

POSTER PRESENTATIONS

Monday, September 17

11:30 – 12:30 Poster Session I

Reconstruction and Image Quality

- M-1 Conditional Generative Adversarial Networks for Metal Artifact Reduction in CT Images of the Ear**
*Jianing Wang**; Yiyuan Zhao; Jack Noble; Benoit Dawant
- M-2 Neural Network Evolution Using Expedited Genetic Algorithm for Medical Image Denoising**
*Peng Liu**; Yangjunyi Li; Mohammad D El Basha; Ruogu Fang
- M-3 Deep Convolutional Filtering for Spatio-temporal Denoising and Artifact Removal in Arterial Spin Labelling MRI**
*David Owen**; Andrew Melbourne; Zach Eaton-Rosen; David Thomas; Neil Marlow; Jonathan Rohrer; Sebastien Ourselin
- M-4 DeepASL: Kinetic Model Incorporated Loss for Denoising Arterial Spin Labeled MRI via Deep Residual Learning**
*Cagdas Ulas**; Giles Tetteh; Stephan Kaczmarz; Christine Preibisch; Bjoern Menze
- M-5 Direct Estimation of Pharmacokinetic Parameters from DCE-MRI using Deep CNN with Forward Physical Model Loss**
*Cagdas Ulas**; Giles Tetteh; Michael Thrippleton; Paul Armitage; Stephen Makin; Joanna Wardlaw; Mike Davies; Bjoern Menze
- M-6 Short Acquisition Time PET/MR Pharmacokinetic Modelling using CNNs**
*Catherine Scott**; Jieqing Jiao; M. Jorge Cardoso; Kerstin Kläser; Andrew Melbourne; Pawel Markiewicz; Jonathan Schott; Brian Hutton; Sebastien Ourselin
- M-7 Can Deep Learning Relax Endomicroscopy Hardware Miniaturization Requirements?**
*Saeed Izadi**; Kathleen P. Moriarty; Ghassan Hamarneh
- M-8 A Framework to Objectively Identify Reference Regions for Normalizing Quantitative Imaging**
*Amir Fazlollahi**; Scott Ayton; pierrick Bourgeat; Ibrahima Diouf; Parnesh Raniga; Jurgen Fripp; James Doecke; David Ames; Colin Masters; Christopher Rowe; Victor Villemagne; Ashley Bush; Olivier Salvado
- M-9 Evaluation of Adjoint Methods in Photoacoustic Tomography with Under-Sampled Sensors**
*Hongxiang Lin**; Takashi Azuma; Mehmet Burcin Unlu; Shu Takagi
- M-10 A No-Reference Retinal Vessel Tree Segmentation Quality Metric**
*Adrian Galdran**; Pedro Costa; Alessandro Bria; Teresa Araújo; Ana Maria Mendonça; Aurélio Campilho
- M-11 Efficient and Accurate MRI Super-Resolution using a Generative Adversarial Network and 3D Multi-Level Densely Connected Network**
Yuhua Chen*; Feng Shi; Anthony Christodoulou; Yibin Xie; Zhengwei Zhou; Debiao Li
- M-12 A Deep Learning based Anti-aliasing Self Super-resolution Algorithm for Magnetic Resonance Imaging**
*Can Zhao**; Aaron Carass; Blake E Dewey; Jonghye Woo; Jiwon Oh; Peter Calabresi; Daniel Reich; Pascal sati; Dzung Pham; Jerry Prince
- M-13 Gradient Profile Based Super Resolution of MR Images with Induced Sparsity**
*Prabhjot Kaur**; Anil Kumar Sao
- M-14 Deeper Image Quality Transfer: Training Low-Memory Neural Networks for 3D Images**
*Stefano B Blumberg**; Ryutarō Tanno; Iason Kokkinos; Daniel Alexander
- M-15 High Frame-rate Cardiac Ultrasound Imaging with Deep Learning**
*Ortal Senouf**; Sanketh Vedula; Grigoriy Zurakhov; Alex Bronstein; Michael Zibulevsky; Dan Adam; Oleg Michailovich; David S. Blondheim

