Hospital and Harvard Medical School)*

15:00-15:20 ThC03.4  
**Wavelet-Based Identification and Classification of Local Symmetries in Microscopy Images** ..... 1035-1038  
*Püspöki, Zsuzsanna\* (École Polytechnique Fédérale de Lausanne); Unser, Michael (École Polytechnique Fédérale de Lausanne)*

15:20-15:40 ThC03.5  
**Classification of Brain Tumour 1H MR Spectra: Extracting Features by Metabolite Quantification or Nonlinear Manifold Learning?** ..... 1039-1042  
*Yang, Guang\* (St George's, University of London); Raschke, Felix (St George's, University of London); Barrick, Thomas R. (St. George's, University of London); Howe, Franklyn A. (St George's, University of London)*

ThC04: 14:00-15:40 R&F 3  
**Clinical Potential of Noninvasive Bioelectric Imaging (Special Session)**  
**Chair:** Brooks, Dana (*Northeastern University*)  
**Co-Chair:** Wang, Linwei (*Rochester Institute of Technology*)

14:00-14:20 ThC04.1  
**Spatial and Temporal Resolution of Dense Array Electroencephalography** ..... 1043-1046  
*Tucker, Don M.\* (Electrical Geodesics, Inc. and University of Oregon); Luu, Phan (Electrical Geodesics, Inc. and University of Oregon)*

ThD01: 16:10-17:50	Capital 3
<b>Sampling and Interpolation</b> (Oral Session)	
<b>Chair:</b> Sun, Ying ( <i>National University of Singapore</i> )	
16:10-16:30	ThD01.1
<b>Detecting Spontaneous Brain Activity in Functional Magnetic Resonance Imaging using Finite Rate of Innovation</b> .....	1047-1050
<i>Doğan, Zafer (École Polytechnique Fédérale de Lausanne and Univ. of Geneva); Blu, Thierry (Chinese Univ. of Hong Kong); Van De Ville, Dimitri* (École Polytechnique Fédérale de Lausanne and Univ. of Geneva)</i>	
16:30-16:50	ThD01.2
<b>Rotational Gradient Field for Interpolation of Fiber Orientation Distribution in Connectivity Analysis</b> .....	1051-1054
<i>Li, Junning* (University of Southern California); Shi, Yonggang (University of Southern California); Toga, Arthur W. (University of Southern California)</i>	
16:50-17:10	ThD01.3
<b>A Preliminary Study on the Effect of Motion Correction on HARDI Reconstruction</b> .....	1055-1058
<i>Elhabian, Shireen* (University of Utah); Gur, Yaniv (University of Utah); Vachet, Clement (University of Utah); Piven, Joseph (University of North Carolina); Styner, Martin (University of North Carolina); Leppert, Ilana (Montreal Neurological Institute and Hospital); Pike, G. Bruce (Montreal Neurological Institute and Hospital); Gerig, Guido (University of Utah)</i>	
17:10-17:30	ThD01.4
<b>Efficient Numerical Reconstruction of Color Doppler Images of Mitral Regurgitation in Vitro</b> .....	1059-1062
<i>Li, W.* (RWTH Aachen University); Sonntag, S.J. (RWTH Aachen University); Becker, M. (University Hospital Aachen); Marx, N. (University Hospital Aachen); Steinseifer, U. (RWTH Aachen University); Merhof, D. (RWTH Aachen University)</i>	
17:30-17:50	ThD01.5
<b>Combining Total Variation with Nonlocal Self-Similarity Constraint for Compressed Sensing MRI</b> .....	1063-1066
<i>Huang, Jian-Ping (Harbin Institute of Technology and INSA of Lyon); Liu, Wan-Yu* (Harbin Institute of Technology and INSA of Lyon); Wang, Li-Hui (Harbin Institute of Technology and INSA of Lyon); Zhu, Yue-Min (Harbin Institute of Technology and INSA of Lyon)</i>	
ThD02: 16:10-17:50	R&F 1
<b>Image Restoration</b> (Oral Session)	
<b>Chair:</b> Liebling, Michael ( <i>University of California Santa Barbara</i> )	
16:10-16:30	ThD02.1
<b>Fast Automatic Myopic Deconvolution of Angiogram Sequences</b> .....	1067-1070
<i>Thibon, Louis (Université de Lyon); Soulez, Ferréol* (Université de Lyon); Thiébaud, Éric (Université de Lyon)</i>	
16:30-16:50	ThD02.2
<b>Multicycle Non-Local Means Denoising of Cardiac Image Sequences</b> .....	1071-1074
<i>Batikian, John M. (Univ. of California Santa Barbara); Liebling, Michael* (Univ. of California Santa Barbara)</i>	
16:50-17:10	ThD02.3
<b>A “Learn 2D, Apply 3D” Method for 3D Deconvolution Microscopy</b> .....	1075-1078
<i>Soulez, Ferréol* (Université Lyon 1)</i>	
17:10-17:30	ThD02.4
<b>Random Forest Flair Reconstruction From T1, T2, and PD-Weighted MRI</b> .....	1079-1082
<i>Jog, Amod* (Johns Hopkins University); Carass, Aaron (Johns Hopkins University); Pham, Dzung L. (Center for Neuroscience and Regenerative Medicine); Prince, Jerry L. (Johns Hopkins University)</i>	
17:30-17:50	ThD02.5
<b>Joint Denoising and Contrast Enhancement for Light Microscopy Image Sequences</b> .....	1083-1086
<i>Loza, Artur* (Khalifa University); Al-Mualla, Mohammed (Khalifa University); Verkade, Paul (University of Bristol); Hill, Paul (University of Bristol); Bull, David (University of Bristol); Achim, Alin (University of Bristol)</i>	

