2016 IEEE 13th International Symposium on Biomedical Imaging (ISBI 2016)

Prague, Czech Republic
13 – 16 April 2016

Pages 1-709

IEEE Catalog Number: CFP16BIS-POD
ISBN: 978-1-4799-2351-9

Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc
All Rights Reserved

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

******This publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP16BIS-POD
ISBN (Print-On-Demand):	978-1-4799-2351-9
ISBN (Online):	978-1-4799-2349-6
ISSN:	1945-7928

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

Program in Chronological Order
(Copyrighted Papers)

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

Wednesday, 13 April 2016

WePoster_T1: 14:40-16:10 Virgo/Leo/Taurus
Brain CAD (Poster Session)

WePoster_T2: 14:40-16:10 Virgo/Leo/Taurus
Cardiac Imaging (Poster Session)

14:40-16:10 WePoster_T2.1
Towards a Multimodal Cardiac Motion Atlas 32-35
Puyol Antón, Esther (King's College of London); King, Andy (King's College London); Piro, Paolo (Philips Research); Aljabar, Paul (King's College London); De Craene, Mathieu (Philips Research); Peressutti, Devis (King's College London)*

14:40-16:10 WePoster_T2.2
Optimizing Motion Correction in Reconstruction of Respiratory-Gated Spect 36-39
Song, Chao (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)*

14:40-16:10 WePoster_T2.3
Automatic Segmentation of the Left Ventricle in Cardiac CT Angiography using Convolutional Neural Networks 40-43
Zreik, Majd (University Medical Center Utrecht); Leiner, Tim (University Medical Center Utrecht); de Vos, Bob D. (University Medical Center Utrecht); van Hamersvelt, Robbert W. (University Medical Center Utrecht); Viergever, Max A. (University Medical Center Utrecht); Isgum, Ivana (University Medical Center Utrecht)*

14:40-16:10 WePoster_T2.4
Right Ventricle Segmentation using a 3D Cylindrical Shape Model 44-48
Moolan-Feroze, Oliver (University of Bristol); Mirmehdi, Majid (University of Bristol); Hamilton, Mark (Bristol Heart Institute)*

14:40-16:10 WePoster_T2.5
Ultrasound Image Texture Characterization with Gabor Wavelets for Cardiac Hypertrophy Differentiation 49-52
Damerjian, Vera (Université Paris-Est Créteil); Tankyevych, Olena (Paris-Est University); Guellich, Aziz (Hospital Henri Mondor); Damy, Thibaud (Hospital Henri Mondor); Petit, Eric (Université Paris 12 Val-de-Marne)*

14:40-16:10 WePoster_T2.6
Automated Agatston Score Computation in a Large Dataset of Non ECG-Gated Chest Computed Tomography 53-57
Gonzalez, German (Brigham and Women's Hospital); Washko, George R. (Brigham Women's Hospital and Harvard Medical School); San Jose Estepar, Raul (Brigham Women's Hospital and Harvard Medical School)*

WePoster_T3: 14:40-16:10 Virgo/Leo/Taurus
fMRI Analysis (Poster Session)

14:40-16:10 WePoster_T3.1
Group-Wise Sparse Representation of Brain States Reveal Network Abnormalities in Mild Traumatic Brain Injury 58-61
Lv, Jinglei (Northwestern Polytechnical University, China; The University of G); Iraji, Armin (Wayne State University); Chen, Hanbo (The University of Georgia, Athens, GA, USA); Ge, Fangfei (Northwestern Polytechnical University); Guo, Lei (Northwestern Polytechnical University); Zhang, Xin (Northwestern Polytechnical University); Kou, Zhifeng (Wayne State University); Liu, Tianming (University of Georgia)*

14:40-16:10 WePoster_T3.2
Identifying Group-Wise Consistent Sub-Networks via Spatial Sparse Representation of Natural Stimulus FMRI Data 62-65
Lyu, Cheng (Northwestern Polytechnical University, China; The University of G); LI, Xiang (University of Georgia); Lv, Jinglei (Northwestern Polytechnical University, China; The University of G); Hu, Xintao (Northwestern Polytechnical University, Xian, China); Han, Junwei (Northwestern Polytechnical University); Guo, Lei (Northwestern Polytechnical University); Liu, Tianming (University of Georgia)*

WePoster_T5: 14:40-16:10 Virgo/Leo/Taurus
Image Reconstruction (Poster Session)

WePoster_T6: 14:40-16:10 Virgo/Leo/Taurus
Interventional Imaging (Poster Session)

WePoster_T7: 14:40-16:10 Virgo/Leo/Taurus
Microscopy Imaging and Reconstruction (Poster Session)

WePoster_T10: 14:40-16:10 Virgo/Leo/Taurus
Retinal Imaging - Poster (Poster Session)

14:40-16:10 WePoster_T10.1
A Deep Learning Approach to Detection of Age-Related Macular Degeneration 184-188
Burlina, Philippe (Johns Hopkins University); Freund, David (JHU/APL); Neil, Joshi (Johns Hopkins University); Wolfson, Yulia (Johns Hopkins University); Bressler, Neil (JHU)*

14:40-16:10 WePoster_T10.2
Automatic Detection of Vascular Bifurcations and Crossings in Retinal Images using Orientation Scores 189-192
Abbasi-Sureshjani, Samaneh (Eindhoven University of Technology); Smit-Ockeloen, Iris (Eindhoven University of Technology); Bekkers, Erik (Eindhoven University of Technology); Dashtbozorg, Behdad (Eindhoven University of Technology); ter Haar Romeny, Bart (Northeastern University)*

14:40-16:10 WePoster_T10.3
Automatic Glaucoma Assessment from Angio-Oct Images 193-196
Gopinath, Karthik (International Institute of Information Technology-Hyderabad); Sivaswamy, Jayanthi (International Institute of Information Technology-Hyderabad); Mansoori, Tarannum (Anand Eye Institute)*

14:40-16:10 WePoster_T10.4
Intensity Inhomogeneity Correction of Macular OCT using N3 and Retinal Flatspace 197-200
Lang, Andrew (Johns Hopkins University); Carass, Aaron (Johns Hopkins University); Jedynak, Bruno (Portland State University); Solomon, Sharon (Johns Hopkins University School of Medicine); Calabresi, Peter (Johns Hopkins University); Prince, Jerry (Johns Hopkins University)*

WePoster_T11: 14:40-16:10 Virgo/Leo/Taurus
Segmentation Methods for Microscopy Images (Poster Session)

14:40-16:10 WePoster_T11.1
A New Approach to Detect and Segment Overlapping Cells in Multi-Layer Cervical Cell Volume Images 201-204
Ahmady Phoulady, Hady (University of South Florida); Goldgof, Dmitry (University of South Florida); Hall, Lawrence (University of South Florida); Mouton, Peter (University of South Florida)*

14:40-16:10 WePoster_T11.2
Fast Adaptive Local Thresholding based on Ellipse Fit 205-208
Ranefall, Petter (Center for Image Analysis and SciLifeLab, Uppsala University); Kecheril Sadanandan, Sajith (Uppsala University); Wählby, Carolina (Centre for Image Analysis/SciLifeLab, Uppsala University, Broad)*

14:40-16:10 WePoster_T11.3
Cell Segmentation in Digital Holographic Images 209-212
El-Zehiry, Noha (Siemens Corporation, Corporate Technology); Hayden, Oliver (Siemens Healthcare); Kamen, Ali (Siemens Corporation, Corporate Technology)*

14:40-16:10 WePoster_T11.4
Multi-Channel Algorithm for Segmentation of Tumor Blood Vessels using Multiplexed Image Data 213-216
Al-Kofahi, Yousef (General Electric); Sevinsky, Christopher, Chris (GE Global Research); Santamaria-Pang, Alberto (U of Houston); Ginty, Fiona, Fiona (GE Global Research); Sood Anup, Anup (GE Global Research); Li Qing, Qing (GE Global Research)*

14:40-16:10 WePoster_T11.5
Active Appearance Segmentation for Intensity Inhomogeneity in Light Sheet Fluorescence Microscopy 217-220
Jensen, Casper Bo (Novo Nordisk, Global Research, Måløv, Denmark); Lyksborg, Mark (Technical University of Denmark); Hecksher-Sørensen, Jacob (Novo Nordisk, Global Research, Måløv, Denmark); Secher, Anna (Novo Nordisk, Global Research, Måløv, Denmark); Conradsen, Knut (Technical University of Denmark, Dept of Applied Mathemati); Dahl, Anders Bjorholm (Technical University of Denmark, Dept of Applied Mathemati)*

WeAT4: 16:20-17:50 Meridian
Brain Segmentation (Oral Session)
Chair: Vos, Frans *(TU Delft)*

Thursday, 14 April 2016

ThPoster_T3: 08:15-09:50 Virgo/Leo/Taurus
Motion Tracking (Poster Session)

ThPoster_T4: 08:15-09:50 Virgo/Leo/Taurus
MR Acquisition - Poster (Poster Session)

ThPoster_T6: 08:15-09:50 Virgo/Leo/Taurus
Optical Imaging - Poster (Poster Session)

08:15-09:50 ThPoster_T6.1
Narrow Band Imaging versus White-Light: What is Best for Computer-Assisted Diagnosis of Celiac Disease? 355-359
Gadermayr, Michael (Univ. of Salzburg); Hegenbart, Sebastian (Univ. of Salzburg); Kwitt, Roland (Univ. of Salzburg); Uhl, Andreas (Univ. of Salzburg); Vecsei, Andreas (St. Anna Children's Hospital, Dept of Pediatrics)*

