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

Thursday, 16 April 2015

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17:05-17:20 ThDT3.4
Multi-Atlas Synthesis for Computer Assisted Diagnosis: Application to Cardiovascular Diseases 290-293
Zuluaga, Maria A. (University College of London); *Burgos, Ninon** (University College London); *Taylor, Andrew M.* (Great Ormond Street Hospital); *Ourselin, Sebastien* (University College London)

17:20-17:35 ThDT3.5
Chest Pathology Detection using Deep Learning with Non-Medical Training 294-297
*Bar, Yaniv** (Tel Aviv University); *Diamant, Idit* (Tel-Aviv University); *Wolf, Lior* (Tel Aviv University); *Lieberman, Sivan* (Sheba Medical Center, Tel Hashomer); *Konen, Eli* (Sheba Medical Center, Tel Hashomer); *Greenspan, Hayit K.* (Tel Aviv University)

ThDT4: 16:20-17:50 Salon C
Registration Methods for Biological Imaging (Oral Session)
Chair: Bouthemy, Patrick (Inria)
Co-Chair: Kybic, Jan (Czech Technical University in Prague)

16:20-16:35 ThDT4.1
Cell Pairings for Ascidian Embryo Registration 298-301
*Michelin, Gaël** (INRIA Sophia Antipolis); *Guignard, Leo* (Univ. Montpellier 1, Univ. Montpellier 2, CNRS, CRBM, UMR 5237,); *Fiuza, Ulla-Maj* (Univ. Montpellier 1, Univ. Montpellier 2, CNRS, CRBM, UMR 5237,); *Lemaire, Patrick* (CRBM, UMR 5237, CNRS, Univ. Montpellier 1 & 2, 34293 Cedex 5 Mon); *Godin, Christophe* (Inria, Virtual Plants team, UMR AGAP, 34095 Montpellier, France); *Malandain, Gregoire* (INRIA)

16:35-16:50	ThDT4.2
Multiscale MRF Optimization for Robust Registration of 2D Biological Data	302-305
<i>Preston, J. Samuel* (University of Utah); Joshi, Sarang (University of Utah); Whitaker, Ross (University of Utah)</i>	
16:50-17:05	ThDT4.3
Intensity-Based Point-Spread-Function-Aware Registration for Multi-View Applications in Optical Microscopy	306-309
<i>Chacko, Nikhil* (University of California, Santa Barbara); Chan, Kevin G. (University of California, Santa Barbara); Liebling, Michael (Idiap Research Institute and UC Santa Barbara)</i>	
17:05-17:20	ThDT4.4
Deformable Registration of Immunofluorescence and Histology using Iterative Cross-Modal Propagation	310-313
<i>Conjeti, Sailesh* (Technical University of Munich); Yigitsoy, Mehmet (Technische Univ München); Peng, Tingying (Technical University of Munich); Sheet, Debdoot (Indian Institute of Technology Kharagpur); Chatterjee, Jyotirmoy (Indian Institute of Technology Kharagpur); Bayer, Christine (Technical University of Munich); Navab, Nassir (Technische Universität München); Katouzian, Amin (Technical University of Munich)</i>	
17:20-17:35	ThDT4.5
A Symmetric Deformation-Based Similarity Measure for Shape Analysis	314-318
<i>Kolouri, Soheil* (Carnegie Mellon University); Slepcev, Dejan (Carnegie Mellon University); Rohde, Gustavo (Carnegie Mellon University)</i>	

Friday, 17 April 2015

FrAT1: 08:30-10:00	Salon I & H
Compressed Sensing MRI (Oral Session)	
Chair: Otazo, Ricardo (<i>New York University School of Medicine</i>)	
Co-Chair: Ye, Jong Chul (<i>Korea Advanced Inst of Science & Tech</i>)	
08:30-08:45	FrAT1.1
Low Rank Recovery with Manifold Smoothness Prior: Theory and Application to Accelerated Dynamic MRI	319-322
<i>Poddar, Sunrita* (University of Iowa); Jacob, Mathews (University of Iowa)</i>	
08:45-09:00	FrAT1.2
SMS-LORAKS: Calibrationless Simultaneous Multislice MRI using Low-Rank Matrix Modeling	323-326
<i>Kim, Tae Hyung* (University of Southern California); Haldar, Justin (University of Southern California)</i>	
09:00-09:15	FrAT1.3
A Novel K-Space Annihilating Filter Method for Unification between Compressed Sensing and Parallel MRI	327-330
<i>Jin, Kyong Hwan (KAIST); Lee, Dongwook (Korea Advanced Institute for Science and Technology); Ye, Jong Chul* (Korea Advanced Inst of Science & Tech)</i>	
09:15-09:30	FrAT1.4
Dynamic Magnetic Resonance Imaging using Compressed Sensing with Self-Learned Nonlinear Dictionary (NL-D)	331-334
<i>Nakarmi, Ukash* (State University of New York, Suny at Buffalo); Wang, Yanhua (Beijing Institute of Technology); Lyu, Jingyuan (The State University of New York at Buffalo); Ying, Leslie (The State University of New York at Buffalo)</i>	
09:30-09:45	FrAT1.5
Fast Reconstruction for Accelerated Multi-Slice Multi-Contrast MRI	335-338
<i>Chatnuntaweck, Itthi* (Massachusetts Institute of Technology); Bilgic, Berkin (Martinos Center for Biomedical Imaging); Martin, Adrian (Universidad Rey Juan Carlos); Setsompop, Kawin (Harvard Medical School); Adalsteinsson, Elfar (MIT/MGH Martinos Center)</i>	

FrAT2: 08:30-10:00	Salon G & F
EEG and MEG Imaging (Oral Session)	
Chair: Gramfort, Alexandre (<i>Telecom ParisTech, CNRS LTCI</i>)	
Co-Chair: Thirion, Bertrand (<i>INRIA Futurs</i>)	

08:30-08:45	FrAT2.1
Alterations of Source and Connectivity EEG Patterns under Simulated Deep-Sea Condition	339-342
<i>Storti, Silvia Francesca* (University of Verona); Formaggio, Emanuela (Foundation IRCCS San Camillo Hospital); Melucci, Massimo (Italian Navy Medical Service Comsubin Varignano, Le Grazie (La S)); Faralli, Fabio (Italian Navy Medical Service Comsubin Varignano, Le Grazie (La S)); Ricciardi, Lucio (Italian Navy Medical Service Comsubin Varignano); Menegaz, Gloria (University of Verona); Pastena, Lucio (University of Rome, La Sapienza)</i>	
08:45-09:00	FrAT2.2
STTICS: A Template-Based Algorithm for the Objective Selection of Epilepsy-Related EEG ICA Components	343-346
<i>Abreu, Rodolfo* (Instituto Superior Técnico, Universidade de Lisboa); Leite, Marco (University College London Institute of Neurology); Leal, Alberto (Centro Hospitalar Psiquiátrico de Lisboa); Figueiredo, Patricia (Instituto Superior Técnico, Universidade de Lisboa)</i>	
09:00-09:15	FrAT2.3
Combined Delay and Graph Embedding of Epileptic Discharges in EEG Reveals Complex and Recurrent Nonlinear Dynamics	347-350
<i>Erem, Burak* (Boston Children's Hospital and Harvard Medical School); Hyde, Damon (Boston Children's Hospital and Harvard Medical School); Peters, Jurriaan (Boston Children's Hospital); Duffy, Frank (Boston Children's Hospital); Brooks, Dana (Northeastern University); Warfield, Simon K. (Harvard Medical School)</i>	
09:15-09:30	FrAT2.4
Topological Seizure Origin Detection in Electroencephalographic Signals	351-354
<i>Wang, Yuan (University of Wisconsin-Madison); Ombao, Hernando (University of California-Irvine); Chung, Moo K.* (University of Wisconsin-Madison)</i>	
09:30-09:45	FrAT2.5
Detection of Condition-Based Changes in Cross-Frequency Coupling with MEG	355-358
<i>Soto, Juan* (University of Sao Paulo); Jerbi, Karim (Lyon Neuroscience Research Center)</i>	

FrAT3: 08:30-10:00	Salon A & B
Image Segmentation I (Oral Session)	
Chair: Davatzikos, Christos (<i>University of Pennsylvania</i>)	
Co-Chair: Lelieveldt, Boudewijn (<i>Leiden University Medical Center</i>)	

08:30-08:45	FrAT3.1
Multiple Template Deformation Application to Abdominal Organ Segmentation	359-362
<i>Gauriau, Romane* (Philips Research); Ardon, Roberto (Medisys, Philips Research); Lesage, David (Philips Medisys); Bloch, Isabelle (Télécom ParisTech - CNRS UMR 5141 LTCI)</i>	
08:45-09:00	FrAT3.2
Local Atlas Selection for Discrete Multi-Atlas Segmentation	363-367
<i>Alchatzidis, Stavros* (Ecole Centrale de Paris); Sotiras, Aristeidis (University of Pennsylvania); Paragios, Nikos (Ecole Centrale de Paris/INRIA Saclay, Ile-de-France)</i>	
09:00-09:15	FrAT3.3
A Bayesian Formulation of Graph-Cut Surface Estimation with Global Shape Priors	368-371
<i>Veni, Gopalkrishna* (University of Utah); Elhabian, Shireen (University of Utah); Ross, Whitaker (University of Utah)</i>	
09:15-09:30	FrAT3.4
A Novel Nested Graph Cut Method for Segmenting Human Lymph Nodes in 3D High Frequency Ultrasound Images	372-375
<i>Kuo, Jen-wei* (New York University); Mamou, Jonathan (Riverside Research); Wang, Yao (Polytechnic Institute of New York University); Saegusa-Beecroft, Emi (University of Hawaii and Kuakini Medical Center); Machi, Junji (University of Hawaii); Feleppa, Ernest (Riverside Research)</i>	

09:30-09:45	FrAT3.5
Multi-Atlas Label Fusion with Augmented Atlases for Fast and Accurate Segmentation of Cardiac MR Images	376-379
<i>Xie, Long* (Penn Image Computing and Science Laboratory (PICSL), Department); Sedai, Suman (IBM Research Australia); Liang, Xi (IBM Melbourne Research Lab); Compas, Colin (IBM Research - Almaden); Wang, Hongzhi (IBM Almaden Research Center); Yushkevich, Paul (Penn Image Computing and Science Laboratory (PICSL), Department); Syeda-Mahmood, Tanveer (IBM Almaden Research Center)</i>	

FrAT4: 08:30-10:00	Salon C
Time Lapse Microscopy (Oral Session)	
Chair: Olivo-Marin, Jean-Christophe (<i>Institut Pasteur</i>)	
Co-Chair: Yang, Ge (<i>Carnegie Mellon University</i>)	

08:30-08:45	FrAT4.1
Tracking of Non-Brownian Particles using the Viterbi Algorithm	380-384
<i>Magnusson, Klas E. G.* (ACCESS Linnaeus Centre, KTH Royal Institute of Technology); Jaldén, Joakim (ACCESS Linnaeus Centre, KTH Royal Institute of Technology)</i>	

08:45-09:00	FrAT4.2
Estimation of Divergence-Free 3D Cardiac Blood Flow in a Zebrafish Larva using Multi-View Microscopy	385-388
<i>Chan, Kevin G.* (University of California, Santa Barbara); Liebling, Michael (Idiap Research Institute and UC Santa Barbara)</i>	

09:00-09:15	FrAT4.3
Automated Monitoring of Human Embryonic Cells up to the 5-Cell Stage in Time-Lapse Microscopy Images	389-393
<i>Khan, Aisha Sajjad* (The Australian National University); Gould, Stephen (1College of Engineering and Computer Science, The Australian Nat); Salzmann, Mathieu (NICTA)</i>	

09:15-09:30	FrAT4.4
Proof-Reading Guidance in Cell Tracking by Sampling from Tracking-by-Assignment Models	394-398
<i>Schiegg, Martin* (University of Heidelberg); Heuer, Ben (University of Heidelberg, IWR/HCI); Haubold, Carsten (University of Heidelberg, IWR/HCI); Wolf, Steffen (University of Heidelberg, IWR/HCI); Koethe, Ullrich (University of Heidelberg); Hamprecht, Fred Andreas (Univ. of Heidelberg)</i>	

09:30-09:45	FrAT4.5
An Algorithm for Piecewise-Constant Velocity Estimation and Application to Particle Trajectories in Microscopy	399-402
<i>Chenouard, Nicolas* (New York University Medical Center); Tsien, Richard W. (New York University, NYU Neuroscience Institute)</i>	

FrBT1: 11:00-12:30	Legends
Machine Learning in Medical Imaging II (Poster Session)	

11:00-12:30	FrBT1.1
Optimized Steerable Wavelets for Texture Analysis of Lung Tissue in 3-D CT: Classification of Usual Interstitial Pneumonia	403-406
<i>Depeursinge, Adrien* (University of Applied Sciences Western Switzerland Sierre (HES-S)); Pad, Pedram (EPFL); Chin, Anne S. (Stanford University); Leung, Ann N. (Stanford University); Rubin, Daniel (Stanford University); Müller, Henning (University of Applied Sciences Western Switzerland (HES-SO)); Unser, Michael (EPFL)</i>	

11:00-12:30	FrBT1.2
Multi-Phase Liver Lesions Classification using Relevant Visual Words based on Mutual Information	407-410
<i>Diamant, Idit* (Tel-Aviv University); Goldberger, Jacob (Bar-Ilan University); Klang, Eyal (Sheba medical center); Amitai, Michal (Sheba medical center); Greenspan, Hayit K. (Tel Aviv University)</i>	

11:00-12:30	FrBT1.3
Classification of Benign and Malignant Masses in Mammograms using Multi-Resolution Analysis of Oriented Patterns	411-414
<i>Midya, Abhishek (National Institute of Technology Silchar); Chakraborty, Jayasree* (National Institute of Technology Silchar)</i>	

11:00-12:30		FrBT1.4
Fusion and Ann based Classification of Liver Focal Lesions using Phases in Magnetic Resonance Imaging		415-419
<i>Öztürk, Ayşe Elif (Selcuk University); Ceylan, Murat* (Selcuk University)</i>		
11:00-12:30		FrBT1.5
Learning Discriminative Local Features from Image-Level Labelled Data for Colonoscopy Image Classification		420-423
<i>Manivannan, Siyamalan* (Computer Vision and Image Processing group, School of Computing,); Trucco, Emanuele (University of Dundee)</i>		
11:00-12:30		FrBT1.6
Cross-Modality Medical Image Detection and Segmentation by Transfer Learning of Shape Priors		424-427
<i>Zheng, Yefeng* (Siemens Corporate Research)</i>		
11:00-12:30		FrBT1.7
Bag of Forests for Modelling of Tissue Energy Interaction in Optical Coherence Tomography for Atherosclerotic Plaque Susceptibility Assessment		428-431
<i>Guha Roy, Abhijit* (Indian Institution of Technology, Kharagpur); Conjeti, Sailesh (Technical University of Munich); Carlier, Stephane (Universitair Ziekenhuis Brussel); König, Andreas (Department of Cardiology, Klinikum Innenstadt der Universität Mu); Kastrati, Adnan (Deutsches Herzzentrum Munchen, Technische Universität Munchen); Dutta, P.K. (School of Medical Science and Technology, IIT Kharagpur, India); Laine, Andrew F. (Columbia University); Navab, Nassir (Technische Universität München); Sheet, Debdoot (Indian Institute of Technology Kharagpur); Katouzian, Amin (Technical University of Munich)</i>		
FrBT2: 11:00-12:30		Legends
Diffusion MR Imaging I (Poster Session)		
11:00-12:30		FrBT2.1
Tractography-Embedded White Matter Stream Clustering		432-435
<i>Jin, Yan* (University of North Carolina at Chapel Hill); Cetingul, Hasan Ertan (Siemens Corporation, Corporate Technology)</i>		
11:00-12:30		FrBT2.2
Using 3D-SHORE and MAP-MRI to Obtain Both Tractography and Microstructural Constrasts from a Clinical DMRI Acquisition		436-439
<i>Fick, Rutger H.J.* (INRIA); Zucchelli, Mauro (University of Verona, Dept. of Computer Science); Girard, Gabriel (Sherbrooke Connectivity Imaging Lab, Universite de Sherbrooke, C); Descoteaux, Maxime (Sherbrooke Connectivity Imaging Lab (SCIL), Université de Sherbr); Menegaz, Gloria (University of Verona); Deriche, Rachid (INRIA Sophia Antipolis-Méditerranée)</i>		
11:00-12:30		FrBT2.3
Automatic Clustering of Short Association White Matter Fibers from HARDI Tractography Datasets		440-444
<i>Roman, Godoy, Claudio Esteban (Universidad de Concepcion); Guevara, Pamela* (University of Concepción); Guevara, Miguel (University of Concepcion); Duclap, Delphine (I2BM, CEA-Neurospin); Lebois, Alice (I2BM, Cea, NeuroSpin); Poupon, Cyril (CEA I2BM NeuroSpin); Mangin, Jean-François (CEA I2BM NeuroSpin)</i>		
11:00-12:30		FrBT2.4
Concomitant Variability of the Central Sulcus Morphology and Adjacent Connectivity Patterns		445-448
<i>Lefranc, Sandrine* (NeuroSpin, I2BM, CEA); Sun, Zhong Yi (NeuroSpin, CEA, I2BM); Roca, Pauline (INSERM UMR 894, Hopital Sainte Anne); Poupon, Cyril (CEA I2BM NeuroSpin); Le Bihan, Denis (CEA I2BM NeuroSpin); Mangin, Jean-François (CEA I2BM NeuroSpin); Rivière, Denis (NeuroSpin, I2BM, CEA)</i>		
11:00-12:30		FrBT2.5
Heritability of Brain Network Topology in 853 Twins and Siblings		449-453
<i>Zhan, Liang* (University of California, Los Angeles); Jahanshad, Neda (Imaging Genetic Center, University of Southern California); Faskowitz, Joshua (University of Southern California); Zhu, Dajiang (University of Southern California); Prasad, Gautam (USC); Martin, Nicholas G. (Queensland Institute of Medical Research); de Zubicaray, Greig (School of Psychology, University of Queensland, Brisbane, Aust); McMahon, Katie (Center for Advanced Imaging, Univ. of Queensland, Brisbane, Aust); Wright, Margaret (School of Psychology, University of Queensland, Brisbane, Aust); Thompson, Paul (University of Southern California)</i>		