<b>ThD03: 16:10-17:50</b> <b>Tomographic Reconstruction (Oral Session)</b> <b>Chair:</b> Zhao, Jun ( <i>Shanghai Jiao Tong University</i> )	<b>R&amp;F 2</b>
---	------------------

16:10-16:30		ThD03.1
	<b>Sparsity-Based PET Image Reconstruction using MRI Learned Dictionaries</b> .....	1087-1090
	<i>Tang, Jing* (Oakland University); Wang, Yanhua (The State University of New York at Buffalo); Yao, Rutao (The State University of New York at Buffalo); Ying, Leslie (The State University of New York at Buffalo)</i>	

16:30-16:50		ThD03.2
	<b>Compensating for Limited-Angle Effect in Respiratory-Gated Cardiac SPECT</b> .....	1091-1094
	<i>Qi, Wenyuan (Illinois Institute of Technology); Yang, Yongyi* (Illinois Institute of Technology); Wernick, Miles N. (Illinois Institute of Technology); Pretorius, P. Hendrik (University of Massachusetts Medical School); King, Michael A. (University of Massachusetts Medical School)</i>	

16:50-17:10		ThD03.3
	<b>Monte Carlo SURE-Based Regularization Parameter Selection for Penalized-Likelihood Image Reconstruction</b> .....	1095-1098
	<i>Zhou, Jian (University of California - Davis); Qi, Jinyi* (University of California - Davis)</i>	

17:10-17:30		ThD03.4
	<b>A Semi-Stationary CT System</b> .....	1099-1102
	<i>Chen, Yi (Shanghai Jiao Tong Univ.); Xi, Yan (Shanghai Jiao Tong Univ.); Zhao, Jun* (Shanghai Jiao Tong Univ.)</i>	

17:30-17:50		ThD03.5
	<b>Implementation and Validation of the Advanced Variance Estimation Technique using CT Projection Data</b> ....	1103-1106
	<i>Yao, Yangyang* (GE Global Research); Jin, Yannan (GE Global Research); Fitzgerald, Paul (GE Global Research); Edic, Peter (GE Global Research); Yin, Zhye (GE Global Research); De Man, Bruno (GE Global Research)</i>	

<b>ThD04: 16:10-17:50</b> <b>Computer Aided Detection and Diagnosis II (Oral Session)</b> <b>Chair:</b> Syeda-Mahmood, Tanveer ( <i>IBM Almaden Research Center</i> )	<b>R&amp;F 3</b>
---	------------------

16:10-16:30		ThD04.1
	<b>Detection and Station Mapping of Mediastinal Lymph Nodes on Thoracic Computed Tomography using Spatial Prior from Multi-Atlas Label Fusion</b> .....	1107-1110
	<i>Liu, Jiamin* (National Institutes of Health); Zhao, Jocelyn (National Institutes of Health); Hoffman, Joanne (National Institutes of Health); Yao, Jianhua (National Institutes of Health); Lu, Le (National Institutes of Health); Turkbey, Evrim B. (National Institutes of Health); Kim, Christine (National Institutes of Health); Summers, Ronald M. (National Institutes of Health Clinical Center)</i>	

16:30-16:50		ThD04.2
	<b>Mining Histopathological Images via Hashing-Based Scalable Image Retrieval</b> .....	1111-1114
	<i>Zhang, Xiaofan (University of North Carolina at Charlotte); Liu, Wei (IBM T. J. Watson Research Center); Zhang, Shaoting* (University of North Carolina at Charlotte)</i>	

16:50-17:10		ThD04.3
	<b>Automatic Labeling of Liver Veins in CT by Probabilistic Backward Tracing</b> .....	1115-1118
	<i>Kang, Xin* (Children's National Medical Center); Zhao, Qian (Children's National Medical Center); Sharma, Karun (Children's National Medical Center); Shekhar, Raj (George Washington University); Wood, Bradford J. (National Institutes of Health); Linguraru, Marius George (George Washington University)</i>	

17:10-17:30		ThD04.4
	<b>Determination of Legal Majority Age from 3D Magnetic Resonance Images of the Radius Bone</b> .....	1119-1122
	<i>Stern, Darko* (Graz University of Technology); Ebner, Thomas (Graz University of Technology); Bischof, Horst (Graz University of Technology); Urschler, Martin (Graz University of Technology)</i>	

17:30-17:50		ThD04.5
	<b>Computer-Aided Diagnosis of Mammographic Masses using Vocabulary Tree-Based Image Retrieval</b> ...	1123-1126
	<i>Jiang, Menglin* (Rutgers University); Zhang, Shaoting (University of North Carolina at Charlotte); Liu, Jingjing (Rutgers University); Shen, Tian (Hwatech Medical Info-Tech Co.); Metaxas, Dimitris N. (Rutgers University)</i>	