08:15-09:50 ThPoster_T6.2
Multispectral Imaging of Tissue Ablation 360-363
Blasinski, Henryk (Stanford University); Caves, Jeff (Stanford University); Farrell, Joyce (Stanford University); Wandell, Brian (Stanford University); Wang, Paul (Stanford University)*

08:15-09:50 ThPoster_T6.3
Classification of Dermoscopy Patterns using Deep Convolutional Neural Networks 364-368
Demyanov, Sergey (IBM Research Australia); Chakravorty, Rajib (IBM Research Australia); Abedini, Mani (IBM Research); Garnavi, Rahil (IBM Research Australia); Halpern, Alan (Memorial Sloan-Kettering Cancer Center)*

08:15-09:50 ThPoster_T6.4
Hyperspectral Database of Pathological In-Vitro Human Brain Samples to Detect Carcinogenic Tissues 369-372
Ortega, Samuel (University of Las Palmas de Gran Canaria); Callico, Gustavo (University of Las Palmas de Gran Canaria); Plaza, María de la Luz (University Hospital Doctor Negrín of Las Palmas de Gran Canaria); Camacho, Rafael (University Hospital Doctor Negrín of Las Palmas de Gran Canaria); Fabelo, Himar (University of Las Palmas de Gran Canaria); Sarmiento, Roberto (University of Las Palmas de Gran Canaria)*

08:15-09:50 ThPoster_T6.5
Sparsity-Based Simplification of Spectral-Domain Optical Coherence Tomography Images of Cardiac Samples 373-376
Meiniel, William (Institut Pasteur / Telecom ParisTech); Gan, Yu (Columbia University); Hendon, Christine (Columbia University); Olivo-Marin, Jean-Christophe (Institut Pasteur); Laine, Andrew (Columbia University); Angelini, Elsa (Columbia University)*

08:15-09:50 ThPoster_T6.6
Mocarts: A Lightweight Radiation Transport Simulator for Easy Handling of Complex Sensing Geometries 377-380
Cuervo-Soto, Bibiana (Benemérita Universidad Autónoma de Puebla); Herrera-Vega, Javier (Instituto Nacional de Astrofísica Óptica y Electrónica); Garcés-Báez, J. Alfonso del C. (Benemérita Universidad Autónoma de Puebla); Treviño-Palacios, C. G. (Instituto Nacional de Astrofísica Óptica y Electrónica); Orihuela-Espina, Felipe (INAOE)*

ThPoster_T7: 08:15-09:50 Virgo/Leo/Taurus
Segmentation and Quantification of Biological Images (Poster Session)

08:15-09:50 ThPoster_T7.1
Quantifying Image Structures in High-Throughput Microscopy with Total Variation Flow 381-385
Gorgi Zadeh, Shekoufeh (RWTH Aachen University); Hermann, Max (University of Bonn, Institute of Computer Science II); Merklinger, Elisa (University of Bonn, LIMES Institute); Schloetel, Jan-Gero (University Bonn); Schultz, Thomas (University of Bonn)*

08:15-09:50 ThPoster_T7.2
Automated Detection of Cilia in Low Magnification Transmission Electron Microscopy Images using Template Matching 386-390
Suveer, Amit (Centre for Image Analysis, Uppsala Univ.); Sladoje, Nataša (Centre for Image Analysis, Uppsala Univ.); Lindblad, Joakim (Mathematical Institute of the Serbian Academy of Sciences and Ar); Dragomir, Anca (Dept of Immunology, Uppsala Univ. Hospital); Sintorn, Ida-Maria (Swedish Univ. of Agricultural Sciences)*

08:15-09:50 ThPoster_T7.3
Supervised Method for Cell Counting from Bright Field Focus Stacks 391-394
Liimatainen, Kaisa Maria (Tampere University of Technology); Ruusuvuori, Pekka (Tampere University of Technology); Latonen, Leena (University of Tampere); Huttunen, Heikki (Tampere University of Technology)*

ThPoster_T9: 08:15-09:50 Virgo/Leo/Taurus
Tissue Quantification (Poster Session)

ThPoster_T10: 08:15-09:50 Virgo/Leo/Taurus
Ultrasound - Poster (Poster Session)

08:15-09:50 ThPoster_T10.1
A Regularization Approach for Ultrasonic Attenuation Imaging 469-472
Coila, Andres (Pontificia Universidad Catolica del Peru); Rouyer, Julien (Pontificia Universidad Católica del Perú); Zenteno, Omar (Pontificia Universidad Católica del Perú); Lavarello, Roberto (Pontificia Universidad Catolica del Peru)*

08:15-09:50 ThPoster_T10.2
Single Image Super-Resolution of Medical Ultrasound Images using a Fast Algorithm 473-476
Zhao, Ningning (University of Toulouse); Wei, Qi (University of Cambridge); Basarab, Adrian (Université de Toulouse); Kouamé, Denis (Université de Toulouse, IRIT UMR CNRS 5505); Tourneret, Jean-Yves (University of Toulouse)*

08:15-09:50 ThPoster_T10.3
Elastic-Net based Beamforming in Medical Ultrasound Imaging 477-480
Szasz, Teodora (University of Toulouse); Basarab, Adrian (Université de Toulouse); Vaida, Mircea-Florin (Technical University of Cluj-Napoca); Kouamé, Denis (Université de Toulouse, IRIT UMR CNRS 5505)*

08:15-09:50 ThPoster_T10.4
First Step for Computer Assisted Evaluation of Qualitative Supersonic Shearwave Elastography Characteristics in Breast Tissue 481-484
Skerl, Katrin (University of Dundee); Vinnicombe, Sarah (University of Dundee); McKenna, Stephen (University of Dundee); Thomson, Kim (NHS, Ninewells Hospital, Dundee); Evans, Andrew (Medical Research Institute, Ninewells Hospital, University of Du)*

08:15-09:50 ThPoster_T10.5
Analysis of Excitation Frequency in Elasticity Reconstruction using the FEM Inverse-Problem 485-488
Otesteanu, Corin Felix (ETH Zurich); Sanabria, Sergio J (ETH Zurich); Goksel, Orcun (ETH Zurich)*

ThPoster_T11: 08:15-09:50 Virgo/Leo/Taurus
Visualization (Poster Session)

08:15-09:50 ThPoster_T11.1
Modified Geodesic Ray-Tracing for Diffusion Tensor Imaging 489-493
Sepasian, Neda (Technical University of Eindhoven); Boonkkamp, J.H.M. ten Thije (Technical University of Eindhoven); Astola, Laura (Technical University of Eindhoven); Breeuwer, Marcel (Technical University of Eindhoven); Fuster, Andrea (Department of Mathematics & Computer Science, Eindhoven Universi)*

08:15-09:50 ThPoster_T11.2
Interactive High Resolution Reconstruction of 3D Ultrasound Volumes on the GPU 494-497
Abdellah, Marwan (Biomedical Engineering Department, Cairo University); Abdelaziz, Asem (Cairo University, Faculty of Engineering); Eldeib, Ayman M. (Cairo University)*

08:15-09:50 ThPoster_T11.3
3D Medical Image Interaction and Segmentation using Kinect 498-501
Chang, Cheng (Stony Brook University); Gao, Yi (Stony Brook University)*

08:15-09:50 ThPoster_T11.4
Model-Based Compensation of Tissue Deformation during Data Acquisition for Interpolative Ultrasound Simulation 502-505
Flach, Barbara (ETH Zurich); Makhinya, Maxim (ETH); Goksel, Orcun (ETH Zurich)*

ThAT2: 11:00-12:30 Zenit

Fast MR Acquisition and Reconstruction (Oral Session)

Chair: Amini, Amir *(University of Louisville)*

11:00-11:15 ThAT2.1

Multiresolution Reconstruction of Real-Time MRI with Motion Compensated Compressed Sensing: Application to 2D Free-Breathing Cardiac MRI 506-509

Royuela-del-Val, Javier (Universidad de Valladolid); Muhammad, Usman (King's College London); Cordero-Grande, Lucilio (King's College London); Martin-Fernandez, Marcos (University of Valladolid); Simmross-Wattenberg, Federico (Universidad de Valladolid); Prieto, Claudia (King's College London); Alberola-López, Carlos (Universidad de Valladolid)*

11:15-11:30 ThAT2.2

Accelerating Dynamic Magnetic Resonance Imaging by Nonlinear Sparse Coding 510-513

Nakarmi, Ukash (State University of New York, SUNY at Buffalo); Zhou, Yihang (The State University of New York at Buffalo); Lyu, Jingyuan (The State University of New York at Buffalo); Slavakis, Konstantinos (University at Buffalo, SUNY); Ying, Leslie (The State University of New York at Buffalo)*

11:30-11:45 ThAT2.3

Accelerating Magnetic Resonance Imaging via Deep Learning 514-517

Wang, Shanshan (Shenzhen Institutes of Advanced Technology); Su, Zhenghang (Guangdong University of Technology); Ying, Leslie (The State University of New York at Buffalo); Peng, Xi (Shenzhen Institutes of Advanced Technology); Zhu, Shun (Shenzhen Institutes of Advanced Technology); Liang, Feng (School of Industrial Engineering, Nankai University); Feng, Dagan (The University of Sydney); Liang, Dong (Shenzhen Institutes of Advanced Technology)*

11:45-12:00 ThAT2.4

Compressed Sensing Reconstruction of Dynamic Contrast Enhanced MRI using GPU-Accelerated Convolutional Sparse Coding 518-521

Quan, Tran Minh (Ulsan National Institute of Science and Technology (UNIST)); Jeong, Won-Ki (Ulsan National Institute of Science and Technology (UNIST))*

12:00-12:15 ThAT2.5

A Fast Algorithm for Structured Low-Rank Matrix Recovery with Applications to Undersampled MRI Reconstruction 522-525