- M-16 Phase-Sensitive Region-of-Interest Computed Tomography**
*Lina Felsner**; Martin Berger; Sebastian Kaeppler; Johannes Bopp; Veronika Ludwig; Thomas Weber; Georg Pelzer; Thilo Michel; Andreas K Maier; Gisela Anton; Christian Riess
- M-17 Some Investigations on Robustness of Deep Learning in Limited Angle Tomography**
*Yixing Huang**; Tobias Wuerfl; Katharina Breininger; Ling Liu; Guenter Lauritsch; Andreas K Maier
- M-18 Adversarial Sparse-View CBCT Artifact Reduction**
*Haofu Liao**; Zhimin Huo; William Sehnert; S. Kevin Zhou; Jiebo Luo
- M-19 Nasal Mesh Unfolding—an Approach to Obtaining 2-D Skin Templates from 3-D Nose Models**
*Hongying Li**; Marc Robini; Zhongwei Zhou; Wei Tang; Yuemin Zhu
- M-20 Towards Generating Personalized Volumetric Phantom from Patient's Surface Geometry**
*Yifan Wu**; Vivek Singh; Brian Teixeira; Kai Ma; Birgi Tamersoy; Andreas Krauss; Terrence Chen
- M-21 Multi-channel Generative Adversarial Network for Parallel Magnetic Resonance Image Reconstruction in K-space**
*Pengyue Zhang**; Fushen Wang; Wei Xu; Yulee Li
- M-22 A Learning-based Metal Artifacts Correction Method for MRI using Dual-Polarity Readout Gradients and Simulated Data**
*Kinam Kwon; Dongchan Kim; HyunWook Park**
- M-23 Motion Aware MR Imaging via Spatial Core Correspondence**
*Christoph Jud**; Damien Nguyen; Robin Sandkuehler; Alina Giger; Oliver Bieri; Philippe C. Cattin
- M-24 Nonparametric Density Flows for MRI Intensity Normalisation**
*Daniel Coelho de Castro**; Ben Glocker
- M-25 Ultra-fast T2-weighted MR Reconstruction using Complementary T1-weighted Information**
*Lei Xiang**; Yong Chen; Chang Weitang; Yiqiang Zhan; Weili Lin; Qian Wang; Dinggang Shen
- M-26 Image Reconstruction by Splitting Deep Learning Regularization from Iterative Inversion**
*Jiulong Liu; Tao Kuang; Xiaoqun Zhang**
- M-27 Adversarial and Perceptual Refinement for Compressed Sensing MRI Reconstruction**
*Maximilian Seitzer**; Guang Yang; Jo Schlemper; Ozan Oktay; Tobias Wuerfl; Vincent Christlein; Tom Wong; Raad Mohiaddin; David Firmin; Jennifer Keegan; Daniel Rueckert; Andreas K Maier
- M-28 Translation of 1D Inverse Fourier Transform of K-space to an Image based on Deep Learning for Accelerating Magnetic Resonance Imaging**
*Taejoon Eo**; Hyungseob Shin; Taeseong Kim; Yohan Jun; Dosik Hwang
- M-29 Deep Learning using K-space Based Data Augmentation for Automated Cardiac MR Motion Artefact Detection**
*Ilkay Oksuz; Bram Ruijsink; Esther Puyol Anton; Aurelien Bustin**; Gastao Cruz; Claudia Prieto; Daniel Rueckert; Julia A Schnabel; Andrew King
- M-30 Cardiac MR Segmentation from Undersampled k-space using Deep Latent Representation Learning**
*Jo Schlemper**; Ozan Oktay; Wenjia Bai; Daniel Coelho de Castro; Jinming Duan; Chen Qin; Joseph Hajnal; Daniel Rueckert
- M-31 Stochastic Deep Compressive Sensing for the Reconstruction of Diffusion Tensor Cardiac MRI**
*Jo Schlemper; Guang Yang**; Pedro Ferreira; Andrew Scott; Laura-Ann McGill; Zohya Khaliq; Margarita Gorodezky; Malte Roehl; Jennifer Keegan; Dudley Pennell; David Firmin; Daniel Rueckert
- M-32 A Comprehensive Approach for Learning-based Fully-Automated Inter-slice Motion Correction for Short-Axis Cine Cardiac MR Image Stacks**
*Giacomo Tarroni**; Ozan Oktay; Matthew Sinclair; Wenjia Bai; Andreas Schuh; Hideaki Suzuki; Antonio de Marvao; Declan O'Regan; Stuart Cook; Daniel Rueckert
- M-33 Automatic View Planning with Multi-scale Deep Reinforcement Learning Agents**
*Amir Alansary**; Loic Le Folgoc; Ghislain Vaillant; Ozan Oktay; Yuanwei Li; Wenjia Bai; Jonathan Passerat-Palmbach; Ricardo Guerrero; Konstantinos Kamnitsas; Benjamin Hou; Steven McDonagh; Ben Glocker; Bernhard Kainz; Daniel Rueckert
- M-34 Automatic, Fast and Robust Characterization of Noise Distributions for Diffusion MRI**
*Samuel St-Jean**; Alberto De Luca; Max Viergever; Alexander Leemans