**Tomography** (Poster Session)

- 08:20-09:50 FrA01.1  
**Low-Dose CT Image Processing using Artifact Suppressed Dictionary Learning** ..... 1127-1130  
*Shi, Luyao (Southeast University); Chen, Yang\* (Southeast University); Shu, Huazhong (Southeast University); Luo, Limin (Southeast University); Toumoulin, Christine (Université de Rennes I); Coatrieux, Jean-Louis (INSERM-University Rennes 1)*
- 08:20-09:50 FrA01.2  
**Patient-Customized 3D Reconstruction of Human Ribs from Lung MDCT Dataset** ..... 1131-1135  
*Pazokifard, Banafsheh\* (University of New South Wales); Sowmya, Arcot (University of New South Wales); Moses, Daniel (University of New South Wales)*
- 08:20-09:50 FrA01.3  
**A New Excitation Field for Magnetic Induction Tomography based on the Focusing Magnetic Field** ..... 1136-1139  
*Lv, Yi\* (Eastern Liaoning University); Wang, Xu (Northeastern University); Jin, Jingjing (47th Institute of China Electronics Technology Group Co.); Liu, Jianhui (Eastern Liaoning University); Han, Changjun (Eastern Liaoning University); Gao, Sunchun (Eastern Liaoning University)*
- 08:20-09:50 FrA01.4  
**A New Pansharp based Method for PET/CT Image Fusion** ..... 1140-1143  
*Mu, Wei (Chinese Academy of Sciences); Chen, Zhe\* (Chinese Academy of Sciences); Tian, Jie (Chinese Academy of Sciences); Zhu, Zhaohui (Peking Union Medical College Hospital); Dong, Di (Chinese Academy of Sciences)*
- 08:20-09:50 FrA01.5  
**Prostate Segmentation based on Variant Scale Patch and Local Independent Projection** ..... 1144-1147  
*Wu, Yao (Southern Medical University); Liu, Guoqing (Southern Medical University); Huang, Meiyuan (Southern Medical University); Jiang, Jun (Southern Medical University); Yang, Wei (Southern Medical University); Chen, Wufan (Southern Medical University); Feng, Qianjin\* (Southern Medical University)*
- 08:20-09:50 FrA01.6  
**PET 18F-FDG Kinetic Modeling using the Iterative Two-Stage Population Approach for the Assessment of Left Ventricular Function in Case of Small Animal Heart Failure** ..... 1148-1151  
*Mabrouk, R. \* (Université de Sherbrooke and University of Toronto); Dubeau, F. (Université de Sherbrooke); Bentabet, L. (Bishop's University)*
- 08:20-09:50 FrA01.7  
**Higher Order Total Variation Super-Resolution from a Single Trabecular Bone Image** ..... 1152-1155  
*Toma, Alina\* (Université de Lyon); Sixou, Bruno (Université de Lyon); Denis, Loïc (Université de Saint-Etienne); Pialat, Jean-Baptiste (Université de Lyon); Peyrin, Françoise (Université de Lyon)*
- 08:20-09:50 FrA01.8  
**Utilization of In-Depth Photon Counting Detectors towards X-Ray Spectral Imaging: The Benefits from the Depth Information** ..... 1156-1159  
*Yao, Yuan\* (Stanford University); Bornefalk, Hans (Royal Institute of Technology); Hsieh, Scott S. (Stanford University); Danielsson, Mats (Royal Institute of Technology); Pelc, Norbert J. (Stanford University)*
- 08:20-09:50 FrA01.9  
**Iterative Image Reconstruction for Low-Dose X-Ray CT using a Sinogram Restoration Induced Edge-Preserving Prior** ..... 1160-1163  
*Bian, Zhaoying (Southern Medical University); Huang, Jing (Southern Medical University); Ma, Jianhua\* (Southern Medical University); Zhang, Hua (Southern Medical University); Liang, Zhengrong (State University of New York at Stony Brook); Chen, Wufan (Southern Medical University)*
- 08:20-09:50 FrA01.10  
**X-Ray Fan-Beam Luminescence Tomography** ..... 1164-1167  
*Cong, Wenxiang\* (Rensselaer Polytechnic Institute); Wang, Ge (Rensselaer Polytechnic Institute)*



08:20-09:50		FrA02.1	
	<b>Automatic Blood Pool Identification in Contrast Ultrasound using Principal Component Analysis</b> .....		1168-1171
	<i>Saporito, S.* (Eindhoven Univ. of Technology); Herold, I.H.F. (Eindhoven Univ. of Technology and Catharina Hospital Eindhoven); Houthuizen, P. (Catharina Hospital Eindhoven); Korsten, H.M.M. (Catharina Hospital Eindhoven); van Assen, H.C. (Eindhoven Univ. of Technology); Mischi, M. (Eindhoven Univ. of Technology)</i>		
08:20-09:50		FrA02.2	
	<b>Evaluating the Clinical Relevance of Force-Correlated Ultrasound</b> .....		1172-1175
	<i>Koppaka, Sisir* (Massachusetts Institute of Tech.); Gilbertson, Matthew W. (Massachusetts Institute of Tech.); Rutkove, Seward B. (Harvard Medical School); Anthony, Brian W. (Massachusetts Institute of Tech.)</i>		
08:20-09:50		FrA02.3	
	<b>Combined Ultrasound Echography and Magnetic Resonance Imaging Guidance for Direct and Indirect Target Tracking</b> .....		1176-1179
	<i>Denis de Senneville, B.* (IMB, UMR 5251 CNRS/University of Bordeaux 1/Inria, Imaging Divis); Regard, Y. (ENSEIRB-MATMECA); Moonen, C.T.W. (University of Bordeaux); Ries, M. (University of Bordeaux)</i>		
08:20-09:50		FrA02.4	
	<b>Standard Plane Localization in Ultrasound by Radial Component</b> .....		1180-1183
	<i>Yang, Xin (Shenzhen University and Shenzhen Institute of Advanced Integration Technology); Ni, Dong* (Shenzhen University); Qin, Jing (Shenzhen Institute of Advanced Integration Technology); Li, Shengli (Nanfeng Medical University); Wang, Tianfu (Shenzhen University); Chen, Siping (Shenzhen University); Heng, Pheng Ann (The Chinese University of Hong Kong)</i>		
08:20-09:50		FrA02.5	
	<b>Recognizing Focal Liver Lesions in Contrast-Enhanced Ultrasound with Discriminatively Trained Spatio-Temporal Model</b> .....		1184-1187
	<i>Liang, Xiaodan (Sun Yat-sen University); Cao, Qingxing (Sun Yat-sen University); Huang, Rui* (NEC Laboratories, China); Lin, Liang (Sun Yat-sen University)</i>		
08:20-09:50		FrA02.6	
	<b>First Experimental Implementation of a Bandwidth Enhancement Pulse Compression Technique on an Ultrasound Array Imaging System</b> .....		1188-1191
	<i>Lin, Fanglue (Université Lyon 1); Sanchez, Jose (Bradley University); Cachard, Christian (Université Lyon 1); Basset, Olivier (Université Lyon 1); Lavarello, Roberto* (Pontificia Universidad Católica del Perú)</i>		