Ongie, Greg (University of Iowa); Jacob, Mathews (University of Iowa)*

ThAT3: 11:00-12:30 Kepler & Tycho

Segmentation of Microscopy Images (Oral Session)

Chair: Ortiz-de-Solorzano, Carlos *(Centre for Applied Medical Research)*

Co-Chair: Dufour, Alexandre *(Institut Pasteur)*

11:00-11:15 ThAT3.1

Cell Segmentation using Stable Extremal Regions in Multi-Exposure Microscopy Images 526-530

Li, Mingzhong (Missouri University of Science and Technology); Yin, Zhaozheng (Missouri University of Science and Technology)*

11:15-11:30 ThAT3.2

Jelly Filling Segmentation of Fluorescence Microscopy Images Containing Incomplete Labeling 531-535

Gadgil, Neeraj (Purdue University); Salama, Paul (Indiana University-Purdue University); Dunn, Kenneth (Indiana University); Delp, Edward (Purdue University)*

11:30-11:45 ThAT3.3

Automatic Recognition and Characterization of Different Non-Parenchymal Cells in Liver Tissue 536-540

Morales-Navarrete, Hernán (Max Planck Institute of Molecular Cell Biology and Genetics); Hidenori, Nonaka (Max Planck Institute of Molecular Cell Biology and Genetics, Roh); Segovia-Miranda, Fabian (Max Planck Institute of Molecular Cell Biology and Genetics); Zerial, Marino (Max Planck Institute of Molecular Cell Biology and Genetics); Kalaidzidis, Yannis (MPI-CBG)*

ThAT4: 11:00-12:30 Meridian
Structural Brain Connectivity - Oral (Oral Session)
Chair: Vemuri, Baba *(University of Florida)*

ThBT2: 14:00-15:30 Zenit
CT Reconstruction - Oral (Oral Session)
Chair: Reinhardt, Joseph M. *(The University of Iowa)*

ThBT3: 14:00-15:30 Kepler & Tycho
Image Analysis of Neurons (Oral Session)
Chair: Malandain, Gregoire *(INRIA)*

ThBT4: 14:00-15:30 Meridian
Segmentation and Registration (Oral Session)
Chair: Frangi, Alejandro *(University of Sheffield)*

14:00-14:15 ThBT4.1
Phase-Based Registration of Cardiac Tagged MR Images using Anatomical Deformation Model 617-620
Zhou, Yitian (Philips Research); De Craene, Mathieu (Philips Research); Bernard, Olivier (Université de Lyon, CREATIS; CNRS UMR5220; Inserm U1044; INSA-Ly)*

14:15-14:30 ThBT4.2
Contrast-Based Registration of Left Atria to Fluoroscopic Image Sequences by Temporal Markow Filtering and Motion Regularization 621-624
Hoffmann, Matthias (Friedrich-Alexander-Universität Erlangen-Nürnberg); Strobel, Norbert (Siemens AG); Hornegger, Joachim (Friedrich-Alexander University Erlangen-Nuremberg); Maier, Andreas (Friedrich-Alexander-University Erlangen-Nuremberg)*

14:30-14:45 ThBT4.3
CT and MRI Fusion for Postimplant Prostate Brachytherapy Evaluation 625-628
Dehghan, Ehsan (IBM Research); Le, Yi (Indiana Univ.); Lee, Junghoon (Johns Hopkins Univ.); Song, Daniel (Johns Hopkins Univ.); Fichtinger, Gabor (Queen's Univ.); Prince, Jerry (Johns Hopkins Univ.)*

14:45-15:00 ThBT4.4
Image Registration and Segmentation in Longitudinal MRI using Temporal Appearance Modeling 629-632
Gao, Yang (Scientific Computing and Imaging Institute, University of Utah); Zhang, Miaomiao (University of Utah); Grewen, Karen, M (University of North Carolina at Chapel Hill); Fletcher, P. Thomas (University of Utah); Gerig, Guido (University of Utah)*

15:00-15:15 ThBT4.5
Supervised Learning for Brain MR Segmentation via Fusion of Partially Labeled Multiple Atlases 633-637
Deng, Yan (Univ. of Florida); Rangarajan, Anand (Univ. of Florida); Vemuri, Baba (Univ. of Florida)*

ThCT1: 16:00-17:30 Nadir
Perspectives on Deep Learning for Biomedical and Biological Imaging and Image Analysis (Special Session)

16:45-17:00 ThCT1.4
Latent Source Mining in FMRI Data via Deep Neural Network 638-641
Huang, Heng (Northwestern Polytechnical University); Hu, Xintao (Northwestern Polytechnical University, Xian, China); Han, Junwei (Northwestern Polytechnical University); Lv, Jinglei (Northwestern Polytechnical University, China; The University of G); Liu, Nian (Northwestern Polytechnical University); Guo, Lei (Northwestern Polytechnical University); Liu, Tianming (University of Georgia)*

17:00-17:15 ThCT1.5
Multi-Loss Convolutional Networks for Gland Analysis in Microscopy 642-645
BenTaieb, Aïcha (Simon Fraser University); Kawahara, Jeremy (Simon Fraser University); Hamarneh, Ghassan (Simon Fraser University)*

ThCT2: 16:00-17:30 Zenit
Shape Analysis (Oral Session)
Chair: Gerig, Guido *(University of Utah)*
Co-Chair: Linguraru, Marius George *(Children's National Health System)*

16:00-16:15 ThCT2.1
Applying Sparse Coding to Surface Multivariate Tensor-Based Morphometry to Predict Future Cognitive Decline 646-650
Zhang, Jie (Arizona State University); Stonnington, Cynthia (Dept. of Psychiatry and Psychology, Mayo Clinic Arizona, Scottsd); Li, Qingyang (Arizona State University); Shi, Jie (School of Computing, Informatics, and Decision Systems Engineeri); J. Bauer III, Robert (Banner Alzheimer's Institute, Phoenix, AZ); Gutman, Boris (Imaging Genetics Center, Institute for Neuroimaging and Informa); Chen, Kewei (Banner Good Samaritan Medical Center); Reiman, Eric (Banner Alzheimer's Institute, Phoenix, AZ); Thompson, Paul (University of Southern California); Ye, Jieping (Department of Computational Medicine and Bioinformatics, Univers); Wang, Yalin (Arizona State University)*

ThCT3: 16:00-17:30 Kepler & Tycho
Imaging Cellular Processes (Oral Session)
Chair: Liebling, Michael *(IDIAP Research Institute and UC Santa Barbara)*
Co-Chair: Kozubek, Michal *(Masaryk University)*

ThCT4: 16:00-17:30 Meridian
Retinal Imaging - Oral (Oral Session)
Chair: Sonka, Milan *(University of Iowa)*

16:00-16:15 ThCT4.1
Glaucoma Classification with a Fusion of Segmentation and Image-Based Features 689-692
Chakravarty, Arunava (International Institute of Information Technology - Hyderabad); Sivaswamy, Jayanthi (International Institute of Information Technology-Hyderabad)*

16:15-16:30 ThCT4.2
Similarity-Weighted Linear Reconstruction of Anterior Chamber Angles for Glaucoma Classification 693-697
Xu, Yanwu (Institute for Infocomm Research); Liu, Jiang (Institute for Infocomm Research, A STAR); Wong, Damon (Institute for Infocomm Research); Baskaran, Mani (Singapore Eye Research Institute); Perera, Shamira (Singapore Eye Research Institute); Aung, Tin (Singapore Eye Research Institute)*

16:30-16:45 ThCT4.3
Retinal Vessel Segmentation via Deep Learning Network and Fully-Connected Conditional Random Fields 698-701
Fu, Huazhu (Institute for Infocomm Research, A*STAR); Xu, Yanwu (Institute for Infocomm Research); Wong, Damon (Institute for Infocomm Research); Liu, Jiang (Institute for Infocomm Research, A STAR)*

16:45-17:00 ThCT4.4
Locally-Adaptive Loosely-Coupled Level Sets for Retinal Layer and Fluid Segmentation in Subjects with Central Serous Retinopathy 702-705
Novosel, Jelena (Rotterdam Eye Hospital); Wang, Ziyuan (Quantitative Imaging Group, Department of Imaging Physics, Delft); de Jong, Henk (Rotterdam Ophthalmic Institute, Rotterdam, The Netherlands); van Velthoven, Mirjam (Rotterdam Eye Hospital, Rotterdam, The Netherlands); Vermeer, Koenraad A. (Rotterdam Ophthalmic Institute, Rotterdam Eye Hospital); van Vliet, Lucas (TU Delft)*

17:00-17:15 ThCT4.5
Noise-Adaptive Attenuation Coefficient Estimation in Spectral Domain Optical Coherence Tomography Data 706-709
Ghafaryasl, Babak (TUDelft); Vermeer, Koenraad A. (Rotterdam Ophthalmic Institute, Rotterdam Eye Hospital); de Boer, Johannes F. (Vrije Universiteit Amsterdam); van Velthoven, Mirjam (Rotterdam Eye Hospital, Rotterdam, The Netherlands); van Vliet, Lucas (TU Delft)*

Friday, 15 April 2016

FrPoster_T1: 08:15-09:50 Virgo/Leo/Taurus
Breast Imaging (Poster Session)

08:15-09:50 FrPoster_T1.1
Full-Wave Attenuation Reconstruction in the Time Domain for Ultrasound Computed Tomography 710-713
Pérez-Liva, Mailyn (Complutense University of Madrid, Spain); Herraiz, Joaquin L. (Complutense University of Madrid, Spain); Udías, José Manuel (Complutense University of Madrid, Spain); Cox, Ben T. (University College London); Treeby, Bradley E. (University College London)*