11:00-12:30 FrBT2.6
CSF Contamination-Invariant Statistics in Diffusion-Weighted MRI 454-457
Arkesteijn, Georgius (Delft University of Technology); Poot, Dirk H.J. (Erasmus University Medical Center; Delft University of Technolog); de Groot, Marius (Erasmus MC, Rotterdam); Vernooij, Meike (Erasmus MC, Rotterdam); Niessen, Wiro (Erasmus MC, University Medical Center Rotterdam); van Vliet, Lucas (TU Delft); Vos, Frans (TU Delft)*

11:00-12:30 FrBT2.7
Spectral Graph Theory and Graph Energy Metrics Show Evidence for the Alzheimer's Disease Disconnection Syndrome in APOE-4 Risk Gene Carriers 458-461
Daianu, Madelaine (University of Southern California); Mezher, Adam (University of Southern California); Jahanshad, Neda (Imaging Genetics Center, University of Southern California); Hibar, Derrek Paul (Imaging Genetics Center, Institute for Neuroimaging and Informat); Nir, Talia M. (UCLA); Jack, Clifford R (Department of Radiology, Mayo Clinic, Rochester, Minnesota); Weiner, Michael (UCSF); Bernstein, Matthew (Mayo Clinic, Rochester, MN); Thompson, Paul (University of Southern California)*

11:00-12:30 FrBT2.8
Determinant of the Information Matrix: A New Rotation Invariant Optimality Metric to Design Gradient Encoding Schemes 462-465
Alipoor, Mohammad (Chalmers University of Technology); Gu, Irene Y.H. (Chalmers University of Technology)*

FrBT3: 11:00-12:30 Legends
Image Analysis for Brain Diseases II (Poster Session)

11:00-12:30 FrBT3.1
Estimating Function from Structure in Epileptics using Graph Diffusion Model 466-469
Abdelnour, Farras (Weill Cornell Medical College); Raj, Ashish (Weill Medical College of Cornell University); Dayan, Michael (Weill Cornell Medical College); Devinsky, Orrin (New York University); Thesen, Thomas (New York University)*

11:00-12:30 FrBT3.2
Sparse Canonical Correlation Analysis Reveals Correlated Patterns of Gray Matter Loss and White Matter Impairment in Alzheimer's Disease 470-473
Sui, Xiuchao (Institute of Automation Chinese Academy of Sciences); Li, Shaohua (Nanyang Technological University); Liu, Jieqiong (Department of Neurology, Xuanwu Hospital of Capital Medical Univ); Zhang, Xinqing (Department of Neurology, Xuanwu Hospital of Capital Medical Univ); Yu, Chunshui (Xuanwu hospital of capital medical university); Jiang, Tianzi (Institute of Automation)*

11:00-12:30 FrBT3.3
Dynamic Default Mode Network Connectivity Diminished in Patients with Schizophrenia 474-477
Du, Yuhui (The Mind Research Network); He, Hao (The Mind Research Network); Wu, Lei (University of New Mexico); Yu, Qingbao (the Mind Research Network); Sui, Jing (Institute of Automation, Chinese Academy of Science); Calhoun, Vince (The Mind Research Network/University of New Mexico)*

11:00-12:30 FrBT3.4
Identifying Brain Dynamic Network States via GIG-ICA: Application on Schizophrenia, Bipolar and Schizoaffective Disorders 478-481
Du, Yuhui (The Mind Research Network); Pearson, Godfrey (Yale University School of Medicine); He, Hao (The Mind Research Network); Wu, Lei (University of New Mexico); Chen, Jiayu (The Mind Research Network); Calhoun, Vince (The Mind Research Network/University of New Mexico)*

11:00-12:30 FrBT3.5
A Multistructural Imaging Marker for Non-Invasive Lateralization of Temporal Lobe Epilepsy 482-485
Mahmoudi, Fariborz (Henry Ford Health System); Bagher-Ebadian, Hassan (Henry Ford Hospital, Oakland University); Nazem-Zadeh, Mohammad-Reza (Henry Ford Hospital); Elisevich, Kost V. (Department of Clinical Neurosciences, Spectrum Health Medical Gr); Schwab, Jason (Neurosurgery Departments, Henry Ford Hospital, Detroit, MI); Soltanian-Zadeh, Hamid (Henry Ford Health System); Air, Ellen (Neurosurgery Department, Henry Ford Hospital, Detroit, MI)*

11:00-12:30	FrBT3.6
Probabilistic One Class Learning for Automatic Detection of Multiple Sclerosis Lesions	486-489
<i>Karpate, Yogesh* (VISAGES: INSERM U746 - CNRS UMR6074 - INRIA - Univ. of Rennes I.); Commowick, Olivier (INRIA); Barillot, Christian (IRISA (UMR CNRS 6074), INRIA, INSERM)</i>	

FrBT4: 11:00-12:30	Legends
Image Filtering (Poster Session)	

11:00-12:30	FrBT4.1
A Study of Denoising Methods for In-Line Single Distance Phase Image	490-493
<i>Lee, Ping-Chang* (Industrial Technology Research Institute); Shen, Hsin-Han (Industrial Technology Research Institute)</i>	

11:00-12:30	FrBT4.2
Evaluation of Speckle Reduction with Denoising Filtering in Optical Coherence Tomography for Dermatology	494-497
<i>Gómez Valverde, Juan José* (Universidad Politécnica de Madrid); Ortuño, Juan Enrique (Universidad Politécnica de Madrid); Guerra, Pedro (Universidad Politécnica de Madrid); Hermann, Boris (Medical University of Vienna); Zabihian, Behrooz (Medical University of Vienna); Rubio, José Luis (MedLumics); Santos, Andres (Universidad Politecnica Madrid); Drexler, Wolfgang (Medical University of Vienna); Ledesma-Carbayo, Maria J. (Universidad Politécnica de Madri)</i>	

11:00-12:30	FrBT4.3
A Spatio-Temporal Low-Rank Total Variation approach for Denoising Arterial Spin Labeling MRI Data	498-502
<i>Fang, Ruogu* (Florida International University); Huang, Junzhou (University of Texas at Arlington); Luh, Wen-Ming (Cornell University)</i>	

11:00-12:30	FrBT4.4
Oriented Filters for Vessel Contrast Enhancement with Local Directional Evidence	503-506
<i>Mukherjee, Suvadip* (University of Virginia); Acton, Scott (University of Virginia)</i>	

11:00-12:30	FrBT4.5
Post-Acquisition Image based Compensation for Thickness Variation in Microscopy Section Series	507-511
<i>Hanslovsky, Philipp (HHMI Janelia); Bogovic, John (HHMI Janelia); Saalfeld, Stephan* (HHMI Janelia)</i>	

11:00-12:30	FrBT4.6
Fast Detection and Refined Scale Estimation using Complex Isotropic Wavelets	512-515
<i>Püspöki, Zsuzsanna* (EPFL); Ward, John Paul (EPFL); Sage, Daniel (Swiss Federal Institute of Technology Lausanne (EPFL)); Unser, Michael (EPFL)</i>	

FrBT5: 11:00-12:30	Legends
Biological Imaging and Applications II (Poster Session)	

11:00-12:30	FrBT5.1
Quantitative Comparison of Micro-Vasculatures	516-519
<i>Linder, Manon (INRIA); Duplaa, Cecile (INSERM); Couffinhal, Thierry (INSERM); Malandain, Gregoire* (INRIA)</i>	

11:00-12:30	FrBT5.2
An Open-Source Vaa3D Plugin for Real-Time 3D Visualization of Terabyte-Sized Volumetric Images	520-523
<i>Bria, Alessandro* (University of Cassino and L.M.); Iannello, Giulio (Università Campus Bio-Medico di Roma); Peng, Hanchuan (Allen Institute for Brain Science)</i>	

11:00-12:30	FrBT5.3
Gradient Weighted Co-Hog for Analysis of Caudal Vein Structural Changes in Toxin Exposed Zebrafish Embryo	524-527
<i>Hans, Charu* (University of Houston); McCollum, Catherine (University of Houston); Bondesson, Maria (University of Houston); Shah, Shishir (University of Houston); Merchant, Fatima (University of Houston)</i>	

11:00-12:30 FrBT5.4
A Regionalized Automated Measurement of Ciliary Beating Frequency 528-531
Puybareau, Elodie (Université Paris Est); Talbot, Hugues (Paris-Est University); Pelle, Gabriel (Université Paris Est); Louis, Bruno (Inserm / Université Paris 12); Papon, Jean-François (Université Paris Est); Coste, André (Université Paris Est); Najman, Laurent (ESIEE, Université Paris-Est, UMR 8049)*

11:00-12:30 FrBT5.5
Tracking Virus Particles in Fluorescence Microscopy Images via a Particle Kalman Filter 532-535
Godinez, William (University of Heidelberg, DKFZ Heidelberg); Rohr, Karl (University of Heidelberg, DKFZ Heidelberg)*

FrBT6: 11:00-12:30 Legends
Biological Imaging Segmentation I (Poster Session)

11:00-12:30 FrBT6.1
Improving 3d Em Data Segmentation by Joint Optimization Over Boundary Evidence and Biological Priors 536-539
Krasowski, Nikola Enrico (HCI, University of Heidelberg); Beier, Thorsten (HCI, University of Heidelberg); Knott, Graham W. (Ecole Polytechnique Federale de Lausanne); Koethe, Ullrich (University of Heidelberg); Hamprecht, Fred Andreas (Univ. of Heidelberg); Kreshuk, Anna (University of Heidelberg)*

11:00-12:30 FrBT6.2
Multiscale Tensor Anisotropic Filtering of Fluorescence Microscopy for Denoising Microvasculature 540-543
Prasath, V. B. Surya (University of Missouri-Columbia); Pelapur, Rengarajan (University of Missouri); Glinskii, Olga (Univ. of Missouri-Columbia); Glinsky, Vladislav (University of Missouri-Columbia); Huxley, Virginia (Univ. of Missouri-Columbia); Palaniappan, Kannappan (University of Missouri-Columbia)*

11:00-12:30 FrBT6.3
Tip-Seeking Active Contours for Bioimage Segmentation 544-547
Uhlmann, Virginie (EPFL); Unser, Michael (EPFL)*

11:00-12:30 FrBT6.4
Automatic Segmentation of Focal Adhesions from Mouse Embryonic Fibroblasts 548-551
Reyes-Aldasoro, Constantino Carlos (City University London); Barri, Muruj (University of Sussex); Hafezparast, Majid (University of Sussex)*

11:00-12:30 FrBT6.5
Automated Semmes Weinstein Monofilament Examination Replication using Optical Imaging and Mechanical Probe Assembly 552-555
Siddiqui, Hafeez (London South Bank University); Dudley, Sandra (London South Bank University); Alty, Steve (London South Bank University); Spruce, Michelle (London South Bank University)*

11:00-12:30 FrBT6.6
Segmenting Subcellular Structures in Histology Tissue Images 556-559
Wang, Jiazhuo (University of Notre Dame); Mackenzie, John (University of California, San Francisco); Ramachandran, Rageshree (University of California, San Francisco); Zhang, Yizhe (University of Notre Dame); Wang, Haitao (Utah State University); Chen, Danny (University of Notre Dame)*

FrBT7: 11:00-12:30 Legends
MR Imaging I (Poster Session)

11:00-12:30 FrBT7.1
A Novel Method for Dipole Inversion in QSM with Reweighted L2-Norm using Distribution Specification 560-563
Yang, Yilin (Tsinghua University); Liu, Tian (Cornell University); Dong, Jianwu (Tsinghua University); Spincemaille, Pascal (Medical College of Cornell); Wang, Yi (Cornell University)*

11:00-12:30 FrBT7.2
Collaborative Non-Local Means Denoising of Magnetic Resonance Images 564-567
Chen, Geng (Northwestern Polytechnical University and The University of Nort); Zhang, Pei (UNC Chapel Hill); Wu, Yafeng (Northwestern Polytechnical University); Shen, Dinggang (UNC-Chapel Hill); Yap, Pew-Thian (University of North Carolina at Chapel Hill)*

11:00-12:30		FrBT7.3
Multiscale Partial Volume Estimation for Segmentation of White Matter Lesions using FLAIR MRI		568-571
<i>Khademi, April* (University of Toronto); Moody, Alan R. (Sunnybrook Health Sciences Centre, Department of Medical Imaging)</i>		
11:00-12:30		FrBT7.4
Geometry Optimization of 300 Mhz MRI Overlapped Dual-Row Transmit Arrays		572-575
<i>Kozlov, Mikhail* (Max Planck Institute for Human Cognitive and Brain Sciences); Möller, Harald (Max Planck Institute for Human Cognitive and Brain Sciences)</i>		
11:00-12:30		FrBT7.5
Denoising of MR Spectroscopy Signals using Total Variation and Iterative Gauss-Seidel Gradient Updates		576-579
<i>Joshi, Shantanu* (Ahmanson-Lovelace Brain Mapping Center, Department of Neurology,); Marquina, Antonio (University of Valencia); Njau, Stephanie (UCLA); Narr, Katherine (University of California, Los Angeles); Woods, Roger (University of California, Los Angeles)</i>		
11:00-12:30		FrBT7.6
Combined Laplacian-Equivolumic Model for Studying Cortical Lamination with Ultra High Field MRI (7 T)		580-583
<i>Leprince, Yann* (NeuroSpin, CEA Saclay); Poupon, Fabrice (NeuroSpin, CEA Saclay); Delzescaux, Thierry (Commissariat à l'Energie Atomique); Hasboun, Dominique (Université Pierre et Marie Curie); Poupon, Cyril (CEA I2BM NeuroSpin); Rivière, Denis (NeuroSpin, I2BM, CEA)</i>		
11:00-12:30		FrBT7.7
Using Fourier Velocity Encoded MRI Data to Guide CFD Simulations		584-587
<i>Rispoli, Vinicius de Carvalho* (University of Brasilia); Nielsen, Jon-Fredrik (University of Michigan); Nayak, Krishna (University of Southern California); Carvalho, Joao Luiz Azevedo de (University of Brasilia)</i>		
FrBT8: 11:00-12:30		Legends
Image Registration I – Poster Session (Poster Session)		
11:00-12:30		FrBT8.1
Longitudinal Brain MR Retrieval with Diffeomorphic Demons Registration: What Happened to those Patients with Similar Changes?		588-591
<i>Liu, Siqu* (University of Sydney); Liu, Sidong (University of Sydney); Zhang, Fan (The 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 and Harvard Medical School); Feng, Dagan (The University of Sydney)</i>		
11:00-12:30		FrBT8.2
Structural and Diffusion Weighted MRI Registration for Biomarker Fusion in Crohn's Disease Diagnosis		592-595
<i>Taimouri, Vahid* (Harvard Medical School); Kurugol, Sila (Boston Children's Hospital and Harvard Medical School); Clancy, Sean (Boston Children's Hospital); Freiman, Moti (Harvard Medical School/Boston Children's Hospital); Warfield, Simon K. (Harvard Medical School)</i>		
11:00-12:30		FrBT8.3
MRI-Based Motion Estimation via Scatter to Volume Registration		596-600
<i>Miao, Shun* (Siemens Corporation, Corporate Technology); Wang, Z. Jane (University of British Columbia); Liao, Rui (Siemens Corporation, Coprorate Technology)</i>		
11:00-12:30		FrBT8.4
Mutually Coherent Structural Representation for Image Registration through Joint Manifold Embedding and Alignment		601-604
<i>Conjeti, Sailesh* (Technical University of Munich); Yigitsoy, Mehmet (Technische Univ München); Sheet, Debdoot (Indian Institute of Technology Kharagpur); Chatterjee, Jyotirmoy (Indian Institute of Technology Kharagpur); Navab, Nassir (Technische Universität München); Katouzian, Amin (Technical University of Munich)</i>		
11:00-12:30		FrBT8.5
Robust Image Registration in the Gradient Domain		605-608
<i>Li, Yeqing (UT Arlington); Chen, Chen* (University of Texas at Arlington); Zhou, Jinghao (University of Maryland); Huang, Junzhou (University of Texas at Arlington)</i>		

11:00-12:30	FrBT8.6
Multiple Labels Point-Set Registration	609-612
<i>Van Reeth, Eric* (Creatis); Sdika, Michaël (Creatis); Luppi, Pierre-Hervé (CRNL); Libourel, Paul-Antoine (CRNL); Beuf, Olivier (Université de Lyon, Université Lyon 1, INSA-Lyon)</i>	

FrBT9: 11:00-12:30	Legends
Image Segmentation I – Poster Session (Poster Session)	

11:00-12:30	FrBT9.1
Two-Stage Fusion Set Selection in Multi-Atlas-Based Image Segmentation	613-616
<i>Zhao, Tingting (UCLA Medical School); Ruan, Dan* (University of California Los Angeles)</i>	

11:00-12:30	FrBT9.2
Improving Multi-Atlas Segmentation Accuracy by Leveraging Local Neighborhood Information during Label-Fusion	617-620
<i>Bhagwat, Nikhil* (University of Toronto); Pipitone, Jonathan (Centre for Addiction and Mental Health); Voineskos, Aristotle (Centre for Addiction and Mental Health); Pruessner, Jens (McGill University Centre for Studies in Aging); Chakravarty, M. Mallar (The Centre for Addiction and Mental Health)</i>	