08:20-09:50		FrA03.1	
	<b>3D Blob based Brain Tumor Detection and Segmentation in MR Images</b> .....		1192-1197
	<i>Yu, Chen-Ping* (Stony Brook University); Ruppert, Guilherme (University of Campinas); Collins, Robert (Pennsylvania State University); Nguyen, Dan (Milton S. Hershey Medical Center); Falcao, Alexandre (University of Campinas); Liu, Yanxi (Pennsylvania State University)</i>		
08:20-09:50		FrA03.2	
	<b>SuperSlicing Frame Restoration for Anisotropic SStem</b> .....		1198-1201
	<i>Laptev, D.* (ETH Zürich); Veznevets, A. (University of Edinburgh); Buhmann, J.M. (ETH Zürich)</i>		
08:20-09:50		FrA03.3	
	<b>Data Synthesis and Method Evaluation for Brain Imaging Genetics</b> .....		1202-1205
	<i>Sheng, Jinhua (Indiana University); Kim, Sungeun (Indiana University); Yan, Jingwen (Indiana University); Moore, Jason (Dartmouth College); Saykin, Andrew (Indiana University); Shen, Li* (Indiana University)</i>		
08:20-09:50		FrA03.4	
	<b>Tailor the Longitudinal Anaysis for NIH Longitudinal Normal Brain Developmental Study</b> .....		1206-1209
	<i>Chen, Yasheng* (University of North Carolina at Charlotte); An, Hongyu (University of North Carolina at Charlotte); Shen, Dinggang (University of North Carolina at Charlotte); Zhu, Hongtu (University of North Carolina at Charlotte); Lin, Weili (University of North Carolina at Charlotte)</i>		



08:20-09:50	FrA03.5
<b>Learning fMRI-Guided Predictor of Video Shot Changes</b> .....	1210-1213
<i>Zhang, Shu* (Univ. of Georgia and Northwestern Polytechnical Univ.); Hu, Xintao (Northwestern Polytechnical Univ.); Lv, Jinglei (Univ. of Georgia and Northwestern Polytechnical Univ.); Zhang, Tuo (Univ. of Georgia and Northwestern Polytechnical Univ.); Li, Xiang (Univ. of Georgia); Jiang, Xi (Univ. of Georgia); Guo, Lei (Northwestern Polytechnical Univ.); Liu, Tianming (Univ. of Georgia)</i>	
08:20-09:50	FrA03.6
<b>Spatial Distribution and Longitudinal Development of Deep Cortical Sulcal Landmarks in Infants</b> .....	1214-1217
<i>Meng, Yu (University of North Carolina at Chapel Hill); Li, Gang (University of North Carolina at Chapel Hill); Lin, Weili (University of North Carolina at Chapel Hill); Gilmore, John H. (University of North Carolina at Chapel Hill); Shen, Dinggang* (University of North Carolina at Chapel Hill)</i>	
08:20-09:50	FrA03.7
<b>Evolutionarily-Preserved Consistent Gyral Folding Patterns across Primate Brains</b> .....	1218-1221
<i>Chen, Hanbo* (University of Georgia); Yu, Xiang (Northwestern Polytechnical University); Jiang, Xi (University of Georgia); Li, Kaiming (Emory University); Li, Longchuan (Emory University); Hu, Xintao (Northwestern Polytechnical University); Han, Junwei (Northwestern Polytechnical University); Guo, Lei (Northwestern Polytechnical University); Hu, Xiaoping (Emory University); Liu, Tianming (University of Georgia)</i>	
08:20-09:50	FrA03.8
<b>Semi-Automatic Segmentation of Preterm Neonate Ventricle System from 3D Ultrasound Images</b> .....	1222-1225
<i>Qiu, W.* (University of Western Ontario); Yuan, J. (University of Western Ontario); Kishimoto, J. (University of Western Ontario); de Ribaupierre, S. (University of Western Ontario); Ukwatta, E. (University of Western Ontario); Fenster, A. (University of Western Ontario)</i>	
08:20-09:50	FrA03.9
<b>Multi-Surface Quasi-Isometric Flattening of the Cortex</b> .....	1226-1229
<i>Khosravi, Hamid (University of Tehran); Soltanian-Zadeh, Hamid* (University of Tehran, Institute for Research in Fundamental Sciences, and Henry Ford Health System)</i>	
08:20-09:50	FrA03.10
<b>Fast Fully Automatic Brain Detection in Fetal MRI using Dense Rotation Invariant Image Descriptors</b> ....	1230-1233
<i>Kainz, Bernhard* (Imperial College London); Keraudren, Kevin (Imperial College London); Kyriakopoulou, Vanessa (King's College London); Rutherford, Mary (King's College London); Hajnal, Joseph V. (King's College London); Rueckert, Daniel (Imperial College London)</i>	
08:20-09:50	FrA03.11
<b>Combining Meta- and Mega- Analytic Approaches for Multi-Site Diffusion Imaging based Genetic Studies: From the Enigma-DTI Working Group</b> .....	1234-1238
<i>Jahanshad, Neda* (Univ. of Southern California and Univeristy of California, Los Angeles); Kochunov, Peter (Univ. of Maryland); Nichols, Thomas E. (Univ. of Warwick and Oxford Univ.); Sprooten, Emma (Yale Univ.); Mandl, René C. (Univ. Medical Center Utrecht); Almasy, Laura (Texas Biomedical Research Institute); Brouwer, Rachel M. (Univ. Medical Center Utrecht); Curran, Joanne E. (Texas Biomedical Research Institute); de Zubicaray, Greig I. (Univ. of Queensland); Dimitrova, Rali (Univ. of Edinburgh); Fox, Peter T. (Univ. of Texas Health Science Center); Hong, L. Elliot (Univ. of Maryland School of Medicine); Landman, Bennett A. (Vanderbilt Univ.); Lemaitre, Hervé (INSERM-CEA-Faculté de Médecine Paris-Sud); Lopez, Lorna (Univ. of Edinburgh); Martin, Nicholas G. (Queensland Institute of Medical Research); McMahon, Katie L. (Univ. of Queensland); Mitchell, Braxton D. (Univ. of Maryland School of Medicine); Olvera, Rene L. (Univ. of Texas Health Science Center San Antonio); Peterson, Charles P. (Texas Biomedical Research Institute); Sussmann, Jessica E. (Univ. of Edinburgh); Toga, Arthur W. (Univ. of Southern California); Wardlaw, Joanna M. (Univ. of Edinburgh); Wright, Margaret J. (INSERM-CEA-Faculté de Médecine Paris-Sud); Wright, Susan N. (Univ. of Maryland School of Medicine); Bastin, Mark E. (Univ. of Edinburgh); McIntosh, Andrew M. (Univ. of Edinburgh); Boomsma, Dorret I. (Vrije Universiteit); Kahn, René S. (Univ. Medical Center Utrecht); den Braber, Anouk (Vrije Universiteit); Deary, Ian J. (Univ. of Edinburgh); Hulshoff Pol, Hilleke E. (Univ. Medical Center Utrecht); Williamson, Douglas (Univ. of Texas Health Science Center); Blangero, John (Texas Biomedical Research Institute); van't Ent, Dennis (Vrije Universiteit); Glahn, David C. (Yale Univ.); Thompson, Paul M. (Univ. of Southern California and Univeristy of California, Los Angeles)</i>	
08:20-09:50	FrA03.12
<b>General Linear Models for Group Studies in Diffusion Tensor Imaging</b> .....	1239-1242
<i>Bouchon, A.* (Univ. of Strasbourg); Noblet, V. (Univ. of Strasbourg); Heitz, F. (Univ. of Strasbourg); Lamy, J. (Univ. of Strasbourg); Blanc, F. (Univ. of Strasbourg); Armspach, J.-P. (Univ. of Strasbourg)</i>	