- M-35 Towards MR-Only Radiotherapy Treatment Planning: Synthetic CT Generation Using Multi-view Deep Convolutional Neural Networks**
*Yu Zhao**; *Shu Liao*; *Yimo Guo*; *Liang Zhao*; *Zhennan Yan*; *Sungmin Hong*; *Gerardo Hermosillo*; *Tianming Liu*; *Xiang Zhou*; *Yiqiang Zhan*
- M-36 An Automated Localization, Segmentation and Reconstruction Framework for Fetal Brain MRI**
*Michael Ebner**; *Guotai Wang*; *Wenqi Li*; *Michael Aertsen*; *Premal Patel*; *Rosalind Aughwane*; *Andrew Melbourne*; *Tom Doel*; *Anna L. David*; *Jan Deprest*; *Sebastien Ourselin*; *Tom Vercauteren*
- M-37 Retinal Image Understanding Emerges from Self-Supervised Multimodal Reconstruction**
*Álvaro S Hervella**; *José Rouco*; *Jorge Novo*; *Marcos Ortega*
- M-38 Locality Adaptive Multi-modality GANs for High-quality PET Image Synthesis**
Yan Wang; *Luping Zhou**; *Lei Wang*; *Biting Yu*; *Chen Zu*; *David Lalush*; *Weili Lin*; *Xi Wu*; *Jiliu Zhou*; *Dinggang Shen*
- M-39 Joint PET+MRI Patch-based Dictionary for Bayesian Random Field PET Reconstruction**
*Viswanath PS**; *Zhaolin Chen*; *Suyash P. Awate*
- M-40 Analysis of 3D Facial Dymorphology in Genetic Syndromes from Unconstrained 2D Photographs**
*Liyun Tu**; *Antonio Reyes Porras Perez*; *Alec Boyle*; *Marius Linguraru*
- M-41 Dual-Domain Cascaded Regression for Synthesizing 7T from 3T MRI**
*Yongqin Zhang**; *Jiezhi Cheng*; *Lei Xiang*; *Pew-Thian Yap*; *Dinggang Shen*
- M-42 Double Your Views - Exploiting Symmetry in Transmission Imaging**
*Alexander Preuhs**; *Andreas K Maier*; *Michael Manhart*; *Javad Fotouhi*; *Nassir Navab*; *Mathias Unberath*
- M-43 Real Time RNN Based 3D Ultrasound Scan Adequacy for Developmental Dysplasia of the Hip**
*Olivia Paserin**; *Kishore Mulpuri*; *Anthony Cooper*; *Antony J Hodgson*; *Rafeef Abugarbieh*
- M-44 Direct Reconstruction of Ultrasound Elastography Using an End-to-End Deep Neural Network**
Sitong Wu; *Zhifan Gao*; *Jianwen Luo*; *Zhi Liu**; *Heye Zhang*; *Shuo Li*
- M-45 3D Fetal Skull Reconstruction from 2DUS via Deep Conditional Generative Networks**
*Juan J. Cerrolaza**; *Yuanwei Li*; *Carlo Biffi*; *Alberto Gomez*; *Matthew Sinclair*; *Jacqueline Matthew*; *Caroline Knight*; *Bernhard Kainz*; *Daniel Rueckert*
- M-46 Towards Radiotherapy Enhancement and Real Time Tumor Radiation Dosimetry Through 3D Imaging of Gold Nanoparticles using XFCT**
*Caroline Vienne**; *Adrien Stolidi*; *Hermine Lemaire*; *Daniel Maier*; *Diana Renaud*; *Romain Grall*; *Sylvie Chevillard*; *Emilie Brun*; *Cecile Sicard*; *Olivier Limousin*
- M-47 Standard Plane Detection in 3D Fetal Ultrasound Using an Iterative Transformation Network**
*Yuanwei Li**; *Bishesh Khanal*; *Benjamin Hou*; *Amir Alansary*; *Juan Cerrolaza*; *Matthew Sinclair*; *Jacqueline Matthew*; *Chandni Gupta*; *Caroline Knight*; *Bernhard Kainz*; *Daniel Rueckert*

Machine Learning and Statistical Analysis

- M-48 Fast Multiple Landmark Localisation Using a Patch-based Iterative Network**
*Yuanwei Li**; *Amir Alansary*; *Juan Cerrolaza*; *Bishesh Khanal*; *Matthew Sinclair*; *Jacqueline Matthew*; *Chandni Gupta*; *Caroline Knight*; *Bernhard Kainz*; *Daniel Rueckert*
- M-49 SPNet: Shape Prediction using a Fully Convolutional Neural Network**
*SM Masadur Raman Al Arif**; *Karen Knapp*; *Greg Slabaugh*
- M-50 Roto-Translation Covariant Convolutional Networks for Medical Image Analysis**
*Erik J Bekkers**; *Maxime Lafarge*; *Mitko Veta*; *Koen Eppenhof*; *Josien Plum*; *Remco Duits*
- M-51 Bimodal Network Architectures for Automatic Generation of Image Annotation from Text**
*Mehdi Moradi**; *Ali Madani*; *Yaniv Gur*; *Yufan Guo*; *Tanveer Syeda-Mahmood*
- M-52 Multimodal Recurrent Model with Attention for Automated Radiology Report Generation**
*Yuan Xue**; *Tao Xu*; *L.Rodney Long*; *Zhiyun Xue*; *Sameer Antani*; *George Thoma*; *Xiaolei Huang*
- M-53 Magnetic Resonance Spectroscopy Quantification using Deep Learning**
*Nima Hatami**; *Michael Sdika*; *Helene Ratiney*