08:15-09:50 FrPoster_T1.2
Frequency Domain Continuous-Wave Microwave Induced Thermoacoustic Tomography 714-717
Wang, Xiangtuan (Dept. of Electronic Engineering, Tsinghua University); Liu, Yimin (Dept. of Electronic Engineering, Tsinghua University)*

08:15-09:50 FrPoster_T1.3
Accurate and Fully Automatic Segmentation of Breast Ultrasound Images by Combining Image Boundary and Region Information 718-721
Daoud, Mohammad I. (German Jordanian University); Atallah, Ayman A. (German Jordanian University); Awwad, Falah (UAEU); Al-Najar, Mahasen (The University of Jordan)*

FrPoster_T2: 08:15-09:50 Virgo/Leo/Taurus
CT Reconstruction - Poster (Poster Session)

FrPoster_T3: 08:15-09:50 Virgo/Leo/Taurus
EEG (Poster Session)

FrPoster_T4: 08:15-09:50 Virgo/Leo/Taurus
Fetal Imaging (Poster Session)

FrPoster_T5: 08:15-09:50 Virgo/Leo/Taurus
Histology Image Analysis (Poster Session)

08:15-09:50 FrPoster_T5.1
Image Normalization for Quantitative Immunohistochemistry in Digital Pathology 795-798
Van Eycke, Yves-Rémi (CMMI, Univ. Libre de Bruxelles); Allard, Justine (Erasme Hospital, Univ. Libre de Bruxelles); Derock, Mélanie (CMMI, Univ. Libre de Bruxelles); Salmon, Isabelle (Erasme Hospital, Univ.Libre de Bruxelles); Debeir, Olivier (Univ. Libre de Bruxelles); Decaestecker, Christine (Univ. Libre de Bruxelles)*

08:15-09:50 FrPoster_T5.2
Local Structure Prediction for Gland Segmentation 799-802
Manivannan, Siyamalan (Computer Vision and Image Processing group, School of Computing,); Li, Wenqi (University College London); Akbar, Shazia (University of Dundee); Zhang, Jianguo (University of Dundee); Trucco, Emanuele (University of Dundee); McKenna, Stephen (University of Dundee)*

08:15-09:50 FrPoster_T5.3
Stain Deconvolution of Histology Images via Independent Component Analysis in the Wavelet Domain 803-806
Alsubaie, Najah (University of Warwick); Raza, Shan E Ahmed (University of Warwick); Rajpoot, Nasir (Qatar University & University of Warwick)*

08:15-09:50 FrPoster_T5.4
Co-Occurrence Features Characterizing Gland Distribution Patterns as New Prognostic Markers in Prostate Cancer Whole-Slide Images 807-810
Harder, Nathalie (Definiens AG); Athelogou, Maria (Definiens AG); Hessel, Harald (Pathological Institute of Munich University (LMU)); Buchner, Alexander (Urological Clinic of Munich University (LMU)); Schönmeyer, Ralf (Definiens AG); Schmidt, Günter (Definiens AG); Stief, Christian (Urological Clinic of Munich University (LMU)); Kirchner, Thomas (Pathological Institute of Munich University (LMU)); Binnig, Gerd (Definiens AG)*

08:15-09:50 FrPoster_T5.5
Recursive Water Flow: A Shape Decomposition Approach for Cell Clump Splitting 811-815
Dorfer, Matthias (Johannes Kepler University Linz); Mattes, Julian Johannes (Software Competence Center Hagenberg GmbH)*

08:15-09:50 FrPoster_T5.6
Learning based Super-Resolution of Histological Images 816-819
Vahadane, Abhishek (Indian Institute of Technology Guwahati); Vaid, Neeraj Kumar (Indian Institute of Technology Guwahati); Sethi, Amit (Indian Institute of Technology Guwahati)*

FrPoster_T6: 08:15-09:50 Virgo/Leo/Taurus
Imaging Genetics (Poster Session)

08:15-09:50 FrPoster_T6.1
Discovering True Association between Multimodal Data Sets using Structured and Sparse Canonical Correlation Analysis: A Simulation Study 820-823
Mohammadi-Nejad, Ali-Reza (University of Tehran); Hossein-Zadeh, Gholam-Ali (Univ. of Tehran); Soltanian-Zadeh, Hamid (University of Tehran)*

08:15-09:50 FrPoster_T6.2
Integrative Bayesian Analysis of Neuroimaging-Genetic Data through Hierarchical Dimension Reduction 824-828
Azadeh, Shabnam (UT MD Anderson Cancer Center); Hobbs, Brian (UT MD Anderson Cancer Center); Ma, Liangsuo (VCU Institute for Drug and Alcohol Studies); Nielsen, David (Baylor College of Medicine); Moeller, Frederick (VCU Institute for Drug and Alcohol Studies); Baladandayuthapani, Veerabhadran (UT MD Anderson Cancer Center)*

08:15-09:50 FrPoster_T6.3
A Data-Driven Method to Study Brain Structural Connectivities via Joint Analysis of Microarray Data and DMRI Data 829-832
Li, Xiao (Northwestern Polytechnical University); Zhang, Tuo (Northwestern Polytechnical University, Xian, China); Liu, Tao (North China University of Science and Technology); Lv, Jinglei (Northwestern Polytechnical University, China; The University of G); Hu, Xintao (Northwestern Polytechnical University, Xian, China); Guo, Lei (Northwestern Polytechnical University); Liu, Tianming (University of Georgia)*

FrPoster_T7: 08:15-09:50 Virgo/Leo/Taurus
Machine Learning - Poster (Poster Session)

FrPoster_T8: 08:15-09:50 Virgo/Leo/Taurus
Modeling and Simulation - Poster (Poster Session)

08:15-09:50 FrPoster_T8.1
Assessment of Trabecular Bone Strength at in Vivo CT Imaging with Space-Variant Hysteresis and Finite Element Modelling 872-875
Chen, Cheng (University of Iowa); Amelon, Ryan (University of Iowa); Heiner, Anneliese (University of Iowa); Saha, Punam K. (University of Iowa)*

08:15-09:50 FrPoster_T8.2
Evaluation of Numerical Techniques for Solving the Current Injection Problem in Biological Tissues 876-880
Hyde, Damon (Boston Children's Hospital and Harvard Medical School); Dannhauer, Moritz (University of Utah); Warfield, Simon K. (Harvard Medical School); MacLeod, Rob (University of Utah); Brooks, Dana (Northeastern University)*

08:15-09:50 FrPoster_T8.3
Incremental Shape Learning of 3D Surfaces of the Knee, Data from the Osteoarthritis Initiative 881-884
Neubert, Ales (CSIRO); Naser, Ibrahim (University of Queensland); Paproki, Anthony (The University of Queensland); Engstrom, Craig (University of Queensland); Fripp, Jurgen (CSIRO); Crozier, Stuart (The University of Queensland); Chandra, Shekhar (Australian e-Health Research Centre, CSIRO)*

08:15-09:50 FrPoster_T8.4
Statistical Shape Modeling of Compound Musculoskeletal Structures Around the Thigh Region 885-888
Chu, Chengwen (Institute for Surgical Technology and Biomechanics, University o); Takao, Masaki (Osaka University); Ogawa, Takeshi (Department of Orthopedic Medical Engineering, Osaka University); Yokota, Futoshi (Graduate School of Information Science, Nara Institute of Scienc); Sato, Yoshinobu (Osaka University Graduate School of Medicine); Zheng, Guoyan (University of Bern)*

08:15-09:50 FrPoster_T8.5
Automatic Measurement of Orbital Volume in Unilateral Coronal Synostosis 889-893
Dahl, Vedrana Andersen (Technical University of Denmark); Einarsson, Gudmundur (Technical University of Denmark); Darvann, Tron Andre (University of Copenhagen); Hermann, Nuno V. (University of Copenhagen); Hove, Hanne Buciek (Copenhagen University Hospital RigsHospitalet); Kakimoto, Naoya (Osaka University Graduate School of Dentistry); Kreiborg, Sven (University of Copenhagen); Dahl, Anders Bjorholm (Technical University of Denmark, Department of Applied Mathemati)*

FrPoster_T10: 08:15-09:50 Virgo/Leo/Taurus
Structural Brain Connectivity - Poster (Poster Session)

08:15-09:50 FrPoster_T10.1
Anatomical Hubs from Spectral Clustering of Structural Connectomes 894-897
Mitra, Jhimli (CSIRO Health and Biosecurity); Ghose, Soumya (CSIRO Health and Biosecurity); Bourgeat, Pierrick (CSIRO); Fripp, Jurgen (CSIRO); Mathias, Jane (School of Psychology, University of Adelaide); Rose, Stephen (Australian eHealth Research Centre, CSIRO CCI); Salvado, Olivier (CSIRO)*

08:15-09:50 FrPoster_T10.2
Diffusion MRI Simulation for Human Brain based on the Atlas 898-902
Du, Hong Bo (Guizhou Education University); Wang, Li-Hui (Guizhou University); Liu, Wanyu (Harbin Institute of Technology); Yang, Feng (Beijing Jiaotong University); LI, ZHI (Guizhou University); Zhu, Yuemin (CNRS)*

08:15-09:50 FrPoster_T10.3
Cortical Surface Parcellation via dMRI using Mutual Nearest Neighbor Condition 903-906
Belaoucha, Brahim (INRIA Sophia-Antipolis); Clerc, Maureen (INRIA); Papadopoulo, Théodore (INRIA Sophia-Antipolis)*