- 08:20-09:50 FrA04.1  
**Topology Constraint Graph-Based Model for Non-Small-Cell Lung Tumor Segmentation from PET Volumes** ..... 1243-1246  
*Cui, Hui\** (University of Sydney); *Wang, Xiuying* (University of Sydney); *Zhou, Jianlong* (National ICT Australia); *Fulham, Michael* (Royal Prince Alfred Hospital and University of Sydney); *Eberl, Stefan* (Royal Prince Alfred Hospital); *Feng, Dagan* (University of Sydney)
- 08:20-09:50 FrA04.2  
 **$\alpha$  Scale Spaces Filters for Phase based Edge Detection in Ultrasound Images** ..... 1247-1250  
*Belaid, Ahror\** (Univ. Abderrahmane Mira de Béjaïa); *Boukerroui, Djamel* (Univ. de Technologie de Compiègne)
- 08:20-09:50 FrA04.3  
**A Random-Forest Random Field Approach for Cellular Image Segmentation** ..... 1251-1254  
*Jin, Meiguang* (Bioinformatics Institute, A\*STAR); *Govindarajan, Lakshmi Narasimhan* (National University of Singapore); *Cheng, Li\** (Bioinformatics Institute, A\*STAR)
- 08:20-09:50 FrA04.4  
**Atlas-Based Approach for the Segmentation of Infant DTI MR Brain Images** ..... 1255-1258  
*Mostapha, Mahmoud* (Univ. of Louisville); *Alansary, Amir* (Univ. of Louisville); *Soliman, Ahmed* (Univ. of Louisville); *Khalifa, Fahmi* (Univ. of Louisville); *Nitzken, Matthew* (Univ. of Louisville); *Khodeir, Rasha* (Univ. of Louisville); *Casanova, Manuel F.* (Univ. of Louisville); *El-baz, Ayman\** (Univ. of Louisville)
- 08:20-09:50 FrA04.5  
**Embryo Cell Membranes Reconstruction by Tensor Voting** ..... 1259-1262  
*Michelin, Gaël* (Inria); *Guignard, Léo* (University Montpellier 1 & 2); *Fiuza, Ulla-Maj* (University Montpellier 1 & 2); *Malandain, Grégoire\** (Inria)
- 08:20-09:50 FrA04.6  
**Live Image Parsing in Uterine Laparoscopy** ..... 1263-1266  
*Chhatkuli, Ajad\** (Université d'Auvergne); *Bartoli, Adrien* (Université d'Auvergne); *Malti, Abed* (Université d'Auvergne); *Collins, Toby* (Université d'Auvergne)
- 08:20-09:50 FrA04.7  
**Yeast Cell Detection and Segmentation in Bright Field Microscopy** ..... 1267-1270  
*Zhang, Chong\** (University of Heidelberg); *Huber, Florian* (University of Heidelberg); *Knop, Michael* (University of Heidelberg); *Hamprecht, Fred A.* (University of Heidelberg)
- 08:20-09:50 FrA04.8  
**Improved Automatic Exposure Control using Morphology-Based Disturbance Recognition** ..... 1271-1274  
*Gaasbeek, Rolf\** (Eindhoven University of Technology); *van der Maas, Rick* (Eindhoven University of Technology); *den Hartog, Markus* (Philips Healthcare); *de Jager, Bram* (Eindhoven University of Technology)
- 08:20-09:50 FrA04.9  
**Renal Cortex Localization by Combining 3D Generalized Hough Transform and 3D Active Appearance Models** ..... 1275-1278  
*Jin, Chao* (Soochow University); *Xiang, Dehui* (Soochow University); *Chen, XinJian\** (Soochow University)
- 08:20-09:50 FrA04.10  
**Spectral Band Selection for Mitosis Detection in Histopathology** ..... 1279-1282  
*Irshad, Humayun\** (University Joseph Fourier and IPAL CNRS UMI); *Gouaillard, Alexandre* (CoSMo Software and Temasys Communications); *Roux, Ludovic* (University Joseph Fourier and IPAL CNRS UMI); *Racoceanu, Daniel* (Sorbonne Universités and IPAL CNRS UMI)
- 08:20-09:50 FrA04.11  
**A Variational Model for Trabecular Bone Radiograph Characterization** ..... 1283-1286  
*Jennane, Rachid\** (Université d'Orléans); *Touvier, Jérôme* (Université d'Orléans); *Bergounioux, Maïtine* (Université d'Orléans); *Lespessailles, Eric* (Université d'Orléans)