11:00-12:30	FrBT9.3
Segmentation of 4D CT Bone Images by Sequential Registration	621-624
<i>Van Dijck, Christophe* (KU Leuven); Kerkhof, Faes (KU Leuven); Vereecke, Evie (KU Leuven); Wirix-Speetjens, Roel (Materialise NV); Vander Sloten, Jos (KU Leuven)</i>	

11:00-12:30	FrBT9.4
Crohn's Disease Segmentation from MRI using Learned Image Priors	625-628
<i>Dwarikanath, Mahapatra* (ETH Zurich); Schueffler, Peter (ETH Zurich); Vos, Frans (TU Delft); Buhmann, Joachim (ETH Zurich)</i>	

11:00-12:30	FrBT9.5
Equating Emphysema Scores and Segmentations across CT Reconstructions: A Comparison Study	629-632
<i>Häme, Yrjö Tapio* (Columbia University); Angelini, Elsa (Columbia University); Barr, R. Graham (Columbia University Medical Center); Laine, Andrew (Columbia University)</i>	

11:00-12:30	FrBT9.6
Fiber Segmentation using a Density-Peaks Clustering Algorithm	633-637
<i>Chen, Pingjun (Dalian University of Technology); Fan, Xin* (Dalian University of Technology); Liu, Ruiyang (Dalian University of Technology); Tang, Xianxuan (Dalian University of Technology); Cheng, Hua (Beijing Children's Hospital)</i>	

11:00-12:30	FrBT9.7
Group-Wise Consistent Sulcal Fundi Segmentation based on DMRI-Derived Odf Features	638-641
<i>Zhang, Tuo* (Northwestern Polytechnical University, Xi'an, China); Chen, Hanbo (The University of Georgia, Athens, GA, USA); Jiang, Xi (University of Georgia); Ge, Bao (Shaanxi Normal University); Guo, Lei (Northwestern Polytechnical University); Liu, Tianming (University of Georgia)</i>	

11:00-12:30	FrBT9.8
Estimating Glucose Concentration using a Sparse Scalable Mean-Shift Algorithm	642-645
<i>Demitri, Nevine* (Signal Processing Group, Institute of Telecommunications, Techni); Zoubir, Abdelhak M. (Signal Processing Group, Institute of Telecommunications, Techni)</i>	

FrBT10: 11:00-12:30	Legends
Ultrasound Imaging II (Poster Session)	

11:00-12:30	FrBT10.1
Advanced Machine Learning and Textural Methods in Monitoring Cell Death using Quantitative Ultrasound Spectroscopy	646-650
<i>Gangeh, Mehrdad* (University of Toronto); El kaffas, Ahmed (Depts. of Medical Biophysics and Radiation Oncology, University); Hashim, Amr (Imaging Research and Physical Sciences, Sunnybrook Health Scienc); Giles, Anoja (Imaging Research and Physical Sciences, Sunnybrook Health Scienc); Czarnota, Gregory (University of Toronto, Sunnybrook Health Sciences Centre)</i>	

11:00-12:30	FrBT10.2
Fisher Vector Encoding for Detecting Objects of Interest in Ultrasound Videos	651-654
<i>Maraci, Mohammad Ali* (BioMedIA Lab, Institute of Biomedical Engineering, Dept of Eng.); Napolitano, Raffaele (Nuffield Department of Obstetrics and Gynaecology, John Ra); Papageorghiou, Aris (Nuffield Department of Obstetrics and Gynaecology, John Ra); Noble, J Alison (University of Oxford)</i>	
11:00-12:30	FrBT10.3
Echocardiogram View Classification with Appearance and Spatial Distributions	655-658
<i>Gupta, Ronak* (Indian Institute of Technology Delhi); Chaudhury, Santanu (Indian Institute of Technology Delhi); Subramanian, Navneeth (GE Research); Govind, Dr.Satish (Narayana Hrudayalaya)</i>	
11:00-12:30	FrBT10.4
Robust Lumen Segmentation in 3D Contrast Enhanced Ultrasound Images	659-662
<i>Cao, Kunlin* (GE Global Research); Padfield, Dirk (Amazon); Dentinger, Aaron M. (GE Global Research); Wallace, Kirk (GE Global Research); Mills, David (GE Global Research)</i>	
11:00-12:30	FrBT10.5
Ventricular Blood Flow Analysis using Topological Methods	663-666
<i>Kulp, Scott* (Rutgers University); Chen, Chao (Rutgers University); Metaxas, Dimitris (Rutgers University); Axel, Leon (NYU Medical Center)</i>	
11:00-12:30	FrBT10.6
BM3D-Based Ultrasound Image Denoising via Brushlet Thresholding	667-670
<i>Gan, Yu* (Columbia University); Angelini, Elsa (Columbia University); Laine, Andrew F. (Columbia University); Hendon, Christine (Columbia University)</i>	

FrCT2: 14:00-15:30	Salon G & F
Imaging Applications in the Biopharmaceutical Industry (Special Session)	

14:00-14:15	FrCT2.1
Characterization of Bone Abnormalities from Micro-CT Images for Evaluating Drug Toxicity in Developmental and Reproductive Toxicology (DART) Studies	671-674
<i>Dogdas, Belma* (Merck); Chen, Antong (Merck); Mehta, Saurin (Merck); Shah, Tosha (Merck); Robinson, Barbara (Merck); Xue, Dahai (Merck); Gleason, Alexa (Merck); Wise, L. David (Merck); Crawford, Randolph (Merck); Pak, Irene (Merck); Cruz, Francisco (Merck); Somayajula, Sangeetha (Merck); Bagchi, Ansuman (Merck); Johnson, Colena (Merck); Mattson, Britta (Merck); Winkelmann, Chris (Merck)</i>	

FrCT3: 14:00-15:30	Salon A & B
Dictionary-Based Image Analysis (Oral Session)	
Chair: Selesnick, Ivan (<i>Polytechnic Institute of New York University</i>)	
Co-Chair: Liang, Dong (<i>Shenzhen Institutes of Advanced Technology</i>)	

14:00-14:15	FrCT3.1
Characterizing and Differentiating Task-Based and Resting State fMRI Signals via Two-Stage Dictionary Learning	675-678
<i>Zhang, Shu* (University of Georgia); LI, Xiang (University of Georgia); Lv, Jinglei (Northwestern Polytechnical University, China; The University of G); Jiang, Xi (University of Georgia); Ge, Bao (Shaanxi Normal University); Guo, Lei (Northwestern Polytechnical University); Liu, Tianming (University of Georgia)</i>	

14:15-14:30	FrCT3.2
Sparse Non-Parametric Bayesian Model for Hep-2 Cell Image Classification	679-682
<i>Ensafi, Shahab* (National University of Singapore); Lu, Shijian (Inst for Infocomm Research, A STAR); Kassim, Ashraf (National University of Singapore); Tan, Chew Lim (National University of Singapore)</i>	

14:30-14:45	FrCT3.3
Multi-Subject fMRI Connectivity Analysis using Sparse Dictionary Learning and Multiset Canonical Correlation Analysis	683-686
<i>Khalid, Muhammad Usman (National ICT Australia, Canberra, The Australian NationalUnivers); Seghouane, Abd-krim* (The University of Melbourne)</i>	

14:45-15:00 FrCT3.4
Parallel Imaging via Sparse Representation Over a Learned Dictionary 687-690
Wang, Shanshan (The University of Sydney); Peng, Xi (Shenzhen Institutes of Advanced Technology); Dong, Pei (The University of Sydney); Ying, Leslie (The State University of New York at Buffalo); Feng, Dagan (The University of Sydney); Liang, Dong (Shenzhen Institutes of Advanced Technology)*

15:00-15:15 FrCT3.5
Semi-Coupled Dictionary Learning for Deformation Prediction 691-694
Cao, Tian (University of North Carolina-Chapel Hill); Singh, Nikhil (University of Utah); Jojic, Vladimir (University of North Carolina-Chapel Hill); Niethammer, Marc (University of North Carolina at Chapel Hill)*

FrCT4: 14:00-15:30	Salon C
Imaging Cellular Processes (Oral Session)	
Chair: Rittscher, Jens (<i>University of Oxford</i>)	
Co-Chair: Zhang, Shaoting (<i>UNC Charlotte</i>)	

14:00-14:15 FrCT4.1
Detection and Estimation of Membrane Diffusion during Exocytosis in TIRFM Image Sequences 695-698
Basset, Antoine (Inria); Bouthemy, Patrick (Inria); Boulanger, Jérôme (Curie Institute/CNRS); Waharte, François (Curie Institute/CNRS); Kervrann, Charles (Inria); Salamero, Jean (UMR 144 Institut Curie CNRS)*

14:15-14:30 FrCT4.2
An Image-Based Computational Method for Characterizing Whole-Cell Scale Spatiotemporal Dynamics of Intracellular Transport 699-702
Lee, Hao-Chih (Carnegie Mellon University); Yang, Ge (Carnegie Mellon University)*

14:30-14:45 FrCT4.3
Motion Analysis of Receptors and Ligands in High Resolution Fluorescence Microscopy Images 703-706
Godinez, William (University of Heidelberg, DKFZ Heidelberg); Lympelopoulos, Konstantinos (Heidelberg University); Herten, Dirk-Peter (Heidelberg University); Rohr, Karl (University of Heidelberg, DKFZ Heidelberg)*

14:45-15:00 FrCT4.4
Mapping Complex Spatio-Temporal Models to Image Space: The Virtual Microscope 707-711
Samuylov, Denis Konstantinovich (ETH Zürich); Widmer, Lukas Andreas (ETH Zürich, and Swiss Institute of Bioinformatics); Szekely, Gabor (ETH Zurich); Paul, Grégory (ETH Zürich)*

15:00-15:15 FrCT4.5
On Proper Simulation of Chromatin Structure in Static Images as Well as in Time-Lapse Sequences in Fluorescence Microscopy 712-716
Svoboda, David (Masaryk University); Ulman, Vladimir (Masaryk University); Peterlik, Igor (Masaryk University)*

FrDT1: 16:00-17:30	Salon I & H
Image Registration I (Oral Session)	
Chair: Schnabel, Julia (<i>University of Oxford</i>)	
Co-Chair: Vercauteren, Tom (<i>University College London (UCL)</i>)	

16:00-16:15 FrDT1.1
Symmetric Block-Matching Registration for the Distortion Correction of Echo-Planar Images 717-720
Hedouin, Renaud (INRIA Rennes); Commowick, Olivier (INRIA); Taquet, Maxime (Harvard Medical School); Bannier, Elise (IRISA Visages team Rennes); Scherrer, Benoit (Children's Hospital Boston and Harvard Medical School); Warfield, Simon K. (Harvard Medical School); Barillot, Christian (IRISA (UMR CNRS 6074), INRIA, INSERM)*

16:15-16:30 FrDT1.2
Implicit Planar and In-Plane Deformable Mapping through High Order Graphs 721-724
Ferrante, Enzo (Center for Visual Computing, Ecole Centrale Paris / INRIA); Fécamp, Vivien (Centre for Visual Computing, Ecole Centrale Paris); Paragios, Nikos (Ecole Centrale de Paris/INRIA Saclay, Ile-de-France)*

16:30-16:45 FrDT1.3
Robust Rigid Registration for Non Invasive Computer Assisted Orthopedic Surgery: Preliminary Results 725-729
Haddad, Oussama (Université de Bretagne Occidentale); Leboucher, Julien (Université de Bretagne Occidentale - INSERM UMR 1101); Troccaz, Jocelyne (Univ. Joseph Fourier - CNRS UMR 5525); Stindel, Eric (Université de Bretagne Occidentale)*

16:45-17:00 FrDT1.4
Groupwise Image Registration of Multimodal Head-and-Neck Images 730-733
Guyader, Jean-Marie (Erasmus MC - University Medical Center Rotterdam); Huizinga, Wyke (Erasmus MC - University Medical Center Rotterdam); Fortunati, Valerio (Erasmus MC - University Medical Center Rotterdam); Veenland, Jifke F. (Erasmus MC - University Medical Center Rotterdam); Paulides, Margarethus M (Erasmus MC - University Medical Center Rotterdam); Niessen, Wiro (Erasmus MC, University Medical Center Rotterdam); Klein, Stefan (Erasmus MC)*

17:00-17:15 FrDT1.5
Parallel and Memory Efficient Multimodal Image Registration for Radiotherapy using Normalized Gradient Fields 734-738
König, Lars (Fraunhofer MEVIS Project Group Image Registration); Derksen, Alexander (Fraunhofer MEVIS Project Group Image Registration); Hallmann, Marc (Fraunhofer MEVIS Project Group Image Registration); Papenberg, Nils (Fraunhofer MEVIS Project Group Image Registration)*

FrDT2: 16:00-17:30 Salon G & F
Cardiac Imaging (Oral Session)
Chair: Jolly, Marie-Pierre (Siemens)
Co-Chair: Axel, Leon (NYU Medical Center)

16:00-16:15 FrDT2.1
Open-Source 4D Statistical Shape Model of the Heart for X-Ray Projection Imaging 739-742
Unberath, Mathias (Friedrich-Alexander-Universität Erlangen-Nürnberg); Maier, Andreas (Friedrich-Alexander-Universität Erlangen-Nuremberg); Fleischmann, Dominik (Stanford University); Hornegger, Joachim (Friedrich-Alexander University Erlangen-Nuremberg); Fahrig, Rebecca (Stanford)*

16:15-16:30 FrDT2.2
Inverse Problem in Electrocardiography via the Factorization Method of Boundary Value Problems 743-746
Bouyssier, Julien (Centre de Recherches INRIA Bordeaux Sud-Ouest); Zemzemi, Nejib (INRIA Bordeaux Sud-Ouest); Henry, Jacques (Inria Bordeaux Sud Ouest / Université Bordeaux 1)*

16:30-16:45 FrDT2.3
Cardiac MRI Derived Epicardial Fat Maps to Assist VT Ablation Procedures for Subjects with Implantable Devices 747-750
Zimmermann, Judith (Technical University Munich); Rashid, Shams (University of California, Los Angeles); Hu, Peng (University of California, Los Angeles); Katouzian, Amin (Technical University of Munich); Navab, Nassir (TU Munich); Ennis, Daniel (University of California, Los Angeles)*

16:45-17:00 FrDT2.4
Towards Optical Monitoring of Radiofrequency Ablation Extent for Atrial Fibrillation 751-755
Singh-Moon, Rajinder (Columbia University); Hendon, Christine (Columbia University)*

17:00-17:15 FrDT2.5
Generation of Ultra-Realistic Synthetic Echocardiographic Sequences to Facilitate Standardization of Deformation Imaging 756-759
Alessandrini, Martino (KULeuven); Heyde, Brecht (KU Leuven); Giffard-Roisin, Sophie (INRIA Sophia Antipolis); Delingette, Hervé (Inria); Sermesant, Maxime (INRIA Sophia-Antipolis); Allain, Pascal (Medisys, Philips Research); Bernard, Olivier (Université de Lyon, CREATIS; CNRS UMR5220; Inserm U1044; INSA-Ly); De Craene, Mathieu (Philips Research); D'hooge, Jan (KULeuven)*

FrDT3: 16:00-17:30	Salon A & B
Deep Learning for Biomedical Image Analysis (Oral Session)	
Chair: Niessen, Wiro (<i>Erasmus MC, University Medical Center Rotterdam</i>)	
Co-Chair: Acton, Scott (<i>University of Virginia</i>)	

16:00-16:15	FrDT3.1
Tree Re-Weighted Belief Propagation using Deep Learning Potentials for Mass Segmentation from Mammograms	760-763
<i>Dhungal, Neeraj* (The University of Adelaide); Carneiro, Gustavo (University of Adelaide); Bradley, Andrew Peter (University of Queensland)</i>	
16:15-16:30	FrDT3.2
Automatic Detection of Cerebral Microbleeds via Deep Learning based 3D Feature Representation	764-767
<i>Chen, Hao* (The Chinese University of Hong Kong); Yu, Lequan (Zhejiang University); Dou, Qi (The Chinese University of Hong Kong); Shi, Lin (The Chinese University of Hong Kong); Mok, Vincent CT (The Chinese University of Hong Kong); Heng, Pheng Ann (The Chinese University of Hong Kong)</i>	
16:30-16:45	FrDT3.3
Using Deep Learning for Robustness to Parapapillary Atrophy in Optic Disc Segmentation	768-771
<i>Srivastava, Ruchir* (Institute for Infocomm Research); Cheng, Jun (Institute for Infocomm Research, AStar); Wong, Damon (Institute for Infocomm Research); Liu, Jiang (Institute for Infocomm Research, A STAR)</i>	
16:45-17:00	FrDT3.4
Deep Learning for Automatic Cell Detection in Wide-Field Microscopy Zebrafish Images	772-776
<i>Dong, Bo* (Centre of Computational Imaging & Simulation Technologies in Bio); Shao, Ling (Department of Electronic & Electrical Engineering, The University); Da Costa, Marc Michael John (The University of Sheffield); Bandmann, Oliver (Department of Neuroscience, The University of Sheffield); Frangi, Alejandro (University of Sheffield)</i>	
17:00-17:15	FrDT3.5
Deep Learning of Tissue Specific Speckle Representations in Optical Coherence Tomography and Deeper Exploration for in Situ Histology	777-780
<i>Sheet, Debdoot* (Indian Institute of Technology Kharagpur); Karri, Sri Phani Krishna (Indian Institute of Technology Kharagpur); Katouzian, Amin (Technical University of Munich); Navab, Nassir (TU Munich); Ray, Ajoy Kumar (Indian Institute of Technology, Kharagpur); Chatterjee, Jyotirmoy (Indian Institute of Technology Kharagpur)</i>	