- M-54 A Lifelong Learning Approach to Brain MR Segmentation Across Scanners and Protocols**
*Neerav Karani**; Krishna Chaitanya; Christian Baumgartner; Ender Konukoglu
- M-55 Respond-CAM: Analyzing Deep Models for 3D Imaging Data by Visualizations**
*Guannan Zhao; Bo Zhou; Kaiwen Wang; Rui Jiang; Min Xu**
- M-56 Generalizability vs. Robustness: Adversarial Examples for Medical Imaging**
*Magdalini Paschali**; Sailesh Conjeti; Fernando Navarro; Nassir Navab
- M-57 Subject2Vec: Generative-Discriminative Approach from a Bag of Image Patches to a Vector**
*Sumedha Singla; Mingming Gong; Siamak Ravanbakhsh; Frank Sciurba; Barnabas Poczos; Kayhan Batmanghelich**
- M-58 3D Context Enhanced Region-based Convolutional Neural Network for End-to-End Lesion Detection**
*Ke Yan**; Mohammadhadi Bagheri; Ronald Summers
- M-59 Keep and Learn: Continual Learning by Constraining the Latent Space for Knowledge Preservation in Neural Networks**
*Hyo-Eun Kim**; Seung Wook Kim; Jaehwan Lee
- M-60 Distribution Matching Losses Can Hallucinate Features in Medical Image Translation**
*Joseph Paul Cohen**; Margaux Luck; Sina Honari
- M-61 Generative Invertible Networks (GIN): Pathophysiology-Interpretable Feature Mapping and Virtual Patient Generation**
*Jialei Chen**; Yujia Xie; Kan Wang; Zih Hwei Wang; Geet Lahoti; Chuck Zhang; Mani Vannan; Ben Wang; Zhen Qian
- M-62 Training Medical Image Analysis Systems like Radiologists**
*Gabriel Maicas**; Andrew Bradley; Jacinto Nascimento; Ian Reid; Gustavo Carneiro
- M-63 Joint High-Order Multi-Task Feature Learning to Predict the Progression of Alzheimer's Disease**
*Lodewijk Brand; Hua Wang**; Heng Huang; Shannon Risacher; Andrew Saykin; Li Shen
- M-64 Concurrent Spatial and Channel Squeeze & Excitation in Fully Convolutional Networks**
*Abhijit Guha Roy**; Nassir Navab; Christian Wachinger
- M-65 Inherent Brain Segmentation Quality Control from Fully ConvNet Monte-Carlo Sampling**
*Abhijit Guha Roy**; Sailesh Conjeti; Nassir Navab; Christian Wachinger
- M-67 Recurrent Neural Networks for Classifying Human Embryonic Stem Cell-derived Cardiomyocytes**
*Carolina Pacheco**; Rene Vidal
- M-68 Group-driven Reinforcement Learning for Personalized mHealth Intervention**
*Feiyun Zhu**; Jun Guo; Zheng Xu; Peng Liao; Liu Yang; Junzhou Huang
- M-69 Joint Correlational and Discriminative Ensemble Classifier Learning for Dementia Stratification Using Shallow Brain Multiplexes**
*Rory Raeper; Anna Lisowska; Islem Rekik**
- M-70 FDR-HS: An Empirical Bayesian Identification of Heterogenous Features in Neuroimage Analysis**
*Xinwei Sun; Lingjing Hu; Fandong Zhang; Yuan Yao**; Yizhou Wang
- M-71 Order-Sensitive Deep Hashing for Multimorbidity Medical Image Retrieval**
*Zhixiang Chen; Ruojin Cai; Jiwen Lu**; Jianjiang Feng; Jie Zhou
- M-72 Exact Combinatorial Inference for Brain Images**
*Moo Chung**; Zhan Luo; Alex Leow; Andrew Alexander; Richard Davidson; Hill Goldsmith
- M-73 Statistical Inference with Ensemble of Clustered Desparsified Lasso**
*Jerome-Alexis Chevalier**; Bertrand Thirion; Joseph Salmon
- M-74 Low-Rank Representation for Multi-Center Autism Spectrum Disorder Identification**
*Mingliang Wang**; Daoqiang Zhang; Jiashuang Huang; Dinggang Shen; Mingxia Liu
- M-75 Exploring Uncertainty Measures in Deep Networks for Multiple Sclerosis Lesion Detection and Segmentation**
*Tanya Nair; Doina Precup; Douglas Arnold; Tal Arbel**
- M-76 Omni-supervised Learning: Scaling up to Large Unlabelled Medical Datasets**
*Ruobing Huang**; Alison Noble; Ana Ineyda L Namburete
- M-77 Perfect MCMC Sampling in Bayesian MRFs for Uncertainty Estimation in Segmentation**
*Saurabh Garg; Suyash P. Awate**