08:20-09:50	FrA04.12
<b>Adaptive Spectral Unmixing for Histopathology Fluorescent Images</b> .....	1287-1290
<i>Chen, Ting* (Ventana Medical Systems, Inc.); Sarkar, Anindya (Ventana Medical Systems, Inc.); Srinivas, Chukka (Ventana Medical Systems, Inc.)</i>	
08:20-09:50	FrA04.13
<b>A Joint Framework for 4D Segmentation and Estimation of Smooth Temporal Appearance Changes</b> .....	1291-1294
<i>Gao, Yang* (Univ. of Utah); Prastawa, Marcel (Univ. of Utah); Styner, Martin (Univ. of North Carolina at Chapel Hill); Piven, Joseph (Univ. of North Carolina at Chapel Hill); Gerig, Guido (Univ. of Utah)</i>	
08:20-09:50	FrA04.14
<b>Vesselness based Feature Extraction for Endoscopic Image Analysis</b> .....	1295-1298
<i>Lin, Bingxiong (University of South Florida); Sun, Yu* (University of South Florida); Sanchez, Jaime (University of South Florida); Qian, Xiaoning (Texas A&amp;M University)</i>	
08:20-09:50	FrA04.15
<b>Automatic Detection of Coronary Stenosis in X-Ray Angiography through Spatio-Temporal Tracking</b> ...	1299-1302
<i>Compas, Colin B.* (IBM Research - Almaden); Syeda-Mahmood, Tanveer (IBM Research - Almaden); McNeillie, Patrick (IBM Research - Almaden); Beymer, David (IBM Research - Almaden)</i>	
08:20-09:50	FrA04.16
<b>Understanding Embryonic Heart Morphogenesis through Automatic Segmentation and Confocal Imaging with Optical Clearing</b> .....	1303-1306
<i>Mao, Hongda* (Rochester Institute of Technology); Gribble, Megan (SUNY Upstate Medical University); Pertsov, Arkady M. (SUNY Upstate Medical University); Wang, Linwei (Rochester Institute of Technology); Shi, Pengcheng (Rochester Institute of Technology)</i>	
08:20-09:50	FrA04.17
<b>Fuzzy Logic based Detection of Neuron Bifurcations in Microscopy Images</b> .....	1307-1310
<i>Radojević, Miroslav* (University Medical Center Rotterdam); Smal, Ihor (University Medical Center Rotterdam); Niessen, Wiro (University Medical Center Rotterdam); Meijering, Erik (University Medical Center Rotterdam)</i>	
08:20-09:50	FrA04.18
<b>Computer-Assisted Shape Classification of Middle Cerebral Artery Aneurysms for Surgical Planning</b> ...	1311-1315
<i>Burrows, Derek* (Washington University in St. Louis); Washington, Chad (Washington University in St. Louis); Dacey, Ralph (Washington University in St. Louis); Ju, Tao (Washington University in St. Louis)</i>	
08:20-09:50	FrA04.19
<b>Segmentation of Neurons based on One-Class Classification</b> .....	1316-1319
<i>Hernandez-Herrera, Paul* (University of Houston); Papadakis, Manos (University of Houston); Kakadiaris, Ioannis A. (University of Houston)</i>	
FrA05: 08:20-09:50	Capital 5
<b>Image Analysis II (Poster Session)</b>	
08:20-09:50	FrA05.1
<b>Automatic 3D Seed Location and Orientation Detection in CT Image for Prostate Brachytherapy</b> .....	1320-1323
<i>Nguyen, Huu-Giao* (UJF-Grenoble 1 / CNRS / TIMC-IMAG UMR 5525); Fouard, Celine (UJF-Grenoble 1 / CNRS / TIMC-IMAG UMR 5525); Meneu, Francois (Grenoble University Hospital); Giraud, Jean-Yves (Grenoble University Hospital); Troccaz, Jocelyne (UJF-Grenoble 1 / CNRS / TIMC-IMAG UMR 5525)</i>	
08:20-09:50	FrA05.2
<b>Modeling Hemodynamics after Flow Diverter with a Porous Medium</b> .....	1324-1327
<i>Morales, Hernán G.* (Philips Research Paris); Bonnefous, Odile (Philips Research Paris)</i>	
08:20-09:50	FrA05.3
<b>Characterization of the Fourier Spatial Frequencies of Time Resolved Laser Speckle from Interacting High Density Lipoprotein Disks</b> .....	1328-1331
<i>Russell, S.* (Dartmouth College); Nguyen, T.A. (City College of New York); Torres, C.R. (City College of New York); Bhagroo, S. (City College of New York); Russell, M.J. (City College Of New York); Camara, H. (City College of New York); Pogue, B.W. (Dartmouth College); Alfano, R.R. (City College of New York)</i>	