FrDT4: 16:00-17:30	Salon C
Computational Methods for Biological Imaging (Oral Session)	
Chair: Ronneberger, Olaf (<i>University of Freiburg</i>)	
Co-Chair: Wörz, Stefan (<i>University of Heidelberg, DKFZ Heidelberg</i>)	

16:00-16:15	FrDT4.1
Towards Quantifying the Impact of Cell Boundary Estimation on Morphometric Analysis for Phenotypic Screening	781-784
<i>Nketia, Thomas Akwesi* (University of Oxford); Noble, J Alison (University of Oxford); Rittscher, Jens (University of Oxford)</i>	
16:15-16:30	FrDT4.2
A Sliding-Window Data Aggregation Method for Super-Resolution Imaging of Live Cells	785-788
<i>Chen, Kuan-Chieh Jackie* (Carnegie Mellon University); Yu, Yiyi (Carnegie Mellon University); Kovacevic, Jelena (Carnegie Mellon University); Yang, Ge (Carnegie Mellon University)</i>	
16:30-16:45	FrDT4.3
Space-Variant Image Formation for 3D Fluorescence Microscopy using a Computationally Efficient Block-Based Model	789-792
<i>Ghosh, Sreya* (University of Memphis); Preza, Chrysanthe (University of Memphis)</i>	
16:45-17:00	FrDT4.4
Detection and Tracking of Golgi Outposts in Microscopy Data	793-796
<i>Yang, Huei-Fang* (Academia Sinica); Chen, Chu-Song (Academia Sinica); Descombes, Xavier (INRIA)</i>	

17:00-17:15	FrDT4.5
A Joint Classification and Segmentation Approach for Dendritic Spine Segmentation in 2-Photon Microscopy Images	797-800
<i>Erdil, Ertunc* (Sabanci University); Argunsah, Ali Ozgur (Champalimaud Centre for the Unknown); Tasdizen, Tolga (University of Utah); Unay, Devrim (Bahcesehir University); Cetin, Mujdat (Sabanci University)</i>	

Saturday, 18 April 2015

SaAT1: 08:30-10:00	Salon I & H
Random Forests Classification Methods (Oral Session)	
Chair: Syeda-Mahmood, Tanveer (<i>IBM Almaden Research Center</i>)	
Co-Chair: Metaxas, Dimitris (<i>Rutgers University</i>)	

08:30-08:45	SaAT1.1
Fracture Detection in X-Ray Images through Stacked Random Forests Feature Fusion	801-805
<i>Cao, Yu* (IBM Research - Almaden); Wang, Hongzhi (IBM Almaden Research Center); Moradi, Mehdi (IBM Research); Prasanna, Prasanth (IBM Research - Almaden); Syeda-Mahmood, Tanveer (IBM Almaden Research Center)</i>	

08:45-09:00	SaAT1.2
Local Problem Forests: Classifier Training for Locally Limited Sub-Problems using Spectral Clustering	806-809
<i>Maier, Oskar* (University of Lübeck); Handels, Heinz (University of Lübeck)</i>	

09:00-09:15	SaAT1.3
Automatic Parcellation of Cortical Surfaces using Random Forests	810-813
<i>Meng, Yu (the University of North Carolina at Chapel Hill); Li, Gang (University of North Carolina at Chapel Hill); Gao, Yaozong (The University of North Carolina at Chapel Hill); Shen, Dinggang* (UNC-Chapel Hill)</i>	

09:15-09:30	SaAT1.4
Right Ventricle Landmark Detection using Multiscale HOG and Random Forest Classifier	814-818
<i>Sedai, Suman* (IBM Research Australia); Roy, Pallab (IBM Research Australia); Garnavi, Rahil (IBM Research Australia)</i>	

09:30-09:45	SaAT1.5
Random Forest based Erythema Grading for Psoriasis	819-823
<i>Das Gupta, Mithun (IBM); Srinivasa, Srinidhi* (Ricoh Innovations Pvt. Ltd.); J, Madhukara (St. John's Hospital); Antiny, Meryl (St. John's Hospital)</i>	

SaAT2: 08:30-10:00	Salon G & F
Image Registration II (Oral Session)	
Chair: Pluim, Josien (<i>Eindhoven University of Technology</i>)	
Co-Chair: Rueckert, Daniel (<i>Imperial College London</i>)	

08:30-08:45	SaAT2.1
Improving Robustness for Inter-Subject Medical Image Registration using a Feature-Based Approach	824-828
<i>Svärm, Linus* (Lund University); Enqvist, Olof (Chalmers University of Technology); Kahl, Fredrik (Chalmers University of Technology); Oskarsson, Magnus (Lund University)</i>	

08:45-09:00	SaAT2.2
2d-3d Regularized Deformable B-Spline Registration: Application to the Proximal Femur	829-832
<i>Yu, Weimin (University of Bern); Zheng, Guoyan* (University of Bern)</i>	

09:00-09:15	SaAT2.3
Quasi Real-Time Sub-Space 3D Deformable Fusion	833-836
<i>Singh, Bharat* (University of Maryland, College Park); Alchatzidis, Stavros (Ecole Centrale de Paris); Paragios, Nikos (Ecole Centrale de Paris/INRIA Saclay, Ile-de-France)</i>	

09:15-09:30 SaAT2.4
Random Walker Image Registration with Inverse Consistency 837-840
Tang, Ying Wai Lisa (SFU); Andrews, Shawn (Simon Fraser University);
Hamarneh, Ghassan (Simon Fraser University)*

09:30-09:45 SaAT2.5
Unsupervised Detection of Local Errors in Image Registration 841-844
Vishnevsky, Valery (ETH Zurich); Gass, Tobias (ETH Zurich); Szekely, Gabor (ETH Zurich);
Tanner, Christine (ETH Zurich); Goksel, Orcun (ETH Zurich)*

SaAT3: 08:30-10:00 Salon A & B
Fetal Imaging (Oral Session)
Chair: Linguraru, Marius George (*Children's National Health System*)
Co-Chair: Studholme, Colin (*University of Washington*)

08:30-08:45 SaAT3.1
Robust R2* Map Estimation from Motion Scattered Slices for Fetal fMRI 845-848
Seshamani, Sharmishta (University of Washington); Blazejewska, Anna (University of Washington); Gatenby,
Chris (University of Washington); Mckown, Susan (University of Washington); Caucutt, Jason (University of
Washington); Dighe, Manjiri (University of Washington); Studholme, Colin (University of Washington)*

08:45-09:00 SaAT3.2
Adaptive Scan Strategies for Fetal MRI Imaging using Slice to Volume Techniques 849-852
Kainz, Bernhard (Imperial College London); Malamateniou, Christina (Kings College London); Ferrazzi, Giulio
(Kings College London); Murgasova, Maria (Kings College London); Egger, Jan (Graz University of
Technology); Keraudren, Kevin (Imperial College London); Rutherford, Mary (King's College London); Hajnal,
Joseph V. (King's College London); Rueckert, Daniel (Imperial College London)*

09:00-09:15 SaAT3.3
**Retrospective Correction of Motion Induced Artifacts 1H Magnetic Resonance
Spectroscopy of the Fetal Brain** 853-857
Evangelou, Iordanis (Children's National Medical Center); Noeske, Ralph (GE Healthcare);
Limperopoulos, Catherine (Children's National Medical Center, Washington DC)*

09:15-09:30 SaAT3.4
A Novel Approach to Aortic Intima-Media Thickness Quantification from Fetal Ultrasound Images 858-861
Tarroni, Giacomo (University of Padova); Visentin, Silvia (University of Padova); Cosmi, Erich (Department of
Obstetrics and Gynecology, University of Padova, V); Grisan, Enrico (University of Padova)*

09:30-09:45 SaAT3.5
Automated Scoring of Fetal Abdomen Ultrasound Scan-Planes for Biometry 862-865
Aladahalli, Chandan Kumar (GE Global Research); Shriram, K S (GE Global Research)*

SaAT4: 08:30-10:00 Salon C
Imaging of Neurons (Oral Session)
Chair: Meijering, Erik (*Erasmus MC - University Medical Center Rotterdam*)
Co-Chair: Malandain, Gregoire (*INRIA*)

08:30-08:45 SaAT4.1
Fast Algorithm for Neural Network Reconstruction 866-869
Bittner, Sean (Carnegie Mellon University); Chen, Siheng (Carnegie Mellon University);
Kovacevic, Jelena (Carnegie Mellon University)*

08:45-09:00 SaAT4.2
Neuron Crawler: An Automatic Tracing Algorithm for Very Large Neuron Images 870-874
Zhou, Zhi (Allen Institute for Brain Science); Sorensen, Staci (Allen Institute for Brain Science);
Peng, Hanchuan (Allen Institute for Brain Science)*

09:00-09:15 SaAT4.3
Three-Dimensional Neurite Tracing under Globally Varying Contrast 875-879
Gulyanon, Sarun (Indiana University-Purdue University Indianapolis); Sharifai, Nima (University of Miami); Bleykhman, Samantha (Carmel High School); Kelly, Eve (Brebeuf Jesuit Preparatory School); Kim, Michael D. (University of Miami); Chiba, Akira (University of Miami); Tsechpenakis, Gavriil (Indiana University-Purdue University Indianapolis)*

09:15-09:30 SaAT4.4
A Semi-Automatic Tool for the Connectivity Tracking of Neuronal Processes Acquired using Electron Microscopy 880-884
Rodriguez, Juan Eduardo (University of Concepcion); Tapia, Juan C (Columbia University); Cárdenas, Germán Francisco (University of Concepcion); Guevara, Pamela (University of Concepción)*

09:30-09:45 SaAT4.5
Automated Neuron Morphology Reconstruction using Fuzzy-Logic Detection and Bayesian Tracing Algorithms 885-888
Radojevic, Miroslav (Biomedical Imaging Group Rotterdam, Erasmus MC - University Medi); Smal, Ihor (Erasmus MC - University Medical Center Rotterdam); Meijering, Erik (Erasmus MC - University Medical Center Rotterdam)*

SaBT1: 11:00-12:30 Compressed Sensing MRI – Poster Session (Poster Session)	Legends
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11:00-12:30 SaBT1.1
Rapid Free-Breathing Dynamic Contrast-Enhanced MRI using Motion-Resolved Compressed Sensing 889-892
Feng, Li (New York University, School of Medicine); Sodickson, Daniel K. (New York University School of Medicine, New York, NY, United Sta); Otazo, Ricardo (New York University School of Medicine)*

11:00-12:30 SaBT1.2
Accelerated Dynamic MRI using Self Expressiveness Prior 893-896
Balachandrakaran, Arvind (University of Iowa); Jacob, Mathews (University of Iowa)*

11:00-12:30 SaBT1.3
Accelerating MR Parameter Mapping using Nonlinear Manifold Learning and Supervised Pre-Imaging 897-900
Zhou, Yihang (The State University of New York at Buffalo); Shi, Chao (University At Buffalo, SUNY); Ren, Fuquan (Faculty of Electrical and Electronic Engine, Dalian University o); Lyu, Jingyuan (The State University of New York at Buffalo); Liang, Dong (Shenzhen Institutes of Advanced Technology); Ying, Leslie (The State University of New York at Buffalo)*

11:00-12:30 SaBT1.4
Recovery of Parametric Manifold from Reduced Measurements: Application to Magnetic Resonance Parameter Mapping 901-904
Shi, Chao (University At Buffalo, SUNY); Zhou, Yihang (The State University of New York at Buffalo); Wang, Yanhua (Beijing Institute of Technology); Lyu, Jingyuan (The State University of New York at Buffalo); Liang, Dong (Shenzhen Institutes of Advanced Technology); Ying, Leslie (The State University of New York at Buffalo)*

11:00-12:30 SaBT1.5
Maximum Likelihood Reconstruction for Magnetic Resonance Fingerprinting 905-909
Zhao, Bo (University of Illinois at Urbana-Champaign); Lam, Fan (University of Illinois at Urbana Champaign); Bilgic, Berkin (Martinos Center for Biomedical Imaging); Ye, Huihui (MGH/HST Athinoula A. Martinos Center for Biomedical Imaging); Setsompop, Kawin (Harvard Medical School)*

11:00-12:30 SaBT1.6
Autocalibrated LORAKS for Fast Constrained MRI Reconstruction 910-913
Haldar, Justin (University of Southern California)*

11:00-12:30 SaBT1.7
Two Step Recovery of Jointly Sparse and Low-Rank Matrices: Theoretical Guarantees 914-917
Biswas, Sampurna (University of Iowa); Poddar, Sunrita (University of Iowa); Dasgupta, Soura (University of Iowa); Mudumbai, Raghuraman (University of Iowa); Jacob, Mathews (University of Iowa)*

11:00-12:30 SaBT1.8
Compressed Sensing with Non-Uniform Fast Fourier Transform for Radial Ultra-Short Echo Time (UTE) MRI 918-921
Yang, Xiahan (Missouri University of Science and Technology); Zheng, Yahong Rosa (Missouri University of Science and Technology); Yang, Ming (University of Missouri-Columbia); Ma, Lixin (University of Missouri-Columbia)*

11:00-12:30 SaBT1.9
Multiband Dynamic Compressed Sensing 922-925
Yoon, Huisu (KAIST); Lee, Dongwook (Korea Advanced Institute for Science and Technology); Lee, Juyoung (Korea Advanced Institute of Science and Technology); Choi, Seung Hong (Seoul National University College of Medicine); Park, Sunghong (Korea Advanced Institute for Science and Technology); Ye, Jong Chul (Korea Advanced Inst of Science & Tech)*

SaBT2: 11:00-12:30	Legends
Diffusion MR Imaging II (Poster Session)	

11:00-12:30 SaBT2.1
Rank-2 Model-Order Selection in Diffusion Tensor MRI: Information Complexity based on the Total Kullback-Leibler Divergence 926-929
Yang, Jianfei (Delft University of Technology); Poot, Dirk H.J. (Erasmus University Medical Center; Delft University of Technolog); Caan, Matthan (Academic Medical Center, University of Amsterdam); Vos, Frans (TU Delft); van Vliet, Lucas (TU Delft)*

11:00-12:30 SaBT2.2
White Matter Integrity in Traumatic Brain Injury: Effects of Permissible Fiber Turning Angle 930-933
Dennis, Emily (Imaging Genetics Center, USC Keck School of Medicine, Los Angeles); Jin, Yan (University of California, Los Angeles); Kernan, Claudia (2Dept. of Psychiatry and Biobehavioral Sciences, Semel Inst); Babikian, Talin (2Dept. of Psychiatry and Biobehavioral Sciences, Semel Inst); Mink, Richard (Harbor-UCLA Medical Center and Los Angeles BioMedical Research I); Babbitt, Christopher (Miller Children's Hospital, Long Beach, CA); Johnson, Jeffrey (LAC+USC Medical Center, Dept. of Pediatrics, Los Angeles, C); Giza, Christoper (UCLA Brain Injury Research Center, Dept of Neurosurgery and Divi); Asarnow, Robert (Dept. of Psychiatry and Biobehavioral Sciences, Semel Insti); Thompson, Paul (University of Southern California)*

11:00-12:30 SaBT2.3
Comparison of Structural Connectivity Metrics for Multimodal Brain Image Analysis 934-937
Bajammal, Mohammad (University of British Columbia); Yoldemir, Burak (The University of British Columbia); Abugharbieh, Rafeef (University of British Columbia)*

11:00-12:30 SaBT2.4
Multiscale and Multimodal Fusion of Tract-Tracing and DTI-Derived Fibers in Macaque Brains 938-942
Jing, Ke (School of Computer Science and Engineering, Nanjing University o); Zhang, Tuo (Northwestern Polytechnical University, Xi'an, China); Lu, Jianfeng (Nanjing University of Science and Technology); Chen, Hanbo (The University of Georgia, Athens, GA, USA); Guo, Lei (Northwestern Polytechnical University); Li, Longchuan (Emory University); Hu, Xiaoping (Emory University and Georgia Institute of Technology); Lv, Jinglei (Nothwestern Polytechnical University, China; The University of G); Ge, Bao (Shaanxi Normal University); Liu, Tianming (University of Georgia)*

11:00-12:30 SaBT2.5
Probabilistic Fiber Tracking using a Modified Lasso Bootstrap Method 943-946
Ye, Chuyang (Johns Hopkins University); Glaister, Jeffrey (Johns Hopkins University); Prince, Jerry (Johns Hopkins University)*

11:00-12:30 SaBT2.6
Joint Estimation of Spherical Harmonic Coefficients from Magnitude Diffusion-Weighted Images with Sparsity Constraints 947-950
Lam, Fan (University of Illinois at Urbana Champaign); Zhao, Bo (University of Illinois at Urbana-Champaign); Liang, Zhi-Pei (University of Illinois at Urbana-Champaign)*