08:15-09:50 FrPoster_T10.4
Compressive Sensing based Q-Space Resampling for Handling Fast Bulk Motion in HARDI Acquisitions 907-910
Elhabian, Shireen (University of Utah); Vachet, Clement (University of Utah); Piven, Joseph (University of North Carolina); Styner, Martin (UNC at Chapel Hill); Gerig, Guido (University of Utah)*

FrAT3: 11:00-12:30 Kepler & Tycho
Tracking in Time Lapse Microscopy Data (Oral Session)
Chair: Olivo-Marin, Jean-Christophe *(Institut Pasteur)*
Co-Chair: Dzyubachyk, Oleh *(LUMC)*

FrAT4: 11:00-12:30 Meridian
Functional MRI (Oral Session)
Chair: Johnson, Hans *(The University of Iowa)*

FrBT2: 14:00-15:30 Zenit
Ultrasound - Oral (Oral Session)
Chair: Angelini, Elsa *(Columbia University)*

15:00-15:15 FrBT2.5
Fast Low-Cost Single Element Ultrasound Reflectivity Tomography using Angular Distribution Analysis 1021-1024
Kuzmin, Andrey (Skolkovo Institute of Science and Technology); Zhang, Xiang (Massachusetts Institute of Technology); Fincke, Jonathan (Massachusetts Institute of Technology); Feigin, Micha (Massachusetts Institute of Technology); Anthony, Brian W. (Massachusetts Institute of Technology); Lempitsky, Victor (Skolkovo Institute of Science and Technology)*

FrBT3: 14:00-15:30 Kepler & Tycho
Histological Image Analysis (Oral Session)
Chair: Descombes, Xavier *(INRIA)*
Co-Chair: McKenna, Stephen *(University of Dundee)*

14:00-14:15 FrBT3.1
Phenotypic Characterization of Breast Invasive Carcinoma via Transferable Tissue Morphometric Patterns Learned from Glioblastoma Multiforme 1025-1028
Han, Ju (University of Nevada, Reno); Fontenay, Gerald (Lawrence Berkeley National Laboratory); Wang, Yunfu (Taihe Hospital, Hubei University of Medicine); Mao, Jian-Hua (Lawrence Berkeley National Laboratory); Chang, Hang (Lawrence Berkeley National Laboratory)*

14:15-14:30 FrBT3.2
Handcrafted Features with Convolutional Neural Networks for Detection of Tumor Cells in Histology Images 1029-1032
Kashif, Muhammad Nasim (Pakistan Institute of Engineering and Applied Sciences); Raza, Shan E Ahmed (University of Warwick); Sirinukunwattana, Korsuk (University of Warwick); Arif, Muhammad (Pakistan Institute of Engineering and Applied Sciences); Rajpoot, Nasir (Qatar University & University of Warwick)*

14:30-14:45 FrBT3.3
An Approach for Detection of Glomeruli in Multisite Digital Pathology 1033-1036
Marée, Raphaël (University of Liège); Dallongeville, Stéphane (Institut Pasteur); Olivo-Marin, Jean-Christophe (Institut Pasteur); Meas-Yedid, Vannary (Institut Pasteur)*

14:45-15:00 FrBT3.4
Automatic Segmentation of Lung Carcinoma in Histological Images using a Visual Dictionary 1037-1040
Wassmer, Florian (ETH Zurich); De Luca, Valeria (ETH Zurich); Casanova, Ruben (University Hospital Zurich); Soltermann, Alex (University Hospital Zurich); Szekely, Gabor (ETH Zurich)*

15:00-15:15 FrBT3.5
Robust Cell Segmentation for Histological Images of Glioblastoma 1041-1045
Kong, Jun (Emory Univ.); Zhang, Pengyue (Stony Brook Univ.); Liang, Yanhui (Stony Brook Univ.); Teodoro, George (Univ. of Brasilia); Brat, Daniel (Emory Univ.); Wang, Fusheng (Emory Univ.)*

FrBT4: 14:00-15:30 Meridian
Optical Imaging - Oral (Oral Session)
Chair: Dijkstra, Jouke *(Leiden University Medical Center, Dept of Radiology)*

14:00-14:15 FrBT4.1
Robust Real Time Motion Compensation for Intraoperative Video Processing during Neurosurgery 1046-1049
Sdika, Michaël (Creatis); Alston, Laure (Creatis); Mahieu-Williame, Laurent (Creatis); Guyotat, Jacques (Hospices Civils de Lyon); Rousseau, David (CREATIS, Université de Lyon; CNRS UMR 5220; Inserm U620; INSA de); Montcel, Bruno (Creatis)*

14:15-14:30 FrBT4.2
Joint Desmoking and Denoising of Laparoscopy Images 1050-1054
Kotwal, Alankar Shashikant (Indian Institute of Technology Bombay); Bhalodia, Riddhish (Indian Institute of Technology Bombay); Awate, Suyash P (Indian Institute of Technology (IIT), Bombay)*

14:30-14:45 FrBT4.3
Automatic Melanoma Detection via Multi-Scale Lesion-Biased Representation and Joint Reverse Classification 1055-1058
Bi, Lei (University of Sydney); Kim, Jinman (University of Sydney); Ahn, Euijoon (University of Sydney); Feng, Dagan (The University of Sydney); Fulham, Michael (Royal Prince Alfred Hospital)*

14:45-15:00 FrBT4.4
Automated Skin Lesion Segmentation via Image-Wise Supervised Learning and Multi-Scale Superpixel based Cellular Automata 1059-1062
Bi, Lei (University of Sydney); Kim, Jinman (University of Sydney); Ahn, Euijoon (University of Sydney); Feng, Dagan (The University of Sydney); Fulham, Michael (Royal Prince Alfred Hospital)*

15:00-15:15 FrBT4.5
Super-Resolved Retinal Image Mosaicing 1063-1067
Köhler, Thomas (Pattern Recognition Lab, FAU Erlangen-Nürnberg); Heinrich, Axel (Pattern Recognition Lab, FAU Erlangen-Nürnberg); Maier, Andreas (Friedrich-Alexander-University Erlangen-Nuremberg); Hornegger, Joachim (Pattern Recognition Lab); Tornow, Ralf-Peter (University of Erlangen)*

FrCT1: 16:00-17:30 Nadir
Computer-Assisted Radiology (Oral Session)
Chair: Karssemeijer, Nico *(Radboud University Medical Centre Nijmegen)*

16:00-16:15 FrCT1.1
Decomposing the Bony Thorax in X-Ray Images 1068-1071
von Berg, Jens (Philips Research Hamburg); Levrier, Claire (Philips Medisys Paris); Carolus, Heike (Philips Research Hamburg); Young, Stewart (Philips Research Hamburg); Saalbach, Axel (Philips GmbH, Innovative Technologies); Laurent, Patrick (Philips Medisys Paris); Florent, Raoul (Philips Medisys Paris)*

16:15-16:30 FrCT1.2
Accurate Landmark-Based Segmentation by Incorporating Landmark Misdetections 1072-1075
Ibragimov, Bulat (University of Ljubljana); Likar, Bostjan (University of Ljubljana); Pernus, Franjo (University of Ljubljana); Vrtovec, Tomaz (University of Ljubljana)*

16:30-16:45 FrCT1.3
An Image-Retrieval Aided Diagnosis System for Clustered Microcalcifications 1076-1079
Wang, Juan (Illinois Institute of Technology); Yang, Yongyi (Illinois Institute of Technology); Wernick, Miles (Illinois Institute of Technology); Nishikawa, Robert (Department of Radiology, The University of Chicago)*

16:45-17:00 FrCT1.4
Identification of Dysmorphic Syndromes using Landmark-Specific Local Texture Descriptors 1080-1083
Cerrolaza, Juan J. (Children's National Medical Center); Porras, Antonio R. (Children's National Medical Center); Mansoor, Awais (Children's National Health System); Zhao, Qian (Children's National Medical Center); Summar, Marshall (Children's National Medical Center); Linguraru, Marius George (Children's National Health System)*

17:00-17:15 FrCT1.5
An Eye-Tracking Inspired Method for Standardised Plane Extraction from Fetal Abdominal Ultrasound Volumes 1084-1087
Ahmed, Maryam (University of Oxford); Noble, J Alison (University of Oxford)*

FrCT2: 16:00-17:30 Zenit
MR Tissue Quantification (Oral Session)
Chair: Soltanian-Zadeh, Hamid *(University of Tehran)*

16:00-16:15 FrCT2.1
Diffusion Tensor Distribution Function Metrics Boost Power to Detect Deficits in Alzheimer's Disease 1088-1092
Nir, Talia M. (Imaging Genetics Center, University of Southern California); Zavaliangos-Petropulu, Artemis (University of Southern California); Jahanshad, Neda (Imaging Genetics Center, University of Southern California); Villalon-Reina, Julio (University of California, Los Angeles); Zhan, Liang (University of Wisconsin-Stout); Leow, Alex D. (University of Illinois at Chicago); Bernstein, Matthew (Mayo Clinic, Rochester, MN); Jack, Clifford R (Department of Radiology, Mayo Clinic, Rochester, Minnesota); Weiner, Michael (UCSF); Thompson, Paul (University of Southern California)*

16:15-16:30 FrCT2.2
The Confinement Tensor Model Improves Characterization of Diffusion-Weighted Magnetic Resonance Data with Varied Timing Parameters 1093-1096
Zucchelli, Mauro (University of Verona); afzali, Maryam (Sharif University of technology); Yolcu, Cem (University of Padua); Westin, Carl-Fredrik (Brigham and Women's Hospital, Harvard Medical School); Menegaz, Gloria (University of Verona); Ozarslan, Evren (Bogazici University)*