M-78 On the Effect of Inter-observer Variability for a Reliable Estimation of Uncertainty of Medical Image Segmentation

*Alain Jungo**; *Raphael Meier*; *Ekin Ermis*; *Marcela Blatti-Moreno*; *Evelyn Herrmann*; *Roland Wiest*; *Mauricio Reyes*

M-79 Towards Safe Deep Learning: Accurately Quantifying Biomarker Uncertainty in Neural Network Predictions

*Zach Eaton-Rosen**; *Felix JS Bragman*; *Sotirios Bisdas*; *Sebastien Ourselin*; *M. Jorge Cardoso*

18:00 – 19:30 Poster Session II

Registration and Image Guidance

- M-80 Registration-based Patient-specific Musculoskeletal Modeling using High Fidelity Cadaveric Template Model**
Yoshito Otake; Masaki Takao; Norio Fukuda; Shu Takagi; Naoto Yamamura; Nobuhiko Sugano; Yoshinobu Sato*
- M-81 Atlas Propagation through Template Selection**
Hongzhi Wang; Rui Zhang*
- M-82 Spatio-Temporal Atlas of Bone Mineral Density Ageing**
Mohsen Farzi; Jose M. Pozo; Eugene McCloskey; Richard Eastell; Mark Wilkinson; Alejandro F Frangi*
- M-83 Unsupervised Learning for Fast Probabilistic Diffeomorphic Registration**
Adrian V Dalca; Guha Balakrishnan; John Guttag; Mert Sabuncu*
- M-84 Adversarial Similarity Network for Evaluating Image Alignment in Deep Learning based Registration**
Jingfan Fan; Xiaohuan Cao; Zhong Xue; Pew-Thian Yap; Dinggang Shen*
- M-85 Improving Surgical Training Phantoms by Hyperrealism: Deep Unpaired Image-to-Image Translation from Real Surgeries**
Sandy Engelhardt; Raffale De Simone; Peter M. Full; Matthias Karck; Ivo Wolf*
- M-86 Computing CNN Loss and Gradients for Pose Estimation with Riemannian Geometry**
Benjamin Hou; Nina Miolane; Bishesh Khanal; Matthew Lee; Amir Alansary; Steven McDonagh; Joseph Hajnal; Daniel Rueckert; Ben Glocker; Bernhard Kainz*
- M-87 GDL-FIRE4D: General Considerations for Deep Learning-based Fast 4D Image Registration**
Thilo Sentker; Frederic Madesta; Rene Werner*
- M-88 Adversarial Deformation Regularisation for Training Image Registration Neural Networks**
Yipeng Hu; Eli Gibson; Nooshin Ghavami; Ester Bonmati; Caroline Moore; Mark Emberton; Tom Vercauteren; Alison Noble; Dean Barratt*
- M-89 Fast Registration by Boundary Sampling and Linear Programming**
Jan Kybic; Jiri Borovec*
- M-90 Learning an Infant Body Model from RGB-D Data for Accurate Full Body Motion Analysis**
Nikolas Hesse; Sergi Pujades; Javier Romero; Michael J. Black; Christoph Bodensteiner; Michael Arens; Ulrich Hofmann; Uta Tacke; Mijna Hadders-Algra; Raphael Weinberger; Wolfgang Müller-Felber; Sebastian Schroeder*
- M-91 Consistent Correspondence of Cone-Beam CT Images using Volume Functional Maps**
Yungeng Zhang; Yuru Pei; Yuke Guo; Gengyu Ma; Tianmin Xu; Hongbin Zha*
- M-92 Elastic Registration of Geodesic Vascular Graphs**
Stefano Moriconi; Maria A. Zuluaga; Rolf Jäger; Parashkev Nachev; Sebastien Ourselin; M. Jorge Cardoso*
- M-93 Efficient Groupwise Registration for MR Brain Images via Hierarchical Graph Set Shrinkage**
*Pei Dong; Xiaohuan Cao; Pew-Thian Yap; Dinggang Shen**
- M-94 Initialize Globally before Acting Locally: Enabling Landmark-free 3D US to MRI Registration**
Julia Rakerseder; Maximilian Baust; Ruediger Goebel; Nassir Navab; Christoph Hennemersperger*
- M-95 Solving the Cross-Subject Parcel Matching Problem using Optimal Transport**
Guillermo A Gallardo; Nathalie Gayraud; Rachid Deriche; Maureen Clerc; Samuel Deslauriers-Gauthier; Demian Wassermann*
- M-96 GlymphVIS: Visualizing Glymphatic Transport Pathways using Regularized Optimal Transport**
Rena Elkin; Saad Nadeem; Eldad Haber; Klara Steklova; Hedok Lee; Helene Benveniste; Allen Tannenbaum*
- M-97 Hierarchical Spherical Deformation for Shape Correspondence**
Ilwoo Lyu; Martin Styner; Bennett A Landman*
- M-98 Diffeomorphic Brain Shape Modelling using Gauss-Newton Optimisation**
Yaël Balbastre; Mikael Brudfors; Kevin Bronik; John Ashburner*