11:00-12:30		SaBT2.7
A Novel Framework for Automatic Segmentation of Kidney from DW-MRI		951-954
<i>Shehata, Mohamed (Biolumaging Laboratory, Bioengineering Department, University of); Khalifa, Fahmi (University of Louisville); Soliman, Ahmed (University of Louisville); Elrefai, Rahaf (Biolumaging Laboratory, Bioengineering Department, University of); Abou El-Ghar, Mohamed (Radiology Department, Urology and Nephrology Center, University); Dwyer, Amy (School of Medicine Kidney Transplantation–Kidney Disease Center.); Ousep, Rosemary (School of Medicine Kidney Transplantation–Kidney Disease Center.); El-baz, Ayman* (University of Louisville)</i>		
11:00-12:30		SaBT2.8
Rotating Field Gradient (RFG) MR Offers Improved Orientational Sensitivity		955-958
<i>Ozarslan, Evren (Bogazici University); Memic, Muhammet* (Bogazici University); Avram, Alexandru Vlad (Section on Tissue Biophysics and Biomimetics, NICHD, National In); Afzali, Maryam (Sharif university of technology); Basser, Peter (NIH); Westin, Carl-Fredrik (Brigham and Women's Hospital, Harvard Medical School)</i>		
11:00-12:30		SaBT2.9
Icosahedral Gradient Encoding Scheme for an Arbitrary Number of Measurements		959-962
<i>Alipoor, Mohammad* (Chalmers University of Technology); Gu, Irene Y.H. (Chalmers University of Technology)</i>		
SaBT3: 11:00-12:30		Legends
Image Analysis for Brain Diseases III (Poster Session)		
11:00-12:30		SaBT3.1
Early Detection of Parkinson's Disease through Shape based Features From 123I-Ioflupane SPECT Imaging		963-966
<i>Bhalchandra, Noopur* (IIT Delhi); Ravindran, Prashanth (Indian Institute of Technology Delhi); Dutta Roy, Sumantra (Indian Institute of Technology Delhi); Noronha, Santosh (IIT Bombay)</i>		
11:00-12:30		SaBT3.2
Constrained Local Model with Independent Component Analysis and Kernel Density Estimation: Application to Down Syndrome Detection		967-970
<i>Zhao, Qian (Children's National Medical Center); Okada, Kazunori (San Francisco State University); Rosenbaum, Kenneth (Children's National Medical Center); Summar, Marshall (Children's National Medical Center); Linguraru, Marius George* (Children's National Health System)</i>		
11:00-12:30		SaBT3.3
Mapping Abnormal Subcortical Brain Morphometry in an Elderly HIV+ Cohort		971-975
<i>Wade, Benjamin* (University of California, Los Angeles); Valcour, Victor (University of California, San Francisco); Wendelken-Riegelhaupt, Lauren (University of California, San Francisco); Esmaeili-Firidouni, Pardis (University of California, San Francisco); Joshi, Shantanu (Ahmanson-Lovelace Brain Mapping Center, Department of Neurology.); Wang, Yalin (Arizona State University); Thompson, Paul (University of Southern California)</i>		
11:00-12:30		SaBT3.4
Automated Identification of Intracranial Depth Electrodes in Computed Tomography Data		976-979
<i>Meesters, Stephan* (Eindhoven University of Technology / Academic Center for Epilept); Ossenblok, Pauly (Epilepsy Center Kempenhaeghe); Colon, Albert (Academic Center for Epileptology Kempenhaeghe & Maastricht UMC+); Schijns, Olaf (Academic Center for Epileptology Kempenhaeghe & Maastricht UMC+.); Florack, Luc (Department of Mathematics & Computer Science, Eindhoven Universi); Boon, Paul (University Hospital Ghent, Laboratory for Clinical and Experimen); Wagner, Louis (Academic Center for Epileptology Kempenhaeghe & Maastricht UMC+); Fuster, Andrea (Department of Mathematics & Computer Science, Eindhoven Universi)</i>		
11:00-12:30		SaBT3.5
Information-Theoretic Characterization of Blood Panel Predictors for Brain Atrophy and Cognitive Decline in the Elderly		980-984
<i>Madsen, Sarah* (USC); Ver Steeg, Greg (USC Information Sciences Institute, Marina Del Rey, CA, USA); Mezher, Adam (University of Southern California); Jahanshad, Neda (Imaging Genetics Center, University of Southern California); Nir, Talia M. (UCLA); Hua, Xue (University of Southern California); Gutman, Boris (Imaging Genetics Center, Institute for Neuroimaging and Informa); Galstyan, Aram (USC Information Sciences Institute, Marina Del Rey, CA, USA); Thompson, Paul (University of Southern California)</i>		

11:00-12:30		SaBT3.6
Detecting Genetic Risk Factors for Alzheimer's Disease in Whole Genome Sequence		
Data via Lasso Screening		985-989
<i>Yang, Tao* (Arizona State University); Wang, Jie (Arizona State University); Sun, Qian (Arizona State University); Hibar, Derrek Paul (Imaging Genetics Center, Institute for Neuroimaging and Informat); Jahanshad, Neda (Imaging Genetics Center, University of Southern California); Liu, Li (Arizona State University); Wang, Yalin (Arizona State University); Zhan, Liang (University of California, Los Angeles); Thompson, Paul (University of Southern California); Ye, Jieping (Arizona State University)</i>		

SaBT4: 11:00-12:30	Legends
Histological Imaging – Poster Session (Poster Session)	

11:00-12:30		SaBT4.1
Dfdl: Discriminative Feature-Oriented Dictionary Learning for Histopathological Image Classification		990-994
<i>Vu, Tiep* (Pennsylvania State University); Seyed Mousavi, Hojjat (Pennsylvania State University); Monga, Vishal (Pennsylvania State University); Rao, Arvind (UT MDACC); Rao, Ganesh (UT MDACC)</i>		

11:00-12:30		SaBT4.2
Using Contextual Information to Classify Nuclei in Histology Images		995-998
<i>Nguyen, Kien* (Ventana Medical Systems, Inc.); Bredno, Joerg (Ventana Medical Systems, Inc.); Knowles, David (Ventana Medical Systems, Inc.)</i>		

11:00-12:30		SaBT4.3
Hierarchical Task-Driven Feature Learning for Tumor Histology		999-1003
<i>Couture, Heather D.* (University of North Carolina at Chapel Hill); Marron, J. S. (University of North Carolina at Chapel Hill); Thomas, Nancy E. (University of North Carolina at Chapel Hill); Perou, Charles M. (University of North Carolina at Chapel Hill); Niethammer, Marc (University of North Carolina at Chapel Hill)</i>		

11:00-12:30		SaBT4.4
Predictive Sparse Morphometric Context for Classification of Histology Sections		1004-1007
<i>Chang, Hang (Lawrence Berkeley National Laboratory); Parvin, Bahram* (Lawrence Berkeley National Laboratory)</i>		

11:00-12:30		SaBT4.5
Identifying Histological Concepts on Basal Cell Carcinoma Images using Nuclei based Sampling and Multi-Scale Descriptors		1008-1011
<i>Romo Bucheli, David (Universidad Nacional de Colombia); Moncayo, Ricardo (Universidad Nacional de Colombia); Cruz Roa, Angel Alfonso (Universidad Nacional de Colombia); Romero, Eduardo* (Universidad Nacional de Colombia)</i>		

11:00-12:30		SaBT4.6
Structure-Preserved Color Normalization for Histological Images		1012-1015
<i>Vahadane, Abhishek* (Technical University of Munich and Indian Institute of Technology); Peng, Tingying (Technical University of Munich); Albarqouni, Shadi (Technical University of Munich); Baust, Maximilian (Technical University of Munich); Steiger, Katja (Technical University of Munich); Schlitter, Anna Melissa (Technical University of Munich); Sethi, Amit (Indian Institute of Technology Guwahati); Esposito, Irene (Technical University of Munich); Navab, Nassir (Technische Universität München)</i>		

11:00-12:30		SaBT4.7
A Method for Generating Context-Aware Features for Object Classification and Its Application to IHC Stained Image Analysis		1016-1019
<i>Nie, Yao* (Ventana Medical Systems, Inc.); Srinivas, Chukka (Ventana Medical Systems Inc)</i>		

11:00-12:30		SaBT4.8
Curvelet-Based Classification of Prostate Cancer Histological Images of Critical Gleason Scores		1020-1023
<i>Lin, Wen-Chyi* (University of Pittsburgh); Li, Ching-Chung (University of Pittsburgh)</i>		

SaBT5: 11:00-12:30 Image Reconstruction and Inverse Methods (Poster Session)	Legends
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11:00-12:30	<p>Joint Sparsity Recovery Method for the EIT Problem to Reconstruct Anomalies 1024-1027 <i>Lee, Ok Kyun (Korea Advanced Institute of Science and Technologe); Kang, Hyeonbae (Dept. of Mathematics, Inha University); Lim, Mikyoung (Korea Advanced Institute of Science and Technology); Ye, Jong Chul* (Korea Advanced Inst of Science & Tech)</i></p>	SaBT5.1
11:00-12:30	<p>Nonnegative Matrix Factorization for Tissue Mixture Modeling with Noisy MR Magnitude Image Sequences .. 1028-1031 <i>Kim, Daeun* (University of Southern California); Haldar, Justin (University of Southern California)</i></p>	SaBT5.2
11:00-12:30	<p>Upsampling Dynamic Contrast Enhanced MRI 1032-1035 <i>Jafari-Khouzani, Kourosh* (Massachusetts General Hospital, Harvard Medical School); Gerstner, Elizabeth (Massachusetts General Hospital); Rosen, Bruce (Massachusetts General Hospital); Kalpathy-Cramer, Jayashree (Massachusetts General Hospital/Harvard Medical School)</i></p>	SaBT5.3
11:00-12:30	<p>High Resolution T1 Estimation from Multiple Low Resolution Magnetic Resonance Images 1036-1039 <i>Van Steenkiste, Gwendolyn* (University of Antwerp); Poot, Dirk H.J. (Erasmus University Medical Center; Delft University of Technoloy); Jeurissen, Ben (University of Antwerp); den Dekker, Arnold J. (University of Antwerp); Sijbers, Jan (University of Antwerp)</i></p>	SaBT5.4
11:00-12:30	<p>Joint Direction and Volume Tomographical Ab-Initio Reconstruction for Electron Microscopy 1040-1043 <i>Ben Cheikh, Bacem (ICube, CNRS); Baudrier, Etienne* (University of Strasbourg, CNRS, ICube); Frey, Gabriel (ICube, CNRS)</i></p>	SaBT5.5
11:00-12:30	<p>A Sparse Nonnegative Demixing Algorithm with Intrinsic Regularization for Multiplexed Fluorescence Tomography 1044-1047 <i>Pera, Vivian* (Northeastern University); Brooks, Dana (Northeastern University); Niedre, Mark (Northeastern University)</i></p>	SaBT5.6
11:00-12:30	<p>Orthogonal Matrix Retrieval in Cryo-Electron Microscopy 1048-1052 <i>Bhamre, Tejal* (Graduate student, Program in Applied and Computational Mathemati); Zhang, Teng (Postdoctoral Research Associate, Program in Applied and Computat); Singer, Amit (Princeton University)</i></p>	SaBT5.7
11:00-12:30	<p>A Statistical Approach to Incorporate Multiple ECG or EEG Recordings with Artifactual Variability into Inverse Solutions 1053-1056 <i>Coll-Font, Jaume* (Northeastern University); Erem, Burak (Boston Children's Hospital and Harvard Medical School); Stovicek, Petr (Charles University); Brooks, Dana (Northeastern University)</i></p>	SaBT5.8

SaBT6: 11:00-12:30 MR Imaging II (Poster Session)	Legends
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11:00-12:30	<p>Generation of Synthetic Structural Magnetic Resonance Images for Deep Learning Pre-Training 1057-1060 <i>Castro, Eduardo* (The Mind Research Network); Ulloa Cerna, Alvaro Emilio (The University of New Mexico); Plis, Sergey (Los Alamos National Laboratory); Turner, Jessica (Georgia State University); Calhoun, Vince (The Mind Research Network/University of New Mexico)</i></p>	SaBT6.1
11:00-12:30	<p>Phantom and Non Rigid Registration to Tackle Distorsions from MRI in Stereotactic Conditions: Proof of Concept and Preliminary Results 1061-1064 <i>Vermandel, Maximilien* (Université de Lille); Baert, Grégory (Inserm, U1189, ONCO-THAI, F59000, LILLE); Reyns, Nicolas (Neurosurgery Department, University Hospital Lille); Betrouni, Nacim (INSERM)</i></p>	SaBT6.2

11:00-12:30 SaBT6.3
An Efficient Auxiliary Variable Method for Quantification of Spin Density, R2* Decay and Field Inhomogeneity Maps in Magnetic Resonance Imaging 1065-1068
Hu, Chenxi (Auburn University); Reeves, Stanley (Auburn University)*

11:00-12:30 SaBT6.4
Efficient MR Inhomogeneity Correction by Regularized Entropy Minimization and Proximal Alternations 1069-1072
Zhang, Bo (Philips France); Peeters, Hans (Philips)*

11:00-12:30 SaBT6.5
Perfusion MRI Deconvolution with Delay Estimation and Non-Negativity Constraints 1073-1076
Pizzolato, Marco (Athena Project-Team, Inria Sophia Antipolis - Mediterranee); Ghosh, Aurobrata (Inria Sophia Antipolis Méditerranée); Boutelier, Timothe (Olea Medical); Deriche, Rachid (INRIA Sophia Antipolis Méditerranée)*

11:00-12:30 SaBT6.6
Effect of an Annular Sleeve of High Permittivity Material on Resonant Modes and Homogeneity of a Birdcage Coil 1077-1080
Vaidya, Manushka V. (Center for Advanced Imaging Innovation and Research (CAI2R)); Chen, Gang (New York University School of Medicine, Center for Advanced Imag); Zhang, Bei (Icahn School of Medicine at Mount Sinai, Translational and Molec); Collins, Christopher M. (New York University School of Medicine, Center for Advanced Imag); Sodickson, Daniel K. (New York University School of Medicine, New York, NY, United Sta); Lattanzi, Riccardo (New York University School of Medicine, Center for Advanced Imag)*

SaBT7: 11:00-12:30	Legends
Image Registration II – Poster Session (Poster Session)	

11:00-12:30 SaBT7.1
Structure Propagation for Deformable Image Stitching 1081-1084
Yigitsoy, Mehmet (Technische Univ München); Katouzian, Amin (Technical University of Munich); Navab, Nassir (TU Munich)*

11:00-12:30 SaBT7.2
Diffeomorphic Image Registration with Automatic Time-Step Adjustment 1085-1088
Pai, Akshay (University of Copenhagen); Klein, Stefan (Erasmus MC); Sommer, Stefan (University of Copenhagen); Darkner, Sune (University of Copenhagen); Sparring, Jon (University of copenhagen); Nielsen, Mads (University of Copenhagen, Denmark)*

11:00-12:30 SaBT7.3
Automatic Multi-Parametric MR Registration Method using Mutual Information based on Adaptive Asymmetric K-Means Binning 1089-1092
Wang, Chengjia (University of Edinburgh); Goatman, Keith (Toshiba Medical Visualization System - Europe); MacGillivray, Thomas (University Of Edinburgh); Beveridge, Erin (Toshiba Medical Visualization System - Europe); Koutraki, Yolanda G. Sourgia (BHF Centre for Cardiovascular Science, University of Edinburgh); Boardman, James P (MRC Centre for Reproductive Health, University of Edinburgh); Stirrat, Colin (BHF Centre for Cardiovascular Science, University of Edinburgh); Sparrow, Sarah (MRC Centre for Reproductive Health, University of Edinburgh); Moore, Emma (MRC Centre for Reproductive Health, University of Edinburgh); Paraky, Rozi (MRC Centre for Reproductive Health, University of Edinburgh); Alam, Shirjel (BHF Centre for Cardiovascular Science, University of Edinburgh); Dweck, Marc (BHF Centre for Cardiovascular Science, University of Edinburgh); Chin, Calvin (BHF Centre for Cardiovascular Science, University of Edinburgh); Gray, Calum (University of Edinburgh); Newby, David E (Clinical Research Imaging Centre, BHF Centre for Cardiovascular); Semple, Scott (Clinical Research Imaging Centre, BHF Centre for Cardiovascular)*

11:00-12:30 SaBT7.4
Motion Correction in Contrast-Enhanced Ultrasound Scans of Carotid Atherosclerotic Plaques 1093-1096
Stanziola, Antonio (Imperial College London); Cheung, Wing Keung (Imperial College London); Eckersley, Robert John (King's College London); Tang, Meng-Xing (Imperial College London)*

11:00-12:30 SaBT7.5
Modular Linear Iconic Matching using Higher Order Graphs 1097-1101
Fécamp, Vivien (Centre for Visual Computing, École Centrale Paris); Sotiras, Aristeidis (University of Pennsylvania); Paragios, Nikos (Ecole Centrale de Paris/INRIA Saclay, Ile-de-France)*

SaBT8: 11:00-12:30	Legends
Image Segmentation II – Poster Session (Poster Session)	

11:00-12:30 SaBT8.1
A Fast and Fully Automated Approach to Segment Optic Nerves on MRI and Its Application to Radiosurgery 1102-1105
Dolz, Jose (Aquilab); Leroy, Henri-Arthur (Neurosurgery Department, University Hospital Lille); Reyns, Nicolas (Neurosurgery Department, University Hospital Lille); Massoptier, Laurent (AQUILAB); Vermandel, Maximilien (Université de Lille)*

11:00-12:30 SaBT8.2
An Experimental Study on Combining the Auto-Context Model with Corrective Learning for Canine Leg Muscle Segmentation 1106-1109
Wang, Hongzhi (IBM Almaden Research Center); Cao, Yu (IBM Research - Almaden); Syeda-Mahmood, Tanveer (IBM Almaden Research Center)*

11:00-12:30 SaBT8.3
Level-Set Segmentation of 2D and 3D Ultrasound Data using Local Gamma Distribution Fitting Energy 1110-1113
Bui, Thanh Minh (University of Pierre and Marie Curie); Coron, Alain (UPMC Univ Paris 06 and CNRS); Mamou, Jonathan (Riverside Research); Saegusa-Beecroft, Emi (University of Hawaii and Kuakini Medical Center); Machi, Junji (University of Hawaii); Dizeux, Alexandre (University Pierre et Marie Curie); Bridal, Lori (University Pierre et Marie Curie); Feleppa, Ernest (Riverside Research)*

11:00-12:30 SaBT8.4
Automated Segmentation of the Thyroid Gland on CT using Multi-Atlas Label Fusion and Random Forest 1114-1117
Liu, Jiamin (NIH); Narayanan, Divya (NIH); Chang, Kevin (NIH); Kim, Lauren (National Institutes of Health); Turkbey, Evrim (NIH); Lu, Le (NIH); Yao, Jianhua (National Institutes of Health); Summers, Ronald (National Institutes of Health Clinical Center)*