16:30-16:45 FrCT2.3
Shore-Based Biomarkers Allow Patient versus Control Classification in Stroke 1097-1100
Obertino, Silvia (University of Verona); Brusini, Lorenza (University of Verona, Dept. of Computer Science); Boscolo Galazzo, Ilaria (Dept. of Neuroradiology, University Hospital of Verona, Italy); Zucchelli, Mauro (University of Verona); Granziera, Cristina (University of Lausanne, Dept. of Clinical Neuroscience); Cristani, Marco (Dept. of Computer Science, University of Verona, Italy); Menegaz, Gloria (University of Verona)*

16:45-17:00 FrCT2.4
An Experimental Investigation of Labeling Efficiency for Pseudo-Continuous Arterial Spin Labeling 1101-1104
Chai, Yaqiong (Children's Hospital of Los Angeles/Univ. of Southern Califo); Bush, Adam (Children's Hospital Los Angeles); Coloigner, Julie (Children's Hospital); Chia, Jonathan (Philips Healthcare); Lepore, Natasha (Univ. of Southern California / Children's Hospital Los Ange); Wood, John (Children's Hospital Los Angeles)*

17:00-17:15 FrCT2.5
Spatial and Spectral Anisotropy in Harp Images: An Automated Approach 1105-1108
Sanz-Estébanez, Santiago (Universidad de Valladolid); Cordero-Grande, Lucilio (King's College London); Aja-Fernandez, Santiago (Universidad de Valladolid); Martin-Fernandez, Marcos (University of Valladolid); Alberola-López, Carlos (Universidad de Valladolid)*

FrCT3: 16:00-17:30 Kepler & Tycho
Registration Methods for Biological Imaging (Oral Session)
Chair: Bouthemy, Patrick *(Inria)*
Co-Chair: Rohr, Karl *(University of Heidelberg, DKFZ Heidelberg)*

16:00-16:15 FrCT3.1
Joint 3D Alignment-Reconstruction Multi-Scale Approach for Cryo Electron Tomography 1109-1113
Rojbani, Hmida (University of Strasbourg, CNRS, ICube, University of Tunis ElMan); Baudrier, Etienne (University of Strasbourg, CNRS, ICube); Naegel, Benoît (LSIIT); Mazo, Loïc (University of Strasbourg, CNRS, ICube); Hamouda, Atef (University of Tunis ElManar, LIPAH)*

16:15-16:30 FrCT3.2
Demon Registration of OCT and Histology Images through Edge Orientation-Weighted Modality Transformation 1114-1117
Rekha, Smruti (TU Delft); Dijkstra, Jouke (Leiden University Medical Center, Dept of Radiology)*

16:30-16:45 FrCT3.3
Non-Rigid Registration and Robust Principal Component Analysis with Variation Priors: A High-Throughput Mouse Phenotyping Approach 1118-1122
Xie, Zhongliu (Imperial College London); Kitamoto, Asanobu (National Institute of Informatics); Tamura, Masaru (National Institute of Genetics); Shiroishi, Toshihiko (National Institute of Genetics); Gillies, Duncan (Imperial College London)*

16:45-17:00 FrCT3.4
Robust Registration of Calcium Images by Learned Contrast Synthesis 1123-1126
Bogovic, John (HHMI Janelia); Hanslovsky, Philipp (HHMI Janelia); Wong, Allan (HHMI Janelia); Saalfeld, Stephan (HHMI Janelia)*

17:00-17:15 FrCT3.5
Spatio-Temporal Registration of 3D Microscopy Image Sequences of Arabidopsis Floral Meristems 1127-1130
Michelin, Gaël (INRIA Sophia Antipolis); Refahi, Yassin (Sainsbury Laboratory, Univ. of Cambridge); Wightman, Raymond (Sainsbury Laboratory, Univ. of Cambridge); Jönsson, Henrik (Sainsbury Laboratory, Univ. of Cambridge); Traas, Jan (Laboratoire de Reproduction et Développement des Plantes, Univer); Godin, Christophe (Inria, Virtual Plants team, UMR AGAP, 34095 Montpellier, France); Malandain, Gregoire (INRIA)*

FrCT4: 16:00-17:30 Meridian
Vessel Analysis (Oral Session)
Chair: Kybic, Jan *(Czech Technical University in Prague)*

16:00-16:15 FrCT4.1
Vessel Tree Segmentation via Front Propagation and Dynamic Anisotropic Riemannian Metric 1131-1134
Chen, Da (Université Paris Dauphine); Cohen, Laurent (Paris Dauphine University)*

16:15-16:30 FrCT4.2
Vessel Segmentation from Quantitative Susceptibility Maps for Local Oxygenation Venography 1135-1138
Bazin, Pierre-Louis (Max Planck Institute for Human Cognitive and Brain Sciences); Plessis, Victoire (Max Planck Institute for Human Cognitive and Brain Sciences); Fan, Audrey (Stanford University); Villringer, Arno (Max Planck Institute for Human Cognitive and Brain Sciences); Gauthier, Claudine (Concordia University)*

16:30-16:45 FrCT4.3
Vesselness Estimation through Higher-Order Orientation Tensors 1139-1142
Moreno, Rodrigo (KTH Royal Institute of Technology); Smedby, Örjan (KTH Royal Institute of Technology)*

16:45-17:00 FrCT4.4
Exhaustive Graph Cut-Based Vasculature Reconstruction 1143-1146
Unberath, Mathias (Friedrich-Alexander-Universität Erlangen-Nürnberg); Achenbach, Stephan (Department of Cardiology, University Hospital Erlangen, Erlangen); Fahrig, Rebecca (Stanford); Maier, Andreas (Friedrich-Alexander-University Erlangen-Nuremberg)*

17:00-17:15 FrCT4.5
Virtual Parenchymal Perfusion for Selective Intra-Arterial Therapy of Liver Cancer 1147-1150
Lesage, David (Philips); Pizaine, Guillaume (Philips); Miyayama, Shiro (Department of Diagnostic Radiology, Fukui-ken Saisekai Hospital); Kobeiter, Hicham (Department of Medical Imaging, Henri Mondor University Hospital); Wood, Bradford (NIH); Mielekamp, Peter (Image Guided Therapy Systems, Philips); van der Sterren, William (Image Guided Therapy Systems, Philips); Radaelli, Alessandro (Philips Healthcare, iXR Division)*

Saturday, 16 April 2016

SaPoster_T1: 08:15-09:50 Virgo/Leo/Taurus
Image Analysis for Histopathology (Poster Session)

08:15-09:50 SaPoster_T1.1
An Automatic Breast Cancer Grading Method in Histopathological Images based on Pixel-, Object-, and Semantic-Level Features 1151-1154
Cao, Jiajia (Beihang University); Qin, Zengchang (Beihang University); Jing, Juan (Beihang University); Chen, Jianhui (No. 91 Central Hospital of PLA); Wan, Tao (Beihang University)*

08:15-09:50 SaPoster_T1.2
An Improved Hybrid Active Contour Model for Nuclear Segmentation on Breast Cancer Histopathology .. 1155-1158
Jing, Juan (Beihang University); Wan, Tao (Beihang University); Cao, Jiajia (Beihang University); Qin, Zengchang (Beihang University)*

08:15-09:50 SaPoster_T1.3
Segmenting Individual Cervical Cell in Pap Smear Images 1159-1162
Song, Youyi (Shenzhen University); Cheng, Jie-Zhi (Shenzhen University); Ni, Dong (National-Regional Key Technology Engineering Laboratory for Medi); Chen, Siping (Shenzhen University); Lei, Baiying (Shenzhen University); Wang, Tianfu (Shenzhen University)*

08:15-09:50 SaPoster_T1.4
Towards Grading Gleason Score using Generically Trained Deep Convolutional Neural Networks 1163-1167
Källén, Hanna (Lund University); Molin, Jesper (Chalmers University of Technology); Heyden, Anders (Lund University); Lundström, Claes (Linköping University); Åström, Kalle (Lund University)*

SaPoster_T3: 08:15-09:50 Virgo/Leo/Taurus
Classification Methods for Biological Images (Poster Session)

08:15-09:50 SaPoster_T3.1
Automated Mitosis Detection with Deep Regression Networks 1204-1207
Chen, Hao (The Chinese University of Hong Kong); Wang, Xi (Sichuan University); Heng, Pheng Ann (The Chinese University of Hong Kong)*

08:15-09:50 SaPoster_T3.2
Transfer Learning of a Convolutional Neural Network for Hep-2 Cell Image Classification 1208-1211
Phan, Tran Hong Ha (University of Sydney); Kumar, Ashnil (University of Sydney); Kim, Jinman (University of Sydney); Feng, Dagan (The University of Sydney)*

08:15-09:50 SaPoster_T3.3
Texture Analysis of 3D Fluorescence Microscopy Images using RSurf 3D Features 1212-1216
Stoklasa, Roman (Masaryk University); Majtner, Tomas (Masaryk University)*

08:15-09:50 SaPoster_T3.4
Machine Learning Classification of Complex Vasculature Structures from In-Vivo Bone Marrow 3D Data 1217-1220
Khorshed, Reema Adel (Department of Life Sciences, Imperial College London, SW7 2AZ, U); Lo Celso, Cristina (Department of Life Sciences, Imperial College London, SW7 2AZ, U)*

08:15-09:50 SaPoster_T3.5
Automated Quantification of the Epidermal Aging Process using In-Vivo Confocal Microscopy 1221-1224
Robic, Julie (Clarins Laboratory, ESIEE Paris); Nkengne, Alex (Clarins Laboratories); Perret, Benjamin (ESIEE Paris); Couprie, Michel (ESIEE Paris); Talbot, Hugues (Paris-Est University)*