- M-99 Multi-task SonoEyeNet: Detection of Fetal Standardized Planes Assisted By Generated Sonographer Attention Maps**
*Yifan Cai**; Harshita Sharma; Pierre Chatelain; Alison Noble
- M-100 Efficient Laplace Approximation for Bayesian Registration Uncertainty Quantification**
*Jian Wang**; William Wells; Polina Golland; Miaomiao Zhang
- M-101 Uncertainty in Multitask Learning: Joint Representations for Probabilistic MR-only Radiotherapy Planning**
*Felix JS Bragman**; Ryutaro Tanno; Zach Eaton-Rosen; Wenqi Li; David Hawkes; Sebastien Ourselin; Daniel Alexander; Jamie R McClelland; M. Jorge Cardoso
- M-102 A Combined Simulation & Machine Learning Approach for Image-based Force Classification during Robotized Intravitreal Injections**
*Andrea Mendizabal**; Jan Hermann; Tatiana Fountoukidou; Raphael Sznitman; Stephane Cotin
- M-103 Learning from Noisy Label Statistics: Detecting High Grade Prostate Cancer in Ultrasound Guided Biopsy**
*Shekoofeh Azizi**; Pingkun Yan; Amir Tahmasebi; Peter Pinto; Bradley Wood; Jin Tae Kwak; Sheng Xu; Baris Turkbey; Peter Choyke; Parvin Mousavi; Purang Abolmaesumi
- M-104 A Feature-Driven Active Framework for Ultrasound-Based Brain Shift Compensation**
*Jie Luo**; Matthew Toews; Ines Machado; Sarah Frisken; Miaomiao Zhang; Frank Preiswerk; Alireza Sedghi; Hongyi Ding; Steve Pieper; Polina Golland; Alexandra Golby; Masashi Sugiyama; William Wells
- M-105 Soft-Body Registration of Pre-operative CT to Intra-operative RGBD Partial Body Scans**
*Richard Modrzejewski**; Toby Collins; Adrien Bartoli; Alexandre Hostettler; Jacques Marescaux
- M-106 Automatic Classification of Cochlear Implant Electrode Cavity Positioning**
*Jack Noble**; Robert Labadie; Benoit Dawant

Optical and Histology Applications

- M-107 Instance Segmentation and Tracking with Cosine Embeddings and Recurrent Hourglass Networks**
*Christian Payer**; Darko Stern; Thomas Neff; Horst Bischof; Martin Urschler
- M-108 Skin Lesion Classification in Dermoscopy Images Using Synergic Deep Learning**
*Jianpeng Zhang; Yutong Xie; Qi Wu; Yong Xia**
- M-109 SLSDeep: Skin Lesion Segmentation Based on Dilated Residual and Pyramid Pooling Networks**
*Md. Mostafa Kamal Sarker**; Hatem A. Rashwan; Farhan Akram; Syeda Furraka Banu; Adel Saleh; Vivek Kumar Singh; Forhad U H Chowdhury; Saddam Abdulwahab; Santiago Romani; Petia Radeva; Domenec Puig
- M-110 β -hemolysis Detection on Cultured Blood Agar Plates by Convolutional Neural Networks**
*Mattia Savardi; Sergio Benini; Alberto Signoroni**
- M-111 A Pixel-wise Distance Regression Approach for Joint Retinal Optical Disc and Fovea Detection**
*Maria Ines Ferraz Meyer**; Adrian Galdran; Ana Maria Mendonça; Aurélio Campilho
- M-112 Deep Random Walk for Drusen Segmentation from Fundus Images**
*Fang Yan; Jia Cui; Yu Wang; Hong Liu; Hui Liu; Benzhen Wei; Yilong Yin; Yuanjie Zheng**
- M-113 Retinal Artery and Vein Classification via Dominant Sets Clustering based Vascular Topology Estimation**
*Yitian Zhao**; Jianyang Xie; Pan Su; Yalin Zheng; Yonghuai Liu; Jun Cheng; Jiang Liu
- M-114 Uniqueness-Driven Saliency Analysis for Automated Lesion Detection with Applications to Retinal Diseases**
*Yitian Zhao**; Yalin Zheng; Yifan Zhao; Yonghuai Liu; Zhili Chen; Peng Liu; Jiang Liu
- M-115 Towards a Glaucoma Risk Index Based on Simulated Hemodynamics from Fundus Images**
*José Ignacio Orlando; Joao Barbosa Breda**; Karel van Keer; Matthew Blaschko; Pablo J Blanco; Carlos Alberto Bulant