08:20-09:50 FrA05.4  
**A New Paradigm for Clinical Biomarker Discovery and Screening with Mass Spectrometry through Biomedical Image Analysis Principles** ..... 1332-1335  
*Liao, Hanqing (University of Manchester); Moschidis, Emmanouil (University of Manchester); Riba-Garcia, Isabel (University of Manchester); Zhang, Yan (University of Manchester); Unwin, Richard D. (Central Manchester Foundation Trust); Morris, Jeffrey S. (UT MD Anderson Cancer Center); Graham, Jim (University of Manchester); Dowsey, Andrew W.\* (University of Manchester)*

08:20-09:50 FrA05.5  
**Microscopic Specimen Delineation using the Auto-Phase Correlation Index** ..... 1336-1339  
*Fan, Yilun\* (Univ. of Queensland); Gal, Yaniv (Univ. of Queensland); Bradley, Andrew P. (Univ. of Queensland)*

08:20-09:50 FrA05.6  
**Touching Adipocyte Cells Decomposition using Combinatorial Optimization** ..... 1340-1343  
*Liu, Fujun\* (University of Kentucky); Xing, Fuyong (University of Kentucky); Su, Hai (University of Kentucky); Yang, Lin (University of Kentucky)*

08:20-09:50 FrA05.7  
**Cell Counting based on Local Intensity Maxima Grouping for In-Situ Microscopy** ..... 1344-1347  
*Rojas, L.D.\* (Universidad de Costa Rica); Martinez, G. (Universidad de Costa Rica); Scheper, T. (Leibniz Universität Hannover)*

FrB01: 11:15-12:55	Capital 3
<b>Learning-Based Methods II</b> (Oral Session)	
<b>Chair:</b> Ye, Jong Chul (Korea Advanced Inst. of Science & Tech.)	

11:15-11:35 FrB01.1  
**Digital Pathology: Multiple Instance Learning Can Detect Barrett's Cancer** ..... 1348-1351  
*Kandemir, Melih\* (University of Heidelberg, HCI/IWR); Feuchtinger, Annette (Helmholtz Zentrum München); Walch, Axel (Helmholtz Zentrum München); Hamprecht, Fred A. (University of Heidelberg)*

11:35-11:55 FrB01.2  
**Active Learning for Image Quality Assessment by Model Observer** ..... 1352-1355  
*Lorente, Iris (Illinois Institute of Technology); Brankov, Jovan G.\* (Illinois Institute of Technology)*

11:55-12:15 FrB01.3  
**A Ranking-Based Lung Nodule Image Classification Method using Unlabeled Image Knowledge** ..... 1356-1359  
*Zhang, Fan\* (University of Sydney); Song, Yang (University of Sydney); Cai, Weidong (University of Sydney); Zhou, Yun (Johns Hopkins University); Fulham, Michael (Royal Prince Alfred Hospital and University of Sydney); Eberl, Stefan (Royal Prince Alfred Hospital); Shan, Shimin (Dalian University of Technology); Feng, Dagan (University of Sydney)*

12:15-12:35 FrB01.4  
**A Comparison of Algorithms and Humans for Mitosis Detection** ..... 1360-1363  
*Giusti, Alessandro\* (Dalle Molle Institute for Artificial Intelligence); Caccia, Claudio (Politecnico di Milano); Cireşan, Dan C. (Dalle Molle Institute for Artificial Intelligence); Schmidhuber, Jürgen (Dalle Molle Institute for Artificial Intelligence); Gambardella, Luca M. (IDSIA, USI/SUPSI)*

12:35-12:55 FrB01.5  
**MRI based Attenuation Correction for PET/MRI via MRF Segmentation and Sparse Regression Estimated CT** ..... 1364-1367  
*Chen, Yasheng\* (University of North Carolina at Charlotte); Juttukonda, Meher (University of North Carolina at Charlotte); Lee, Yue Z. (University of North Carolina at Charlotte); Su, Yi (Washington University in St. Louis); Espinoza, Felipe (University of North Carolina at Charlotte); Lin, Weili (University of North Carolina at Charlotte); Shen, Dinggang (University of North Carolina at Charlotte); Lalush, David (University of North Carolina at Charlotte); An, Hongyu (University of North Carolina at Charlotte)*



11:15-11:35		FrB02.1
	<b>Consistent Follow-Up Segmentation of Pleural Thickenings</b> .....	1368-1372
	<i>Faltin, Peter*</i> ( <i>RWTH Aachen University</i> ); <i>Chaisaowong, Kraisor</i> ( <i>RWTH Aachen University and King Mongkut's University of Technology North Bangkok</i> ); <i>Kraus, Thomas</i> ( <i>University Hospital Aachen</i> ); <i>Merhof, Dorit</i> ( <i>RWTH Aachen University</i> )	
11:35-11:55		FrB02.2
	<b>Segmentation of Bone from ADC Maps in Pelvis Area using Local Level-Set and Prior Information</b> .....	1373-1376
	<i>Sanaei Nezhad, F.</i> ( <i>University of Tehran</i> ); <i>Saligheh Rad, H.</i> ( <i>Tehran University of Medical Sciences</i> ); <i>Soltanian-Zadeh, H.*</i> ( <i>University of Tehran and Henry Ford Health System</i> )	
11:55-12:15		FrB02.3
	<b>Cortical Parcellation for Neonatal Brains</b> .....	1377-1380
	<i>Wu, Jue*</i> ( <i>University of Pennsylvania</i> ); <i>Ashtari, Manzar</i> ( <i>Children's Hospital of Philadelphia</i> ); <i>Betancourt, Laura M.</i> ( <i>Children's Hospital of Philadelphia</i> ); <i>Brodsky, Nancy L.</i> ( <i>Children's Hospital of Philadelphia</i> ); <i>Giannetta, Joan M.</i> ( <i>Children's Hospital of Philadelphia</i> ); <i>Gee, James C.</i> ( <i>University of Pennsylvania</i> ); <i>Hurt, Hallam</i> ( <i>Children's Hospital of Philadelphia</i> ); <i>Avants, Brian B.</i> ( <i>University of Pennsylvania</i> )	
12:15-12:35		FrB02.4
	<b>Interactive Cell Segmentation based on Correction Propagation</b> .....	1381-1384
	<i>Su, Hang*</i> ( <i>Carnegie Mellon University</i> ); <i>Yin, Zhaozheng</i> ( <i>Missouri University of Science and Technology</i> ); <i>Kanade, Takeo</i> ( <i>Carnegie Mellon University</i> ); <i>Huh, Seungil</i> ( <i>Carnegie Mellon University</i> )	
12:35-12:55		FrB02.5
	<b>Automatic Lung Tumor Segmentation on PET Images based on Random Walks and Tumor Growth Model</b> .....	1385-1388
	<i>Mi, Hongmei</i> ( <i>University of Rouen</i> ); <i>Petitjean, Caroline</i> ( <i>University of Rouen</i> ); <i>Dubray, Bernard</i> ( <i>Centre Henri-Becquerel</i> ); <i>Vera, Pierre</i> ( <i>Centre Henri-Becquerel</i> ); <i>Ruan, Su*</i> ( <i>University of Rouen</i> )	