11:00-12:30 SaBT8.5
Hierarchies and Shape-Space for PET Image Segmentation 1118-1121
Grossiord, Éloïse (Université Paris-Est); Talbot, Hugues (Paris-Est University); Passat, Nicolas (Reims University); Tervé, Pierre (KeoSys); Meignan, Michel (CHU Créteil); Najman, Laurent (ESIEE, Université Paris-Est, UMR 8049)*

11:00-12:30 SaBT8.6
Learning-Based Detection of Flow Diverters in Cerebral Images 1122-1125
Zhu, Ying Julie (Temple University)*

11:00-12:30 SaBT8.7
A Modality Synthesis Framework: Using Patch based Intensity Histogram and Weber Local Descriptor Features 1126-1129
Lu, Yongning (National University of Singapore); Sun, Ying (National University of Singapore); Liao, Rui (Siemens Corporation, Coprorate Technology); Ong, Sim Heng (National University of Singapore)*

11:00-12:30 SaBT8.8
Accurate Thigh Inter-Muscular Adipose Quantification using a Data-Driven and Sparsity-Constrained Deformable Model 1130-1134
Tan, Chaowei (Rutgers, the State University of New Jersey); Yan, Zhennan (Rutgers, The State University of New Jersey); Yang, Dong (Rutgers University); Li, Kang (Rutgers); Yu, Hui Jing (Bioclinica Inc); Engelke, Klaus (Bioclinica Inc.); Miller, Colin (BioClinical); Metaxas, Dimitris (Rutgers University)*

SaBT9: 11:00-12:30 X-Ray and CT Imaging Poster Session (Poster Session)	Legends
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11:00-12:30		SaBT9.1
	Learning Orientation Invariant Contextual Features for Nodule Detection in Lung CT Scans	1135-1138
	<i>Bai, Junjie (University of Iowa); Huang, Xiaojie* (GE GLOBAL RESEARCH); Liu, Shubao (GE GLOBAL RESEARCH); Song, Qi (General Electric); Bhagalia, Roshni (General Electric)</i>	

11:00-12:30		SaBT9.2
	Single-Click, Semi-Automatic Lung Nodule Contouring using Hierarchical Conditional Random Fields .	1139-1142
	<i>Haider, Shahid A.* (University of Waterloo); Shafiee, Mohammad Javad (University of Waterloo); Chung, Audrey (University of Waterloo); Khalvati, Farzad (University of Toronto); Oikonomou, Anastasia (Sunnybrook Health Sciences Centre, Department of Medical Imaging); Wong, Alexander (University of Waterloo); Haider, Masoom (University of Toronto)</i>	

11:00-12:30		SaBT9.3
	Automated Ventricle Detection in Computed Tomography Pulmonary Angiography	1143-1146
	<i>Rodriguez-Lopez, Sara (Biomedical Image Technologies. Universidad Politecnica de Madrid); Jimenez-Carretero, Daniel (Universidad Politécnica de Madrid NIF Q2818015F); San Jose Estepar, Raul (Laboratory of Mathematics in Imaging, Brigham and Women's Hospit); Fraile-Moreno, Eduardo (Unidad Central de Radiodiagnóstico); Kumamaru, Kanako K. (Brigham and Women's Hospital); Rybicki, Frank J. (Brigham and Women's Hospital); Ledesma-Carbayo, Maria J. (Universidad Politécnica de Madri); Gonzalez, German* (Brigham and Women's Hospital)</i>	

11:00-12:30		SaBT9.4
	Case-Adaptive Decision Rule for Detection of Clustered Microcalcifications in Mammograms	1147-1150
	<i>Sainz de Cea, Maria V.* (Illinois Institute of Technology); Yang, Yongyi (Illinois Institute of Technology)</i>	

11:00-12:30		SaBT9.5
	Automated Anatomy Detection in CT Localizer Images	1151-1154
	<i>Saalbach, Axel* (Philips Technologie GmbH, Innovative Technologies); Bergtholdt, Martin (Philips Research Europe, Hamburg); Netsch, Thomas (Philips Research Laboratories); Sénégas, Julien (Philips Research)</i>	

11:00-12:30		SaBT9.6
	NNLSF: A Fast and Informative Fitting Method for XANES Chemical Mapping Analysis	1155-1158
	<i>Yao, Shun* (Stony Brook University); Chang, Cheng (Brookhaven National Laboratory); Xu, Wei (Brookhaven National Lab); Zhou, Naiyun (State University of New York at Stony Brook); Chen-Wiegart, Yu-chen Karen (Brookhaven National Laboratory); Wang, Jiajun (Brookhaven National Lab); Wang, Jun (Brookhaven National Laboratory); Yu, Dantong (Brookhaven National Laboratory)</i>	

11:00-12:30		SaBT9.7
	Motion Artifacts in Kidney Stone Imaging using Dual-Energy Ct: A Phantom Study	
	Comparing Single-Source and Dual-Source Scanners	1159-1162
	<i>Ibrahim, El-Sayed* (University of Michigan, Ann Arbor); Pooley, Robert (Mayo clinic, Jacksonville, FL); Cernigliaro, Joseph (Mayo clinic, Jacksonville, FL); Bridges, Mellena (Mayo clinic, Jacksonville, FL); Williams, James (3Indiana University, Fort Wayne); Haley, William (Mayo clinic, Jacksonville, FL)</i>	

SaCT1: 14:00-15:30 Current Challenges and Methodological Advances in Biomedical Image Registration (Special Session)	Salon I & H
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14:00-14:15		SaCT1.1
	Fast and Efficient Image Registration based on Gradient Orientations of Minimal Uncertainty	1163-1166
	<i>Arbel, Tal* (Centre for Intelligent Machines, McGill University); De Nigris Moreno, Dante Alberto (Centre for Intelligent Machines, McGill University)</i>	

SaCT2: 14:00-15:30	Salon G & F
Diffusion MR Imaging (Oral Session)	
Chair: Westin, Carl-Fredrik (<i>Brigham and Women's Hospital, Harvard Medical School</i>)	
Co-Chair: Deriche, Rachid (<i>INRIA Sophia Antipolis-Méditerranée</i>)	

14:00-14:15	SaCT2.1
Genetic Analysis of Structural Brain Connectivity using Dicccl Models of Diffusion MRI in 522 Twins .. 1167-1171	
<i>Zhu, Dajiang* (University of Southern California); Zhan, Liang (University of California, Los Angeles); Faskowitz, Joshua (University of Southern California); Jahanshad, Neda (Imaging Genetic Center, University of Southern California); Daianu, Madelaine (University of Southern California); de Zubicaray, Greig (School of Psychology, University of Queensland, Brisbane, Aust); McMahon, Katie (Center for Advanced Imaging, Univ. of Queensland, Brisbane, Aust); Martin, Nicholas G. (Queensland Institute of Medical Research); Wright, Margaret (School of Psychology, University of Queensland, Brisbane, Aust); Thompson, Paul (University of Southern California)</i>	
14:15-14:30	SaCT2.2
MS-FRACT: Optimized Linear Transform Methods for ODF Estimation in Multi-Shell Diffusion MRI 1172-1175	
<i>Varadarajan, Divya* (University of Southern California); Haldar, Justin (University of Southern California)</i>	
14:30-14:45	SaCT2.3
Limitations of Two-Component Diffusion Models for Axon Diameter Density Estimation 1176-1179	
<i>Syeda, Warda Taqdees* (The University of Melbourne); Moore, Stephen Micheal (IBM and The University of Melbourne); Wright, David K (Florey Institute of Neuroscience and Mental Health); Tolcos, Mary (The Ritchie Centre, MIMR-PHI Institute of Medical Research); Johnston, Leigh A. (University of Melbourne)</i>	
14:45-15:00	SaCT2.4
Global Consistency Spatial Model for Fiber Orientation Distribution Estimation 1180-1183	
<i>Wu, Ye (Zhejiang University of Technology); Feng, Yuanjing* (Zhejiang University of Technology); Li, Fei (ZheJiang University of Technology); Westin, Carl-Fredrik (Brigham and Women's Hospital, Harvard Medical School)</i>	
15:00-15:15	SaCT2.5
Laplacian-Regularized MAP-MRI: Improving Axonal Caliber Estimation 1184-1187	
<i>Fick, Rutger H.J.* (INRIA); Wassermann, Demian (Harvard); Sanguinetti, Gonzalo (INRIA); Deriche, Rachid (INRIA Sophia Antipolis-Méditerranée)</i>	

SaCT3: 14:00-15:30	Salon A & B
Nuclear Imaging (Oral Session)	
Chair: Zanderigo, Francesca (<i>Columbia University</i>)	
Co-Chair: Delorenzo, Christine (<i>Stony Brook School of Medicine</i>)	

14:00-14:15	SaCT3.1
Theoretical Analysis of Lesion Detectability in Penalized Maximum-Likelihood Patlak Parametric Image Reconstruction using Dynamic PET 1188-1191	
<i>Yang, Li* (University of California Davis); Wang, Guobao (Univ. of California - Davis); Qi, Jinyi (UC Davis)</i>	
14:15-14:30	SaCT3.2
Compensation of Acquisition Variations in Respiratory-Gated SPECT with Joint Statistical Reconstruction 1192-1195	
<i>Qi, Wenyuan (Illinois Institute of Technology); Yang, Yongyi* (Illinois Institute of Technology); Wernick, Miles (Illinois Institute of Technology); Pretorius, Hendrik (University of Massachusetts Medical School); King, Michael A (University of Massachusetts Medical School)</i>	
14:30-14:45	SaCT3.3
Highly Precise Partial Volume Correction for PET Images: An Iterative Approach via Shape Consistency 1196-1199	
<i>Xu, Ziyue (National Institutes of Health); Bagci, Ulas* (University of Central Florida); Gao, Mingchen (National Institutes of Health); Mollura, Daniel J. (National Institutes of Health)</i>	
14:45-15:00	SaCT3.4
Accelerated Direct Reconstruction of PET Parametric Images using Augmented Lagrangian Optimization .. 1200-1203	
<i>Wang, Guobao* (Univ. of California - Davis); Qi, Jinyi (UC Davis)</i>	

15:00-15:15 SaCT3.5
Direct Estimation from List-Mode Data for Reversible Tracers using Graphical Modeling 1204-1207
Zhu, Wentao (University of Southern California); Guo, Ning (Massachusetts General Hospital/Harvard Medical School); Bai, Bing (University of Southern California); Conti, Peter (University of Southern California); Leahy, Richard (USC); Li, Quanzheng (Harvard Medical School, Massachusetts General Hospital)*

SaCT4: 14:00-15:30 Salon C
Segmentation for Microscopy Imaging (Oral Session)
Chair: Rohr, Karl (*University of Heidelberg, DKFZ Heidelberg*)
Co-Chair: Descombes, Xavier (*INRIA*)

14:00-14:15 SaCT4.1
Cells Detection using Segmentation Competition 1208-1211
Poulain, Emmanuelle (INRIA, 06902 Sophia Antipolis Cedex); Prigent, Sylvain (CNRS); Soubies, Emmanuel (Université de Nice Sophia Antipolis, I3S, UMR CNRS 7271); Descombes, Xavier (INRIA)*

14:15-14:30 SaCT4.2
Automated Cell Segmentation with 3D Fluorescence Microscopy Images 1212-1215
Kong, Jun (Emory University); Wang, Fusheng (Emory University); Teodoro, George (University of Brasilia); Liang, Yanhui (Emory University); Zhu, Yangyang (Emory University); Tucker-Burden, Carol (Emory University); Brat, Daniel (Emory University)*

14:30-14:45 SaCT4.3
Similarity-Based Shape Priors for 2D Spline Snakes 1216-1219
Schmitter, Daniel (EPFL); Unser, Michael (EPFL)*

14:45-15:00 SaCT4.4
Cell Segmentation and Tracking in Phase Contrast Images using Graph Cut with Asymmetric Boundary Costs 1220-1223
Bensch, Robert (University of Freiburg); Ronneberger, Olaf (University of Freiburg)*

15:00-15:15 SaCT4.5
A Probabilistic Framework for Simultaneous Segmentation and Classification of Multiple Cells in Multi-Marker Microscopy Images 1224-1227
Shenoy, Renuka (University of California, Santa Barbara); Shih, Min-Chi (University of California, Santa Barbara); Rose, Kenneth (University of California Santa Barbara)*

SaDT1: 16:00-17:30 Salon I & H
Compressed Sensing in Bioimaging (Special Session)

16:15-16:30 SaDT1.2
Compressed System Models in Multispectral Optoacoustic Tomography 1228-1231
Ntziachristos, Vasilis (Technische Universität München & Helmholtz Zentrum München); Rosenthal, Amir (Technical University of Munich)*

16:30-16:45 SaDT1.3
Image Denoising by Multiple Compressed Sensing Reconstructions 1232-1235
Meinel, William (Institut Pasteur / Telecom ParisTech); Le Montagner, Yoann (Institut Pasteur / Telecom ParisTech); Angelini, Elsa (Columbia University); Olivo-Marin, Jean-Christophe (Institut Pasteur)*

16:45-17:00 SaDT1.4
Patch based Low Rank Structured Matrix Completion for Accelerated Scanning Microscopy 1236-1239
Jin, Kyong Hwan (KAIST); Min, Junhong (KAIST); Ye, Jong Chul (Korea Advanced Inst of Science & Tech)*

SaDT2: 16:00-17:30	Salon G & F
MR Imaging and Reconstruction Methods (Oral Session)	
Chair: Jacob, Mathews (<i>University of Iowa</i>)	
Co-Chair: Warfield, Simon K. (<i>Harvard Medical School</i>)	

16:00-16:15	SaDT2.1
Reconstruction of Highly Under-Sampled Dynamic MRI using Sparse Representation of 1D Temporal Snippets	1240-1243
<i>Plenge, Esben* (Technion); Cooper, Mitchell A. (Dept. of Radiology, Weill Cornell Medical College); Prince, Martin (Weill Medical College of Cornell University); Wang, Yi (Cornell University); Spincemille, Pascal (Medical College of Cornell); Elad, Michael (Technion - Israel Institute of Technology)</i>	
16:15-16:30	SaDT2.2
A Dual-Polarity GRAPPA Kernel for the Robust Reconstruction of EPI Data	1244-1247
<i>Hoge, W Scott* (Brigham and Women's Hospital and Harvard Medical School); Polimeni, Jonathan (Harvard Medical School; Massachusetts General Hospital)</i>	
16:30-16:45	SaDT2.3
Super-Resolution MRI using Finite Rate of Innovation Curves	1248-1251
<i>Ongie, Greg* (University of Iowa); Jacob, Mathews (University of Iowa)</i>	
16:45-17:00	SaDT2.4
Accelerate Single-Shot Data Acquisitions using Compressed Sensing and FRONSAC Imaging	1252-1255
<i>Wang, Haifeng* (Yale University); Constable, R Todd (Yale University); Galiana, Gigi (Yale University)</i>	
17:00-17:15	SaDT2.5
Vectorial Non-Local Total Variation Regularization for Calibration-Free Parallel MRI Reconstruction	1256-1259
<i>Lefkimiatis, Stamatios* (University of California, Los Angeles); Saucedo, Andres (University of California, Los Angeles); Osher, Stanley (University of California, Los Angeles); Sung, Kyunghyun (University of California, Los Angeles)</i>	

SaDT3: 16:00-17:30	Salon A & B
Brain Shape Analysis (Oral Session)	
Chair: Ourselin, Sebastien (<i>University College London</i>)	
Co-Chair: Gerig, Guido (<i>University of Utah</i>)	

16:00-16:15	SaDT3.1
Model-Driven Parameterization of Fetal Cortical Surfaces	1260-1263
<i>Auzias, Guillaume (UMR CNRS 6168); de Guio, Francois (Inserm); Pepe, Antonietta (CNRS, LSIS UMR 7296); Rousseau, François (ICube, Université de Strasbourg, CNRS); Mangin, Jean-François (CEA I2BM NeuroSpin); Girard, Nadine (CRMBM UMR 7339, Aix Marseille Université, CNRS and APHM, Hôpital); Lefevre, Julien* (Laboratoire des Sciences de l'Information et des Systèmes); Coulon, Olivier (Aix-Marseille University)</i>	
16:15-16:30	SaDT3.2
Clinical Subthalamic Nucleus Prediction from High-Field Brain MRI	1264-1267
<i>Kim, Jinyoung* (Duke University, Surgical Information Sciences, Inc); Duchin, Yuval (Center for Magnetic Resonance Research, University of Minnesota.); Sapiro, Guillermo (Duke University, Surgical Information Sciences, Inc); Vitek, Jerrold (University of Minnesota); Harel, Noam (Center for Magnetic Resonance Research, University of Minnesota.)</i>	
16:30-16:45	SaDT3.3
Quasi-Isometric Length Parameterization of Cortical Sulci: Application to Handedness and the Central Sulcus Morphology	1268-1271
<i>Coulon, Olivier* (Aix-Marseille University); Lefevre, Julien (Laboratoire des Sciences de l'Information et des Systèmes); Klöppel, Stefan (University Medical Center Freiburg); Siebner, Hartwig R. (Hvidovre Hospital, Danish Research Center for Magnetic Resonance); Mangin, Jean-François (CEA I2BM NeuroSpin)</i>	

16:45-17:00 SaDT3.4
Quantifying Gyrfication using Laplace Beltrami Eigenfunction Level-Sets 1272-1275
*Shishegar, Rosita** (The University of Melbourne, NICTA Victoria Research Laboratory,); *Manton, Jonathan* (The University of Melbourne); *Britto, Joanne M.* (Florey Institute of Neuroscience and Mental Health); *Walker, David W.* (Monash Institute of Medical Research, The Ritchie Centre, Monash); *Johnston, Leigh A.* (University of Melbourne)