- M-116 A Framework for Identifying Diabetic Retinopathy Based on Anti-noise Detection and Attention-based Fusion**
*Zhiwen Lin; Ruoqian Guo; Yanjie Wang; Bian Wu; Tingting Chen; Wenzhe Wang; Danny Z Chen; Jian Wu**
- M-117 Deep Supervision with Additional Labels for Retinal Vessel Segmentation Task**
Yishuo Zhang; Albert Chung*
- M-118 A Multi-task Network to Detect Junctions in Retinal Vasculature**
Fatmatulzehra Uslu; Anil Anthony Bharath*
- M-119 A Multi-Task Learning Architecture: Application to Simultaneous Bright and Dark Lesions Segmentation in Color Fundus Images**
Clement Ployout; Renaud Duval; Farida Cheriet*
- M-120 Multiscale Network Followed Network Model for Retinal Vessels Segmentation**
Wu YiCheng; Yong Xia; Yang Song; Yanning Zhang; Weidong Cai*
- M-121 Predicting Cancer with a Recurrent Visual Attention Model for Histopathology Images**
Aicha BenTaieb; Ghassan Hamarneh*
- M-122 A Deep Model with Shape-preserving Loss for Gland Instance Segmentation**
Zengqiang Yan; Xin Yang; Kwang-Ting Cheng*
- M-123 Model-based Refinement of Nonlinear Registrations in 3D Histology Reconstruction**
Juan Eugenio Iglesias; Marco Lorenzi; Sebastiano Ferraris; Loic Peter; Marc Modat; Allison Stevens; Bruce Fischl; Tom Vercauteren*
- M-124 Invasive Cancer Detection Utilizing Compressed Convolutional Neural Network and Transfer Learning**
Bin Kong; Shanhui Sun; Xin Wang; Qi Song; Shaoting Zhang*
- M-125 Which Way Round? A Study on the Performance of Stain-Translation for Segmenting Arbitrarily Dyed Histological Images**
Michael Gadermayr; Vitus Appel; Barbara Klinkhammer; Peter Boor; Dorit Merhof*
- M-126 Graph CNN for Survival Analysis on Whole Slide Pathological Images**
*Ruoyu Li; Jiawen Yao; Xinliang Zhu; Yeqing Li; Junzhou Huang**
- M-127 Fully Automated Blind Color Deconvolution of Histopathological Images**
Natalia Hidalgo; Javier Mateos; Miguel Vega; Rafael Molina Soriano; Aggelos Katsaggelos*
- M-128 Improving Whole Slide Segmentation Through Visual Context - A Systematic Study**
Korsuk Sirinukunwattana; Jens Rittscher; Clare Verrill; Nasullah Khalid Alham*
- M-129 Adversarial Domain Adaptation for Classification of Prostate Histopathology Whole-Slide Images**
Jian Ren; Ilker Hacihaliloglu; Eric Singer; David Foran; Xin Qi*
- M-130 Rotation Equivariant CNNs for Digital Pathology**
Bastiaan S Veeling; Jasper Linmans; Jim Winkens; Taco Cohen; Max Welling*
- M-131 A Probabilistic Model Combining Deep Learning and Multi-atlas Segmentation for Semi-automated Labelling of Histology**
Alessia Atzeni; Marnix Jansen; Sebastien Ourselin; Juan Eugenio Iglesias*
- M-132 BESNet: Boundary-enhanced Segmentation of Cells in Histopathological Images**
Hirohisa Oda; Holger Roth; Kosuke Chiba; Jure Sokolic; Takayuki Kitasaka; Masahiro Oda; Akinari Hinoki; Hiroo Uchida; Julia A Schnabel; Kensaku Mori*
- M-133 Panoptic Segmentation with an End-to-end Cell R-CNN for Pathology Image Analysis**
Donghao Zhang; Yang Song; Dongnan Liu; Haozhe Jia; Siqi Liu; Yong Xia; Heng Huang; Weidong Cai*
- M-134 Integration of Spatial Distribution in Imaging-Genetics**
Vaishnavi Subramanian; Weizhao Tang; Benjamin Chidester; Jian Ma; Minh Do*
- M-135 Multiple Instance Learning for Heterogeneous Images: Training a CNN for Histopathology**
Heather D Couture; Steve Marron; Charles Perou; Melissa Troester; Marc Niethammer*
- M-136 Cell Detection with Star-convex Polygons**
Uwe Schmidt; Martin Weigert; Coleman W Broaddus; Gene Myers*