11:15-11:35		FrB03.1
	<b>Transfer Learning of Tissue Photon Interaction in Optical Coherence Tomography towards In Vivo Histology of the Oral Mucosa</b> .....	1389-1392
	<i>Sheet, Debdoot*</i> ( <i>Indian Institute of Technology Kharagpur and Technische Universität München</i> ); <i>Banerjee, Satarupa</i> ( <i>Indian Institute of Technology Kharagpur</i> ); <i>Karri, Sri Phani Krishna</i> ( <i>Indian Institute of Technology Kharagpur</i> ); <i>Bag, Swarnendu</i> ( <i>Indian Institute of Technology Kharagpur</i> ); <i>Anura, Anji</i> ( <i>Indian institute of Technology Kharagpur</i> ); <i>Giri, Amita</i> ( <i>North Bengal Medical College and Hospital</i> ); <i>Paul, Ranjan Rashmi</i> ( <i>Guru Nanak Institute of Dental Science and Research</i> ); <i>Pal, Mousumi</i> ( <i>Guru Nanak Institute of Dental Science and Research</i> ); <i>Sarkar, Badal C.</i> ( <i>North Bengal Dental College and Hospital</i> ); <i>Ghosh, Ranjan</i> ( <i>North Bengal Dental College and Hospital</i> ); <i>Katouzian, Amin</i> ( <i>Technische Universität München</i> ); <i>Navab, Nassir</i> ( <i>Technische Universität München</i> ); <i>Ray, Ajoy K.</i> ( <i>Indian Institute of Technology Kharagpur</i> )	
11:35-11:55		FrB03.2
	<b>Spectral Degree of Polarization of Random Electromagnetic Beams in X-Ray Talbot Interference (XTI)</b> ..	1393-1396
	<i>Zhao, Zhenhua*</i> ( <i>Peking University</i> )	
11:55-12:15		FrB03.3
	<b>An Endoscopic Forward-Viewing OCT Imaging Probe based on a Two-Axis Scanning MEMS Mirror</b> .....	1397-1400
	<i>Duan, Can*</i> ( <i>Univ. of Florida</i> ); <i>Zhang, Xiaoyang</i> ( <i>Univ. of Florida</i> ); <i>Wang, Donglin</i> ( <i>Univ. of Shanghai for Science and Technology and WiO Technology Ltd., Co.</i> ); <i>Zhou, Zhengwei</i> ( <i>WiO Technology Ltd., Co.</i> ); <i>Liang, Peng</i> ( <i>WiO Technology Ltd., Co.</i> ); <i>Pozzi, Antonio</i> ( <i>Univ. of Florida</i> ); <i>Xie, Huikai</i> ( <i>Univ. of Florida</i> )	
12:15-12:35		FrB03.4
	<b>Microscopic Imaging of Cerebral Blood Flow with Optical Coherence Tomography</b> .....	1401-1404
	<i>Lee, Jonghwan*</i> ( <i>Harvard Medical School</i> ); <i>Boas, David A.</i> ( <i>Harvard Medical School</i> )	



12:35-12:55

FrB03.5

**Automated Surface Segmentation of Internal Limiting Membrane in Spectral-Domain Optical Coherence Tomography Volumes with a Deep Cup using a 3-D Range Expansion Approach** ..... 1405-1408  
*Shah, Abhay\* (University of Iowa); Wang, Jui-Kai (University of Iowa); Garvin, Mona K. (University of Iowa and Department of Veterans Affairs); Sonka, Milan (University of Iowa); Wu, Xiaodong (University of Iowa)*

FrB04: 11:15-12:55

R&F 3

**Applications of Ultrafast Ultrasound Imaging** (Special Session)

**Chair:** Liebgott, Hervé (*Université Lyon 1*)

**Co-Chair:** Provost, Jean (*Institut Langevin, ESPCI, INSERM U979*)

12:35-12:55

FrB04.4

**Plane Wave Transverse Oscillation (PWTO): An Ultra-Fast Transverse Oscillation Imaging Mode Performed in the Fourier Domain for 2D Motion Estimation of the Carotid Artery** ..... 1409-1412  
*Salles, Sebastien (Université de Lyon); Garcia, Damien (University of Montreal Hospital); Bou-Saïd, Benyebka (Université de Lyon); Savary, Florent (Université de Lyon); Sérusclat, André (Louis Pradel Hospita); Vray, Didier (Université de Lyon); Liebgott, Hervé\* (Université de Lyon)*