08:15-09:50 SaPoster_T3.6
Efficient Convolutional Neural Networks for Pixelwise Classification on Heterogeneous Hardware Systems 1225-1228
Tschopp, Fabian David (ETH Zurich); Martel, Julien N.P. (UZH / ETH-Zurich); Turaga, Srinivas C (HHMI Janelia Research Campus); Cook, Matthew (University of Zurich and ETH Zurich); Funke, Jan (Institute of Neuroinformatics (INI) UZH/ETH Zurich)*

08:15-09:50 SaPoster_T3.7
Texture Analysis of Tissue Aging using Global and Cluster Constrained Local Coding 1229-1232
Song, Yang (University of Sydney); Cai, Weidong (University of Sydney); Zhang, Fan (The University of Sydney); Huang, Heng (University of Texas at Arlington); Feng, Dagan (The University of Sydney); Wang, Yue (Virginia Polytechnic Institute and State University); Chen, Mei (Carnegie Mellon University)*

SaPoster_T4: 08:15-09:50 Virgo/Leo/Taurus
Diffusion Weighted MR (Poster Session)

08:15-09:50 SaPoster_T4.1
Model-Free Novelty-Based Diffusion MRI 1233-1236
Golkov, Vladimir (Technical Univ. of Munich); Sprenger, Tim (Technical Univ. of Munich); Sperl, Jonathan (GE Global Research); Menzel, Marion (GE Global Research); Czisch, Michael (Max Planck Institute of Psychiatry); Sämann, Philipp (Max Planck Institute of Psychiatry); Cremers, Daniel (Technical Univ. of Munich)*

08:15-09:50 SaPoster_T4.2
A New NMF-Autoencoder based Cad System for Early Diagnosis of Prostate Cancer 1237-1240
Reda, Islam (Faculty of Computers and Information, Mansoura University - BioI); Shalaby, Ahmed (University of Louisville); Abou El-Ghar, Mohamed (Radiology Department, Urology and Nephrology Center, University); Khalifa, Fahmi (University of Louisville); Elmogy, Mohammed (Faculty of Computers and Information, Mansoura University); Ahmed, Aboulfotouh (Information Systems Department, Faculty of Computers and Informat); Hosseini-Asl, Ehsan (University of Louisville); El-baz, Ayman (University of Louisville); Keynton, Robert (Bioengineering Department, University of Louisville)*

08:15-09:50 SaPoster_T4.3

A Sensitivity Analysis of Q-Space Indices with Respect to Changes in Axonal Diameter, Dispersion and Tissue Composition 1241-1244

Fick, Rutger H.J. (INRIA); Pizzolato, Marco (Athena Project-Team, Inria Sophia Antipolis - Mediterranee); Wassermann, Demian (Harvard); Zucchelli, Mauro (University of Verona); Menegaz, Gloria (University of Verona); Deriche, Rachid (INRIA Sophia Antipolis-Méditerranée)*

08:15-09:50 SaPoster_T4.4

Steering Second-Order Tensor Voting by Vote Clustering 1245-1248

Jörgens, Daniel (KTH Royal Institute of Technology); Smedby, Örjan (KTH Royal Institute of Technology); Moreno, Rodrigo (KTH Royal Institute of Technology)*

SaPoster_T7: 08:15-09:50 Virgo/Leo/Taurus

Pulmonary Image Analysis (Poster Session)

08:15-09:50 SaPoster_T7.1

Association between Tumor Heterogeneity and Overall Survival in Patients with Non-Small Cell Lung Cancer 1249-1252

Song, Jiangdian (Sino-Dutch Biomedical and Information Engineering School, Northe); Dong, Di (Chinese Academy of Sciences); Huang, Yanqi (Department of Radiology, Guangdong General Hospital, Guangdong A); Liu, Zaiyi (Department of Radiology, Guangdong General Hospital, Guangdong A); Tian, Jie (Chinese Academy of Sciences)*

08:15-09:50 SaPoster_T7.2

An Iso-Surfaces based Local Deformation Handling Framework of Lung Tissues 1253-1256

Soliman, Ahmed (University of Louisville); Khalifa, Fahmi (University of Louisville); Dunlap, Neal (University of Louisville, Louisville); Wang, Brian (University of Louisville); Abou El-Ghar, Mohamed (Radiology Department, Urology and Nephrology Center, University); El-baz, Ayman (University of Louisville)*

08:15-09:50 SaPoster_T7.3

Motion-Induced Monte Carlo Dose Calculation using Deformable Tetrahedral Meshes 1257-1260

Touileb, Yazid (LIRIS laboratory Université Claude Bernard LYON 1); Manescu, Petru (Claude Bernard University Lyon 1); Ladjal, Hamid (Lyon University); Azencot, Joseph (Liris Lyon University); Beuve, Michael (IPNL lyon 1); Shariat, Behzad (Université Lyon 1)*

08:15-09:50 SaPoster_T7.4

The Pythagorean Averages as Group Images in Efficient Groupwise Registration 1261-1264

Polfliet, Mathias (Vrije Universiteit Brussel); Klein, Stefan (Erasmus MC); Huizinga, Wyke (Erasmus MC - University Medical Center Rotterdam); de Mey, Johan (Universitair Ziekenhuis Brussel); Vandemeulebroucke, Jef (Vrije Universiteit Brussel (VUB); iMinds)*

08:15-09:50 SaPoster_T7.5

Segmentation Label Propagation using Deep Convolutional Neural Networks and Dense Conditional Random Field 1265-1268

Gao, Mingchen (National Institutes of Health); Xu, Ziyue (National Institutes of Health); Lu, Le (NIH); Wu, Aaron (NIH); Nogues, Isabella (National Institutes of Health); Summers, Ronald (National Institutes of Health Clinical Center); Mollura, Daniel J. (National Institutes of Health)*

08:15-09:50 SaPoster_T7.6

Derivation of a Test Statistic for Emphysema Quantification 1269-1273

Vegas-Sanchez-Ferrero, Gonzalo (Applied Chest Imaging Lab., Brigham and Women's Hospital, Harvar); Washko, George R. (Brigham Women's Hospital and Harvard Medical School); Rahaghi, Nicholas (University of California, San Diego); Ledesma-Carbayo, Maria J. (Universidad Politécnica de Madri); San Jose Estepar, Raul (Brigham Women's Hospital and Harvard Medical School)*

08:15-09:50 SaPoster_T7.7

Detection of Lung Injury using 4D-CT Chest Images 1274-1277

Soliman, Ahmed (University of Louisville); Khalifa, Fahmi (University of Louisville); Shaffie, Ahmed (University of Louisville); Dunlap, Neal (University of Louisville, Louisville); Wang, Brian (University of Louisville); Elmaghraby, Adel (University of Louisville); El-baz, Ayman (University of Louisville)*

SaPoster_T10: 08:15-09:50 Virgo/Leo/Taurus
Segmentation II (Poster Session)

08:15-09:50 SaPoster_T10.1
Classification of Multiple Sclerosis Lesion Evolution Patterns: A Study based on Unsupervised Clustering of Asynchronous Time-Series 1315-1319
Mure, Simon (Université de Lyon, CREATIS; CNRS UMR5220; Inserm U1044; INSA-Ly); Grenier, Thomas (Université de Lyon, CREATIS; CNRS UMR5220; Inserm U1044; INSA-Ly); Guttmann, Charles (Brigham and Women's Hospital - Harvard Medical School); Cotton, François (Hospices Civils de Lyon - CREATIS); Benoit-Cattin, Hugues (INSA Lyon)*

08:15-09:50 SaPoster_T10.2
Generic Method for Intensity Standardization of Medical Images using Multiscale Curvelet Representation 1320-1323
Mansoor, Awais (Children's National Health System); Linguraru, Marius George (Children's National Health System)*

08:15-09:50 SaPoster_T10.3
Segmentation of Organs in Pig Offal using Auto-Context 1324-1328
Amaral, Telmo (Newcastle University); Kyriazakis, Ilias (Newcastle University); McKenna, Stephen (University of Dundee); Ploetz, Thomas (Newcastle University)*

08:15-09:50 SaPoster_T10.4
Cochlear Implant Electrode Localization in Post-Operative CT using a Spherical Measure 1329-1333
Braithwaite, Benjamin (Technical University of Denmark); Kjer, Hans Martin (Technical University of Denmark); Fagertun, Jens (Technical University of Denmark); Gonzalez Ballester, Miguel Angel (Universitat Pompeu Fabra); Dhanasingh, Anandhan (MED-EL); Mistrik, Pavel (Medel); Gerber, Nicolas (University of Bern); Paulsen, Rasmus R. (Technical University of Denmark)*

08:15-09:50 SaPoster_T10.5
A Locally Constrained Statistical Shape Model for Robust Nasal Cavity Segmentation in Computed Tomography 1334-1337
Huang, Robin (University of Sydney); Li, Ang (The University of Sydney); Bi, Lei (University of Sydney); Li, Changyang (University of Sydney); Young, Paul (Woolcock Institute of Medical Research); King, Gregory (Sydney University); Feng, Dagan (The University of Sydney); Kim, Jinman (University of Sydney)*

08:15-09:50 SaPoster_T10.6
Metric Learning for Label Fusion in Multi-Atlas based Image Segmentation 1338-1341
Zhu, Hancan (Institute of Automation, Chinese Academy of Sciences); Cheng, Hewei (Institute of Automation); Yang, Xuesong (Institute of Automation, Chinese Academy of Sciences); Fan, Yong (Univ. of Pennsylvania)*

08:15-09:50 SaPoster_T10.7
Fully Convolutional Networks for Multi-Modality Isointense Infant Brain Image Segmentation 1342-1345
Nie, Dong (UNC); Wang, Li (UNC-Chapel Hill); Gao, Yaozong (The University of North Carolina at Chapel Hill); Shen, Dinggang (UNC-Chapel Hill)*