17:00-17:15 SaDT3.5
Fast Linear Geodesic Shape Regression using Coupled LogDemons Registration 1276-1279
*Sun, Zhuo** (Leiden University Medical Center); *Lelieveldt, Boudewijn* (Leiden University Medical Center); *Staring, Marius* (LUMC)

SaDT4: 16:00-17:30	Salon C
Histological Imaging (Oral Session)	
Chair: Liebling, Michael (<i>Idiap Research Institute and UC Santa Barbara</i>)	
Co-Chair: Muñoz-Barrutia, Arrate (<i>Universidad Carlos III de Madrid</i>)	

16:00-16:15 SaDT4.1
A Multi-Path Approach to Histology Volume Reconstruction 1280-1283
*Pichat, Jonas** (University College London); *Modat, Marc* (University College London); *Tarek, Yousry* (University College London); *Ourselin, Sebastien* (University College London)

16:15-16:30 SaDT4.2
Nuclei Segmentation via Sparsity Constrained Convolutional Regression 1284-1287
Zhou, Yin (University of Delaware); *Chang, Hang* (Lawrence Berkeley National Laboratory); *Barner, Kenneth E.* (University of Delaware); *Parvin, Bahram** (Lawrence Berkeley National Laboratory)

16:30-16:45 SaDT4.3
Fusing Heterogeneous Features for the Image-Guided Diagnosis of Intraductal Breast Lesions 1288-1291
Zhang, Xiaofan (UNC Charlotte); *Dou, Hang* (The University of Iowa); *Ju, Tao* (Washington University in St. Louis); *Zhang, Shaoting** (UNC Charlotte)

16:45-17:00 SaDT4.4
Tumor Localization in Tissue Microarrays using Rotation Invariant Superpixel Pyramids 1292-1295
*Akbar, Shazia** (University of Dundee); *Jordan, Lee* (NHS Tayside/University of Dundee); *Thompson, Alastair* (Department of Surgical Oncology, MD Anderson Cancer Center); *McKenna, Stephen* (University of Dundee)

17:00-17:15 SaDT4.5
Cell Segmentation and Classification by Hierarchical Supervised Shape Ranking 1296-1299
*Santamaria, Alberto** (GE Global Research); *Rittscher, Jens* (University of Oxford); *Gerdes, Michael* (GE Global Research); *Padfield, Dirk* (Amazon)

Sunday, 19 April 2015

SuAT1: 08:15-09:50	Legends
Cardiovascular Imaging (Poster Session)	

08:15-09:50 SuAT1.1
Component-Composition based Heart Isolation for 3D Volume Visualization of Coronary Arteries 1300-1303
Chen, Mingqing (Siemens Corporate Technology); *Zhong, Hua* (Siemens Corporate Technology); *Zheng, Yefeng** (Siemens Corporate Research); *Funka-Lea, Gareth* (Siemens Corp. Research)

08:15-09:50 SuAT1.2
Anatomic-Landmark Detection using Graphical Context Modelling 1304-1307
*Wang, Lichao** (Technical University Munich); *Belagiannis, Vasileios* (Technische Universität München); *Marr, Carsten* (Helmholtz Zentrum Muenchen); *Theis, Fabian* (Max Planck Institute for Dynamics and Self-Organization); *Yang, Guang-Zhong* (Imperial College London); *Navab, Nassir* (TU Munich)

08:15-09:50	SuAT1.3
Automatic Detection of Cardiac Aneurysms of Left Ventricle in 2D Echocardiography	1308-1311
<i>Mahmood, Raziuddin (Monta Vista High School); Syeda-Mahmood, Tanveer* (IBM Almaden Research Center)</i>	
08:15-09:50	SuAT1.4
Joint Segmentation and Groupwise Registration of Cardiac DCE MRI using Sparse Data Representations ...	1312-1315
<i>Mahapatra, Dwarikanath* (ETH Zurich); Li, Zhang (TU Delft); Schueffler, peter (ETH Zurich); Vos, Frans (TU Delft); Buhmann, Joachim (ETH Zurich)</i>	
08:15-09:50	SuAT1.5
Evaluation of Myocardial Strain using Bandpass Optical Flow: Comparison to Harmonic Phase Analysis	1316-1319
<i>Hassanein, Azza (Helwan University); Khalifa, Ayman* (Helwan University); Ibrahim, El-Sayed (University of Michigan, Ann Arbor)</i>	
08:15-09:50	SuAT1.6
Segmentation of the Right Ventricle in MR Images using Dual Active Shape Model in the Bookstein Coordinates	1320-1323
<i>El-Rewaidy, Hossam* (Cairo University); Fahmy, Ahmed S. (Cairo University)</i>	
08:15-09:50	SuAT1.7
Towards an IVUS-Driven System for Endovascular Navigation	1324-1327
<i>Karlas, Angelos (Imperial College London); Lee, Su-Lin* (Imperial College London)</i>	
08:15-09:50	SuAT1.8
In Vivo Deformation of Stented Coronary Vessel Centerline with Cardiac Motion: Implications for Angiography-Oct Fusion	1328-1331
<i>Kunio, Mie* (Massachusetts Institute of Technology); O'Brien, Caroline (Institute of Medical Engineering and Science, Massachusetts Inst); Lopes, Augusto (Medical Engineering and Science, Massachusetts Institute of Tech); Edelman, Elazer (Institute for Medical Engineering and Science, Massachusetts Ins)</i>	
08:15-09:50	SuAT1.9
Automated Measurement of Arterial Input Function in First-Pass Myocardial Perfusion Magnetic Resonance Images using Independent Component Analysis	1332-1335
<i>Jacobs, Matthew* (Dept. of Electrical Engineering and Computer Science, Catholic U); Gorbachev, Mikhail (National Heart Lung and Blood Institute, National Institutes of); Benovoy, Mitchel (National Institutes of Health); Chang, Lin-Ching (EECS, The Catholic University of America); Arai, Andrew E. (National Heart, Lung and Blood Institute, National Institute of); Hsu, Li-Yueh (NHLBI, National Institutes of Health)</i>	

SuAT2: 08:15-09:50	Legends
Functional MRI (Poster Session)	

08:15-09:50	SuAT2.1
A New Hierarchical Brain Parcellation Method based on Discrete Morse Theory for Functional MRI Data ..	1336-1339
<i>Dias, Afonso (Institute for Systems and Robotics and Department of Bioengineer); Bianciardi, Marta (Department of Radiology, A.A. Martinos Center for Biomedical Ima); Nunes, Sandro (Institute for Systems and Robotics and Department of Bioengineer); Abreu, Rodolfo (Instituto Superior Técnico, Universidade de Lisboa); Rodrigues, Juliana (Institute for Systems and Robotics and Department of Bioengineer); Silveira, L. Miguel (INESC-ID and Department of Electrical and Computer Engineering.); Wald, Lawrence L. (A. A. Martinos Center for Biomedical Imaging, Dept. of Radiology); Figueiredo, Patricia* (Instituto Superior Técnico, Universidade de Lisboa)</i>	
08:15-09:50	SuAT2.2
Improved Functional Cortical Parcellation using a Neighborhood-Information-Embedded Affinity Matrix ..	1340-1343
<i>Wang, Chendi* (The University of British Columbia); Yoldemir, Burak (The University of British Columbia); Abugharbieh, Rafeef (University of British Columbia)</i>	
08:15-09:50	SuAT2.3
R-Clustering Technique for Initialization of Factor Analysis of Dynamic Pet Images	1344-1347
<i>Mitra, Debasis* (Florida Institute of Technology); Boutchko, Rostyslav (Lawrence Berkeley National Laboratory); Li, Bo (Florida Institute of Technology); Jagust, William (University of California, Berkeley); Gullberg, Grant (Lawrence Berkeley National Laboratory)</i>	

08:15-09:50		SuAT2.4
Physiological Models Comparison for the Analysis of ASL fMRI Data		1348-1351
<i>Frau-Pascual, Aina* (INRIA); Forbes, Florence (INRIA- Jean Kuntzman Laboratory , Grenoble university); Ciuciu, Philippe (CEA)</i>		
08:15-09:50		SuAT2.5
Basal Ganglia Functional Parcellation into Specific and Overlapping Territories with Resting State F-MRI		1352-1355
<i>Philippe, Anne-Charlotte* (ICM-Cenir); Berroir, Pierre (ICM-Cenir); Bardinet, Eric (CNRS); Vidailhet, Marie (ICM); Lehericy, Stéphane (ICM-Cenir)</i>		
08:15-09:50		SuAT2.6
Brain Activity: Conditional Dissimilarity and Persistent Homology		1356-1359
<i>Cassidy, Ben* (The University of New South Wales); Rae, Caroline (Neuroscience Research Australia, The University of New South Wal); Solo, Victor (University of New South Wales)</i>		
08:15-09:50		SuAT2.7
Signal Sampling for Efficient Sparse Representation of Resting State fMRI Data		1360-1363
<i>Ge, Bao* (Shaanxi Normal University); Wang, Jin (University Of Georgia); Lv, Jinglei (Northwestern Polytechnical University, China; The University of G); Zhang, Shu (University of Georgia); Zhao, Shijie (Northwestern Polytechnical University); Zhao, Qinghua (Nanjing University of Science and Technology); Zhang, Wei (University of Georgia); Li, Xiang (University of Georgia); Jiang, Xi (University of Georgia); Han, Junwei (Northwestern Polytechnical University); Guo, Lei (Northwestern Polytechnical University); Liu, Tianming (University of Georgia)</i>		
08:15-09:50		SuAT2.8
Correcting Inhomogeneity-Induced Distortion in fMRI using Non-Rigid Registration		1364-1367
<i>Chambers, Micah* (Laboratory of Neuro Imaging, Department of Neurology, UCLA Schoo); Bhushan, Chitresh (University of Southern California); Haldar, Justin (University of Southern California); Leahy, Richard (USC); Shattuck, David (UCLA)</i>		
08:15-09:50		SuAT2.9
Detection of Genetic Factors Associated with Multiple Correlated Imaging Phenotypes by a Sparse Regression Model		1368-1371
<i>Lin, Dongdong (Tulane University); Li, Jingyao (Tulane University); Calhoun, Vince (The Mind Research Network/University of New Mexico); Wang, Yu-Ping* (Tulane University)</i>		
08:15-09:50		SuAT2.10
Optimal Signal Recovery from Interleaved fMRI Data		1372-1375
<i>Parker, David* (Columbia University); Gerraty, Raphael (Columbia University); Razlighi, Qolamreza (Department of Neurology, Columbia University.)</i>		
08:15-09:50		SuAT2.11
Empirically Investigating the Statistical Validity of SPM, FSL and AFNI for Single Subject fMRI Analysis		1376-1380
<i>Eklund, Anders* (Linköping university); Nichols, Thomas (University of Warwick); Andersson, Mats (Linköping university); Knutsson, Hans (Linköping university)</i>		

SuAT3: 08:15-09:50	Legends
Anatomical Modeling (Poster Session)	

08:15-09:50		SuAT3.1
4D Patient Specific Model of Quadriceps Muscles using Static and Cine MRI Images		1381-1384
<i>García, David* (Geneva University Hospitals, Division of Nuclear Medicine.); Trombella, Sara (Geneva University Hospitals, Division of Nuclear Medicine); Delattre, Bénédicte M.A. (Geneva University Hospitals, Radiology Department); Ratib, Osman (Geneva University Hospitals, Division of Nuclear Medicine.)</i>		
08:15-09:50		SuAT3.2
A 3D Dynamic Biomechanical Swallowing Model for Training and Diagnosis of Dysphagia		1385-1388
<i>Farazi, Moshir Rahman* (University of British Columbia); Martin-Harris, Bonnie (Medical University of South Carolina); M. Harandi, Negar (University of British Columbia); Fels, Sidney (The University of British Columbia); Abugharbieh, Rafeef (University of British Columbia)</i>		

08:15-09:50 SuAT3.3
Subject-Specific Biomechanical Modelling of the Oropharynx with Application to Speech Production ... 1389-1392
M. Harandi, Negar (University of British Columbia); Woo, Jonghye (Massachusetts General Hospital / Harvard Medical School); Farazi, Md Moshir Rahman (University of British Columbia); Stavness, Ian (The University of British Columbia); Stone, Maureen (University of Maryland School of Dentistry); Fels, Sidney (The University of British Columbia); Abugharbieh, Rafeef (University of British Columbia)*

08:15-09:50 SuAT3.4
A Robust Comparison Approach of Velocity Data between MRI and CFD based on Divergence-Free Space Projection 1393-1397
Koltukluoglu, Taha Sabri (Computer Vision Laboratory, Swiss Federal Institute of Technology); Hirsch, Sven (ETH Zurich); Binter, Christian (University and ETH Zurich); Kozerke, Sebastian (University and ETH Zurich); Szekely, Gabor (ETH Zurich); Laadhari, Aymen (Computer Vision Laboratory, Swiss Federal Institute of Technology)*

08:15-09:50 SuAT3.5
Virtual Cochlear Electrode Insertion via Parallel Transport Frame 1398-1401
Duchateau, Nicolas (INRIA Sophia Antipolis); Mangado, Nerea (Universitat Pompeu Fabra); Ceresa, Mario (Universitat Pompeu Fabra); Mistrik, Pavel (Medel); Vera, Sergio (Alma IT Systems / Computer Vision Center, Universitat Autònoma d); Gonzalez Ballester, Miguel Angel (Universitat Pompeu Fabra)*

08:15-09:50 SuAT3.6
Medial Demons Registration Localizes the Degree of Genetic Influence Over Subcortical Shape Variability: An N= 1480 Meta-Analysis 1402-1406
Gutman, Boris (Imaging Genetics Center, Institute for Neuroimaging and Informa); Jahanshad, Neda (Imaging Genetic Center, University of Southern California); Ching, Christopher R. K. (UCLA); Wang, Yalin (Arizona State University); Kochunov, Peter (3. Maryland Psychiatric Research Center, Department of Psychiatry); Nichols, Thomas (University of Warwick); Thompson, Paul (University of Southern California)*

SuAT4: 08:15-09:50	Legends
Optical Imaging (Poster Session)	

08:15-09:50 SuAT4.1
Skin Lesion Matching using Jacobian based Descriptors for Topology Preservation 1407-1410
Mirzaalian, Hengameh (sfu); Hamarneh, Ghassan (Simon Fraser University); Lee, Tim (BC Cancer Agency)*

08:15-09:50 SuAT4.2
Hair Region Localization with Optical Imaging for Guided Laser Hair Removal 1411-1414
Avsar, Murat (TOBB University of Economics and Technology); Yetik, Imam Samil (TOBB University of Economics and Technology)*

08:15-09:50 SuAT4.3
Simulation of Trans-Nasal Endoscopy of the Middle Ear for Visualization of Cholesteatoma 1415-1418
Zhang, Dongqing (Vanderbilt University); Bennett, Marc (Vanderbilt University); Labadie, Robert (Vanderbilt University); Noble, Jack (Vanderbilt University)*

08:15-09:50 SuAT4.4
Ray Interpolation for Generic Triangulation based on a Galvanometric Laser Scanning System 1419-1422
Wagner, Benjamin (University of Luebeck); Stueber, Patrick (University of Luebeck); Wissel, Tobias (University of Luebeck); Bruder, Ralf (University of Luebeck); Schweikard, Achim (University of Luebeck, Germany); Ernst, Floris (University of Luebeck)*

SuAT5: 08:15-09:50	Legends
PET-CT and PET-MR Imaging (Poster Session)	

08:15-09:50 SuAT5.1
PET Point Spread Function Modeling and Image Deblurring using a PET/MRI Joint Entropy Prior 1423-1426
Dutta, Joyita (Harvard Medical School, Massachusetts General Hospital); El Fakhri, Georges (Harvard Medical School, Massachusetts General Hospital); Zhu, Xuping (Harvard Medical School, Massachusetts General Hospital); Li, Quanzheng (Harvard Medical School, Massachusetts General Hospital)*

08:15-09:50 SuAT5.2
Study of Rat Skeletal Muscle Activation by PET/CT and [11C]acetate 1427-1430
Trombella, Sara (Geneva University Hospitals, Division of Nuclear Medicine); García, David (Geneva University Hospitals, Division of Nuclear Medicine.); Colin, Didier (University Hospitals of Geneva); Germain, Stéphane (University of Geneva and the University hospital); Seimbille, Yann (University of Geneva and the University hospital); Ratib, Osman (Geneva University Hospitals, Division of Nuclear Medicine.)*

08:15-09:50 SuAT5.3
Evaluation of Several Multi-Atlas Methods for Pseudo-CT Generation in Brain MRI-PET Attenuation Correction 1431-1434
Merida, Ines (Université de Lyon 1, INSERM, CNRS, Lyon Neuroscience Research C); Costes, Nicolas (CERMEP-Imagerie du vivant, Lyon, France); Heckemann, Rolf A. (MedTech West at Gothenburg University); Drzezga, Alexander (Dept of Nuclear Medicine, Technische Universität München.); Förster, Stefan (Dept of Nuclear Medicine, Technische Universität München.); Hammers, Alexander (Neurodis Foundation)*

08:15-09:50 SuAT5.4
Automated Thresholded Region Classification using a Robust Feature Selection Method for PET-CT 1435-1438
Bi, Lei (University of Sydney); Kim, Jinman (University of Sydney); Wen, Lingfeng (Royal Prince Alfred Hospital); Feng, Dagan (The University of Sydney); Fulham, Michael (Royal Prince Alfred Hospital)*