SaPoster_T11: 08:15-09:50 Virgo/Leo/Taurus
Vascular Imaging (Poster Session)

08:15-09:50 SaPoster_T11.1
3D Vascular Path Planning of Chemo-Embolizations using Segmented Hepatic Arteries from MR Angiography 1346-1349
Badoual, Anaïs (Ecole Polytechnique Fédérale de Lausanne); Gerard, Maxime (Polytechnique Montreal); De Leener, Benjamin (Polytechnique Montreal); Abi-Jaoudeh, Nadine (National Institutes of Health); Kadoury, Samuel (Polytechnique Montreal)*

08:15-09:50 SaPoster_T11.2
Quantitation of Arterial Spin Labeling MRI Labeling Efficiency in High Cervical Velocity Conditions using Phase Contrast Angiography 1350-1353
Juttukonda, Meher (Vanderbilt University Medical Center); Jordan, Lori (Vanderbilt University Medical Center); Gindville, Melissa (Vanderbilt University Medical Center); Pruthi, Sumit (Vanderbilt University Medical Center); Donahue, Manus (Vanderbilt University Medical Center)*

08:15-09:50 SaPoster_T11.3
Location-Specific Prediction of Vulnerable Plaque using IVUS, Virtual Histology, and Spatial Context ... 1354-1358
Zhang, Ling (University of Iowa); Wahle, Andreas (The University of Iowa); Chen, Zhi (The University of Iowa); Lopez, John (Loyola University); Kovarnik, Tomas (Charles University); Sonka, Milan (University of Iowa)*

08:15-09:50 SaPoster_T11.4
Multiscale Distribution Preserving Autoencoders for Plaque Detection in Intravascular Optical Coherence Tomography 1359-1362
Guha Roy, Abhijit (Indian Institution of Technology, Kharagpur); Conjeti, Sailesh (Technical Univ. of Munich); Carlier, Stephane (Univ. Ziekenhuis Brussel); Houissa, Khalil (Univ. of Mons); König, Andreas (Dept of Cardiology, Klinikum Innenstadt der Univ. Mu); Dutta, P.K. (School of Medical Science and Technology, IIT Kharagpur, India); Laine, Andrew F. (Columbia Univ.); Navab, Nassir (Technische Univ. München); Katouzian, Amin (Technical Univ. of Munich); Sheet, Debdoot (Indian Institute of Technology Kharagpur)*

08:15-09:50 SaPoster_T11.5
Deep Vessel Tracking: A Generalized Probabilistic Approach via Deep Learning 1363-1367
Wu, Aaron (NIH); Xu, Ziyue (National Institutes of Health); Gao, Mingchen (National Institutes of Health); Buty, Mario (NIH); Mollura, Daniel J. (National Institutes of Health)*

08:15-09:50 SaPoster_T11.6
Unsupervised Extraction of the Aortic Dissection Membrane based on a Multiscale Piecewise Ridge Model 1368-1371
Morariu, Cosmin Adrian (Duisburg-Essen, Intelligente Systeme); Zohourian, Farnoush (Duisburg-Essen, Intelligente Systeme); Dohle, Daniel (Duisburg-Essen, Department of Thoracic and Cardiovascular Surger); Tsagakis, Konstantinos (Duisburg-Essen, Department of Thoracic and Cardiovascular Surger); Pauli, Josef (Duisburg-Essen, Intelligente Systeme)*

SaAT2: 11:15-12:45 Zenit
MR Acquisition - Oral (Oral Session)

11:15-11:30 SaAT2.1
Distortion Correction in Fetal EPI using Non-Rigid Registration with Laplacian Constraint 1372-1375
Murgasova, Maria (Kings College London); Lockwood Estrin, Georgia (King's College London); Rutherford, Mary (King's College London); Rueckert, Daniel (Imperial College London); Hajnal, Joseph V. (King's College London)*

11:30-11:45 SaAT2.2
Variance Stabilization of Noncentral-Chi Data: Application to Noise Estimation in MRI 1376-1379
Pieciak, Tomasz (AGH Univ. of Science and Technology); Vegas-Sanchez-Ferrero, Gonzalo (Applied Chest Imaging Lab., Brigham and Women's Hospital, Harvar); Aja-Fernandez, Santiago (Universidad de Valladolid)*

11:45-12:00 SaAT2.3
Reference-Free EPI Nyquist Ghost Correction using Annihilating Filter-Based Low Rank Hankel Matrix for K-Space Interpolation 1380-1383
Lee, Juyoung (Korea Advanced Institute of Science and Technology); Jin, Kyong Hwan (KAIST); Ye, Jong Chul (Korea Advanced Inst of Science & Tech)*

12:00-12:15 SaAT2.4
Simultaneous Bayesian Correction of Slab Boundary Artifacts and Bias Field for High Resolution Ex Vivo MRI 1384-1387
Iglesias, Juan Eugenio (Basque Center on Cognition, Brain and Language (BCBL)); Paz-Alonso, Pedro (Basque Center on Cognition, Brain and Language (BCBL)); Lerma-Usabiaga, Garikoitz (Basque Center on Cognition, Brain and Language (BCBL)); Insausti, Ricardo (Human Neuroanatomy Laboratory, University of Castilla-La Mancha); Miller, Karla (Oxford University Centre for Functional MRI of the Brain (FMRIB)); Caballero Gaudes, Cesar (Basque Center on Cognition, Brain and Language)*

12:15-12:30 SaAT2.5
Sparse and Low-Rank Decomposition of MR Artifact Images using Annihilating Filter-Based Hankel Matrix 1388-1391
Jin, Kyong Hwan (KAIST); Lee, Juyoung (Korea Advanced Institute of Science and Technology); Lee, Dongwook (Korea Advanced Institute for Science and Technology); Ye, Jong Chul (Korea Advanced Inst of Science & Tech)*

SaAT3: 11:15-12:45 Kepler & Tycho
Computer-Aided Histopathology (Oral Session)
Chair: Munoz-Barrutia, Arrate *(Universidad Carlos III de Madrid)*
Co-Chair: Rajpoot, Nasir *(Qatar University & University of Warwick)*

11:15-11:30 SaAT3.1
Multi-Class Single-Label Classification of Histopathological Whole-Slide Images 1392-1396
Bug, Daniel (RWTH Aachen University); Schueler, Julia (Oncotest GmbH); Feuerhake, Friedrich (Hannover Medical School); Merhof, Dorit (RWTH Aachen University)*

11:30-11:45 SaAT3.2
Deep Features to Classify Skin Lesions 1397-1400
Kawahara, Jeremy (Simon Fraser University); BenTaieb, Aïcha (Simon Fraser University); Hamarneh, Ghassan (Simon Fraser University)*

11:45-12:00 SaAT3.3
A Computational Framework for Disease Grading using Protein Signatures 1401-1404
Zerhouni, Erwan Barry Tarik (IBM Research-Zurich); Prisacari, Bogdan (IBM Research-Zurich); Zhong, Qing (Institute of Surgical Pathology, University Hospital Zurich); Wild, Peter (University Hospital Zurich); Gabrani, Maria (IBM Research-Zurich)*

12:00-12:15 SaAT3.4
Gland Segmentation in Colon Histology Images using Hand-Crafted Features and Convolutional Neural Networks 1405-1408
Li, Wenqi (University College London); Manivannan, Siyamalan (Computer Vision and Image Processing group, School of Computing,); Akbar, Shazia (University of Dundee); Zhang, Jianguo (University of Dundee); Trucco, Emanuele (University of Dundee); McKenna, Stephen (University of Dundee)*

12:15-12:30 SaAT3.5
New General Features based on Superpixels for Image Segmentation Learning 1409-1413
Machairas, Vaïa (Mines ParisTech, Centre for Mathematical Morphology); Baldeweck, Thérèse (L'Oréal Research and Innovation); Walter, Thomas (Institut Curie, Mines ParisTech); Decenciere, Etienne (MINES ParisTech)*

SaAT4: 11:15-12:45 Meridian
Machine Learning - Oral (Oral Session)
Chair: de Bruijne, Marleen *(Erasmus MC - University Medical Center Rotterdam)*

11:15-11:30 SaAT4.1
Non-Uniform Patch Sampling with Deep Convolutional Neural Networks for White Matter Hyperintensity Segmentation 1414-1417
Ghafoorian, Mohsen (Diagnostic Image Analysis Group, Radboud University Medical Cent); Karssemeijer, Nico (Radboud University Medical Centre Nijmegen); Heskes, Tom (Radboud University Nijmegen); van Uden, Inge W.M. (Donders Institute for Brain, Cognition and Behaviour, Department); de Leeuw, Frank-Erik (Donders Institute for Brain, Cognition and Behaviour, Department); Marchiori, Elena (Institute for Computing and Information Sciences, Radboud Univer); van Ginneken, Bram (Radboud University Medical Center); Platel, Bram (Radboud University Nijmegen Medical Centre)*

11:30-11:45 SaAT4.2
A Hybrid Learning Approach for Semantic Labeling of Cardiac CT Slices and Recognition of Body Position 1418-1421
Moradi, Mehdi (IBM Research); Gur, Yaniv (IBM Almaden Research Center); Wang, Hongzhi (IBM Almaden Research Center); Prasanna, Prasanth (IBM Research - Almaden); Syeda-Mahmood, Tanveer (IBM Almaden Research Center)*

11:45-12:00 SaAT4.3
Automatic Localization of Locally Similar Structures based on the Scale-Widening Random Regression Forest 1422-1425
Stern, Darko (TU Graz); Ebner, Thomas (TU Graz); Urschler, Martin (Graz University of Technology)*