SuAT6: 08:15-09:50 Biological Imaging Segmentation II (Poster Session)	Legends
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08:15-09:50 SuAT6.1
Automatic Core Segmentation and Registration for Fast Tissue Microarray De-Arraying 1439-1442
Nguyen, Hoai-Nam (Inria Rennes); Kervrann, Charles (Inria); Cauchois, Cyril (Innopsys); Paveau, Vincent (Innopsys)*

08:15-09:50 SuAT6.2
Unsupervised Shape Prior Modeling for Cell Segmentation in Neuroendocrine Tumor 1443-1446
Xing, Fuyong (University of FLorida); Yang, Lin (University of Florida)*

08:15-09:50 SuAT6.3
Automated Cell Segmentation in Phase-Contrast Images based on Classification and Region Growing . 1447-1451
Stoklasa, Roman (Masaryk university); Balek, Lukas (Masaryk University); Krejci, Pavel (Masaryk University); Matula, Petr (Masaryk University)*

08:15-09:50 SuAT6.4
2D Hidden Markov Model with Spatially Adaptive State-Space for Tracing Many Cells in Image Sequence 1452-1456
Shih, Min-Chi (University of California, Santa Barbara); Shenoy, Renuka (University of California, Santa Barbara); Rose, Kenneth (University of California Santa Barbara)*

08:15-09:50 SuAT6.5
Deconvolution Regularized using Fuzzy C-Means Algorithm for Biomedical Image Deblurring and Segmentation 1457-1461
Lelandais, Benoit (CEA, I2BM, MIRCen - CNRS URA2210, LMN - Université Paris Sud); Ducongé, Frédéric (CEA, I2BM, MIRCen - CNRS URA2210, LMN - Université Paris Sud)*

08:15-09:50 SuAT6.6
Probabilistic Edge Detection in 3D Optical Microscopy Images of Tissue Samples 1462-1465
Nandy, Kaustav (Leidos Biomedical Research Inc, National Cancer Institute); Gudla, Prabhakar R (National Cancer Institute-Frederick/SAIC-Frederick, Inc.); Chellappa, Rama (University of Maryland, College Park); Lockett, Stephen (Frederick National Laboratory for Cancer Research)*

08:15-09:50		SuAT7.1
	In Vitro Imaging of Kidney Stones using Ultra-Short Echo-Time Magnetic Resonance	1466-1469
	<i>Ibrahim, El-Sayed* (University of Michigan, Ann Arbor); Pooley, Robert (Mayo clinic, Jacksonville, FL); Cernigliaro, Joseph (Mayo clinic, Jacksonville, FL); Bridges, Mellena (Mayo clinic, Jacksonville, FL); Giesbrandt, Jamie (Mayo Clinic); Williams, James (3Indiana University, Fort Wayne); Haley, William (Mayo clinic, Jacksonville, FL)</i>	
08:15-09:50		SuAT7.2
	Variable Density Sampling based on Physically Plausible Gradient Waveform. Application to 3D MRI Angiography	1470-1473
	<i>Chauffert, Nicolas* (CEA/NeuroSpin & inria Parietal Team); Weiss, Pierre (ITAV, UMS 3039); Boucher, Marianne (CEA / NeuroSpin); Mériaux, Sébastien (CEA / NeuroSpin); Ciuciu, Philippe (CEA)</i>	
08:15-09:50		SuAT7.3
	Free-Breathing Perfusion MRI using Multislice PCASL	1474-1477
	<i>Song, Hao (University of Pittsburgh); Liu, Wenyang (University of California, Los Angeles); Ruan, Dan (University of California Los Angeles); Pohmann, Rolf (Max-Planck-Institute for Biological Cybernetics); Stenger, V. Andrew (University of Hawaii); Fernandez Seara, Maria A. (University of Navarra); Jung, Sungkyu (University of Pittsburgh); Gach, H Michael* (University of Pittsburgh)</i>	
08:15-09:50		SuAT7.4
	Blind Estimation of Spatially Variant Noise in Grappa MRI	1478-1481
	<i>Aja-Fernandez, Santiago* (Universidad de Valladolid); Vegas-Sanchez-Ferrero, Gonzalo (Universidad de Valladolid)</i>	
08:15-09:50		SuAT7.5
	Spectral Estimation for Magnetic Resonance Spectroscopic Imaging with Spatial Sparsity Constraints	1482-1485
	<i>Ning, Qiang* (University of Illinois at Urbana-Champaign); Ma, Chao (University of Illinois at Urbana-Champaign); Liang, Zhi-Pei (University of Illinois at Urbana-Champaign)</i>	
08:15-09:50		SuAT7.6
	Quality Optimized Medical Image Steganography based on Edge Detection and Hamming Code	1486-1489
	<i>Al-Dmour, Hayat* (University of Technology, Sydney); Al-Ani, Ahmed (University of Technology, Sydney)</i>	
08:15-09:50		SuAT7.7
	Flexible Multichannel Transcranial Magnetic Stimulation Coil Array	1490-1493
	<i>Li, Jiangtao (School of Electrical Engineering, Xi'an Jiaotong University); Liang, Zheng (Xi'an Jiaotong University); Jiang, Weihua* (Xi'an Jiaotong University); Zhao, Zhijie (Xi'an Jiaotong University); Li, Jianhao (Xi'an Jiaotong University, China)</i>	

08:15-09:50		SuAT8.1
	Automated Segmentation of Intraretinal Cystoid Macular Edema for Retinal 3D OCT Images with Macular Hole	1494-1497
	<i>Zhang, Li* (Soochow University); Zhu, Weifang (Soochow University); Shi, Fei (Soochow University); Chen, Haoyu (Joint Shantou International Eye Center); Chen, XinJian (Soochow University)</i>	
08:15-09:50		SuAT8.2
	A GMM-Based Feature Extraction Technique for the Automated Diagnosis of Retinopathy of Prematurity	1498-1501
	<i>Bolón-Canedo, Verónica* (University of A Coruña); Ataer-Cansizoglu, Esra (Northeastern University); Erdogmus, Deniz (Northeastern University); Kalpathy-Cramer, Jayashree (Oregon Health & Science University); Chiang, Michael F. (Oregon Health & Science University)</i>	

08:15-09:50 SuAT8.3
Analysis of Shape Assumptions in 3D Reconstruction of Retina from Multiple Fundus Images 1502-1505
Ataer-Cansizoglu, Esra (Northeastern University); Taguchi, Yuichi (Mitsubishi Electric Research Laboratories (MERL)); Kalpathy-Cramer, Jayashree (Oregon Health & Science University); Chiang, Michael F. (Oregon Health & Science University); Erdogmus, Deniz (Northeastern University)*

08:15-09:50 SuAT8.4
An Assistive Annotation System for Retinal Images 1506-1509
Ujjwal, Ujjwal (International Institute of Information Technology - Hyderabad); Chakravarty, Arunava (International Institute of Information Technology - Hyderabad); Sivaswamy, Jayanthi (International Institute of Information Technology-Hyderabad)*

08:15-09:50 SuAT8.5
A Robust and Reliable Quantification Method for Focal Arteriolar Narrowing in Color Retinal Image 1510-1513
Roy, Pallab Kanti (The University of Melbourne); Hussain, Md Akter (The University of Melbourne); Bhuiyan, Alauddin (Commonwealth Scientific and Industrial Research Organization); Kawasaki, Ryo (Royal Victorian Eye and Ear Hospital, University of Melbourne); Kotagiri, Ramamohanarao (The University of Melbourne)*

SuAT9: 08:15-09:50 Shape Modeling (Poster Session)	Legends
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08:15-09:50 SuAT9.1
Mapping Cortical Shape Differences using a Searchlight Approach based on Classification of Sulcal Pit Graphs 1514-1517
Takerkart, Sylvain (CNRS, France); Auzias, Guillaume (UMR CNRS 6168); Brun, Lucile (CNRS UMR 7289); Coulon, Olivier (Aix-Marseille University)*

08:15-09:50 SuAT9.2
Corpus Callosum Thickness Estimation using Elastic Shape Matching 1518-1521
Ayers, Brandon (UCLA); Luders, Eileen (UCLA); Cherbuin, Nicolas (ANU); Joshi, Shantanu (Ahmanson-Lovelace Brain Mapping Center, Department of Neurology,)*

08:15-09:50 SuAT9.3
Voronoi-Based Analysis of Bone Cell Network from Synchrotron Radiation Micro-CT Images 1522-1525
Dong, Pei (CREATIS, CNRS UMR 5220, Inserm 1044, INSA of Lyon); Valette, Sebastien (CREATIS, CNRS UMR 5220, Inserm 1044, INSA of Lyon); Zuluaga, Maria A. (University College of London); Kazakia, Galateia J. (University of California, San Francisco); Peyrin, Françoise (CNRS UMR 5220, INSERM U1044, INSA Lyon, Université de Lyon)*

08:15-09:50 SuAT9.4
A Random Polygons Model of Glandular Structures in Colon Histology Images 1526-1529
Sirinukunwattana, Korsuk (University of Warwick); Snead, David (Department of Histopathology, University Hospital of Coventry an); Rajpoot, Nasir (Qatar University (Qatar) & University of Warwick)*

08:15-09:50 SuAT9.5
Automatic Anatomical Shape Correspondence and Alignment using Mesh Features 1530-1534
Darom, Tal (Bar Ilan University); Gur, Yaniv (IBM Almaden Research Center); Hajaj, Chen (Bar Ilan University); Yosi, Keller (Bar Ilan University)*

08:15-09:50 SuAT9.6
Disjunctive Normal Shape Models 1535-1539
Ramesh, Nisha (University of Utah); Mesadi, Fitsum (University of Utah); Cetin, Mujdat (Sabanci University); Tasdizen, Tolga (University of Utah)*

08:15-09:50 SuAT9.7
3D Segmentation of Vessels by Incremental Implicit Polynomial Fitting and Convex Optimization 1540-1543
Biesdorf, Andreas (University of Heidelberg, DKFZ Heidelberg); Wörz, Stefan (University of Heidelberg, DKFZ Heidelberg); von Tengg-Kobligk, Hendrik (Inselspital, University Hospital Bern); Rohr, Karl (University of Heidelberg, DKFZ Heidelberg); Schnörr, Christoph (University of Heidelberg, Image and Pattern Analysis Group)*

SuBT1: 11:15-12:45 Salon I & H
Graphical Models for Biomedical Image Analysis (Special Session)

- 11:15-11:30 SuBT1.1
Learning to Detect and Track Cells for Quantitative Analysis of Time-Lapse Microscopic Image Sequences 1544-1547
Kostelec, Pedro Damian (Imperial College London); Carlin, Leo M. (Imperial College London); Glocker, Ben (Imperial College London)*
- 11:30-11:45 SuBT1.2
Multi-Resolution Statistical Analysis on Graph Structured Data in Neuroimaging 1548-1551
Kim, Won Hwa (University of Wisconsin - Madison); Singh, Vikas (University of Wisconsin-Madison); Chung, Moo K. (University of Wisconsin-Madison); Adluru, Nagesh (University of Wisconsin-Madison); Bendlin, Barbara (University of Wisconsin - Madison); Johnson, Sterling C. (University of Wisconsin - Madison)*
- 11:45-12:00 SuBT1.3
Graph Models of Spread of Brain Diseases 1552-1555
Raj, Ashish (Weill Medical College of Cornell University)*

SuBT2: 11:15-12:45 Salon G & F
Image Segmentation II (Oral Session)
Chair: Sonka, Milan (*University of Iowa*)
Co-Chair: Summers, Ronald (*National Institutes of Health Clinical Center*)

- 11:15-11:30 SuBT2.1
Unbalanced Graph-Based Transduction on Superpixels for Automatic Cervigram Image Segmentation 1556-1559
Huang, Sheng (Chongqing Univ.); Gao, Mingchen (National Institutes of Health); Yang, Dan (Chongqing Univ.); Huang, Xiaolei (Lehigh Univ.); Elgammal, Ahmed (Rutgers Univ.); Zhang, Xiaohong (Chongqing Univ.)*
- 11:30-11:45 SuBT2.2
Joint Labeling of Multiple Regions of Interest (ROIs) by Enhanced Auto Context Models 1560-1563
Kim, Minjeong (UNC Chapel Hill); Wu, Guorong (BRIC and Radiology Department); Guo, Yanrong (Hefei University of Technology); Shen, Dinggang (UNC-Chapel Hill)*
- 11:45-12:00 SuBT2.3
Segmentation of Pelvic Organs at Risk using Superpixels and Graph Diffusion in Prostate Radiotherapy . 1564-1567
Guinin, Maxime (AQUILAB); Ruan, Su (Universite de Rouen); Nkhali, Lamyaa (Centre Henri Becquerel); Dubray, Bernard (Centre Henri Becquerel); Massoptier, Laurent (AQUILAB); Gardin, Isabelle (Centre Henri Becquerel)*
- 12:00-12:15 SuBT2.4
Level Set Segmentation with Shape Prior Knowledge using Intrinsic Rotation, Translation and Scaling Alignment 1568-1571
Arrieta, Cristobal (Pontificia Universidad Catolica de Chile); Sing-Long, Carlos (Stanford University); Uribe, Sergio (Pontificia Universidad Catolica de Chile); Andia, Marcelo Edgardo (Pontificia Universidad Catolica de Chile); Irarrazaval, Pablo (Pontificia Universidad Catolica de Chile); Tejos, Cristian (Pontificia Universidad Catolica de Chile)*
- 12:15-12:30 SuBT2.5
3D Statistical Models of the Aorta and the Supra-Aortic Branches 1572-1575
Wörz, Stefan (University of Heidelberg, DKFZ Heidelberg); von Tengg-Koblighk, Hendrik (Inselspital, University Hospital Bern); Rohr, Karl (University of Heidelberg, DKFZ Heidelberg)*

SuBT3: 11:15-12:45 Salon A & B
Motion Compensation Methods (Oral Session)
Chair: Amini, Amir (*University of Louisville*)
Co-Chair: Katouzian, Amin (*Technical University of Munich*)

- 11:15-11:30 SuBT3.1
Robust Exemplar Model of Respiratory Liver Motion and Individualization using an Additional Breath-Hold Image 1576-1579
Tanner, Christine (ETH Zurich); Samei, Golnoosh (Computer Vision Laboratory); Szekely, Gabor (ETH Zurich)*

11:30-11:45 SuBT3.2
Practical PET Respiratory Motion Correction in Clinical Simultaneous PET/MR 1580-1583
Manber, Richard (University College London); Hutton, Brian Forbes (UCL); Ourselin, Sebastien (University College London); Arridge, Simon (University College London); Wan, Simon (University College London); Barnes, Anna (University College London Hospital); Thielemans, Kris (University College London); O'Meara, Celia (University College London Hospital); Atkinson, David (UCL)*

11:45-12:00 SuBT3.3
Motion Compensation in Two-Photon Microscopy Temporal Series 1584-1587
Medioni, Caroline (CNRS); Besse, Florence (IBV); Descombes, Xavier (INRIA); Malandain, Gregoire (INRIA)*

12:00-12:15 SuBT3.4
Automatic Nonrigid Motion Correction for Quantitative First-Pass Cardiac MR Perfusion Imaging 1588-1591
Benovoy, Mitchell (National Institutes of Health); Jacobs, Matthew (Dept. of Electrical Engineering and Computer Science, Catholic U); Cheriet, Farida (Ecole Polytechnique of Montreal); Dahdah, Nagib (Ste-Justine University Hospital Research Center); Arai, Andrew E. (National Heart, Lung and Blood Institute, National Institute of); Hsu, Li-Yueh (NHLBI, National Institutes of Health)*

12:15-12:30 SuBT3.5
Learning Nonrigid Deformations for Constrained Point-Based Registration for Image-Guided MR-TRUS Prostate Intervention 1592-1595
Onofrey, John A. (Yale University); Staib, Lawrence H. (Yale University); Sarkar, Saradwata (Eigen); Venkataraman, Rajesh (Eigen); Papademetris, Xenophon (Yale University)*

SuBT4: 11:15-12:45 X-Ray and CT Imaging (Oral Session) Chair: Peyrin, Françoise (CNRS UMR 5220, INSERM U1044, INSA Lyon, Université de Lyon) Co-Chair: Salvado, Olivier (CSIRO)	Salon C
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11:15-11:30 SuBT4.1
Filtered Backprojection using Algebraic Filters; Application to Biomedical Micro-CT Data 1596-1599
Plantagie, Linda (Centrum Wiskunde & Informatica); van Aarle, Wim (UAntwerpen); Sijbers, Jan (University of Antwerp); Batenburg, Kees Joost (Centrum Wiskunde & Informatica)*

11:30-11:45 SuBT4.2
Spectral CT Reconstruction using Image Sparsity and Spectral Correlation 1600-1603
Zhang, Yi (Sichuan University); Xi, Yan (Shanghai Jiao Tong University); Yang, Qingsong (Rensselaer Polytechnic Institute); Cong, Wenxiang (RPI); Zhou, Jiliu (University); Wang, Ge (Rensselaer Polytechnic Institute)*

11:45-12:00 SuBT4.3
Filtered Stochastic Optimization for Binary Tomography 1604-1607
Wang, Lin (INSA de Lyon); Sixou, Bruno (CNRS UMR 5220, Inserm U630, INSA de Lyon, Université de Lyon, F-); Peyrin, Françoise (CNRS UMR 5220, INSERM U1044, INSA Lyon, Université de Lyon)*

12:00-12:15 SuBT4.4
Gradient-Based Sparse Approximation for Computed Tomography 1608-1611
Sakhaee, Elham (University of Florida); Arreola, Manuel (University of Florida); Entezari, Alireza (University of Florida)*

12:15-12:30 SuBT4.5
Learning based Prior for Analyzer-Based Phase Contrast Image Reconstruction 1612-1615
Caudevilla, Oriol (Illinois Institute of Technology); Brankov, Jovan G (Illinois Institute of Technology)*