- M-137 Deep Convolutional Gaussian Mixture Model for Stain-Color Normalization of Histopathological Images**
*Farhad Ghazvinian Zanjani**; Sveta Zinger; P. H. N. de With
- M-138 Learning to Segment 3D Linear Structures Using Only 2D Annotations**
*Mateusz Kozinski**; Agata Mosinska; Mathieu Salzmann; Pascal Fua
- M-139 A Multiresolution Convolutional Neural Network with Partial Label Training for Annotating Reflectance Confocal Microscopy Images of Skin**
*Alican Bozkurt**; Kivanc Kose; Dana Brooks; Jennifer Dy; Milind Rajadhyaksha; Christi Alessi-Fox; Melissa Gill
- M-140 A Weakly-Supervised Learning-Based Feature Localization in Confocal Laser Endomicroscopy Glioma Images**
*Mohammadhassan Izadyazdanabadi**; Evgenii Belykh; Claudio Cavallo; Kyle Zhao; Sirin Gandhi; Leandro Moreira; Jennifer Eschbacher; Peter Nakaji; Mark Preul; Yezhou Yang
- M-141 Synaptic Partner Prediction from Point Annotations in Insect Brains**
*Julia Buhmann**; Renate Krause; Rodrigo Ceballos Lentini; Nils Eckstein; Matthew Cook; Srinivas Turaga; Jan Funke
- M-142 Synaptic cleft segmentation in non-isotropic volume electron microscopy of the complete Drosophila brain**
*Larissa Heinrich; Jan Funke; Constantin Pape; Juan Nunez-Iglesias; Stephan Saalfeld**
- M-143 Weakly Supervised Representation Learning for Endomicroscopy Image Analysis**
*Yun Gu**; Khushi Vyas; Jie Yang; Guang-Zhong Yang
- M-144 DeepHCS: Bright-field to Fluorescence Microscopy Image Conversion using Deep Learning for Label-free High-Content Screening**
*Gyuhyun Lee**; Jeongwoo Oh; Mesun Kang; Namgu Her; Myoung-Hee Kim; Won-Ki Jeong
- M-145 A Cascaded Refinement GAN for Phase Contrast Microscopy Image Super Resolution**
*Liang Han; Zhaozheng Yin**
- M-146 Multi-Context Deep Network for Angle-Closure Glaucoma Screening in Anterior Segment OCT**
*Huazhu Fu; Yanwu Xu**; Stephen Lin; Damon Wong; Mani Baskaran; Meenakshi Mahesh; Tin Aung; Jiang Liu
- M-147 Analysis of Morphological Changes of the Lamina Cribrosa under Acute Intraocular Pressure Change**
*Mathilde Ravier**; Sungmin Hong; Charly Giro; Hiroshi Ishikawa; Jenna Tauber; Gadi Wollstein; Joel Schuman; James Fishbaugh; Guido Gerig
- M-148 Beyond Retinal Layers: A Large Blob Detection for Subretinal Fluid Segmentation in SD-OCT Images**
*Zexuan Ji**; Qiang Chen; Menglin Wu; Sijie Niu; Wen Fan; Songtao Yuan; Quansen Sun
- M-149 Automated Choroidal Neovascularization Detection for Time Series SD-OCT Images**
*Yuchun Li; Sijie Niu; Zexuan Ji; Wen Fan; Songtao Yuan; Qiang Chen**
- M-150 CapsDeMM: Capsule Network for Detection of Munro's Microabscess in Skin Biopsy Images**
*Anabik Pal**; Akshay Chaturvedi; Utpal Garain; Aditi Chandra; Raghunath Chatterjee; Swapan Senapati
- M-151 Webly Supervised Learning for Skin Lesion Classification**
*Fernando Navarro**; Sailesh Conjeti; Federico Tombari; Nassir Navab
- M-152 Feature Driven Local Cell Graph (FeDeG): Predicting Overall Survival in Early Stage Lung Cancer**
*Cheng Lu**; Xiangxue Wang; Prateek Prasanna; Geoffrey Sedor; Kaustav Bera; German Corredor; Vamsidhar Velcheti; Anant Madabushi

Tuesday, September 18

11:30 – 12:30 Poster Session III

Cardiac, Chest and Abdominal Applications

- T-1 Hashing-Based Atlas Ranking and Selection for Multiple-Atlas Segmentation**
*Amin Katouzian**; Hongzhi Wang; Sailesh Conjeti; Hui Tang; Ehsan Dehghan Marvasti; Alexandros Karagyris; Anup Pillai; Kenneth Clarkson; Nassir Navab
- T-2 Corners detection for bioresorbable vascular scaffolds segmentation in IV OCT images**
*Linlin Yao; Yihui Cao**; Qinhuo Jin; Jing Jing; Yundai Chen; Jianan Li; Rui Zhu
- T-3 Towards Accurate and Complete Registration of Coronary Arteries in CTA images**
*Shaowen Zeng**; Jianjiang Feng; Yunqiang An; Bin Lu; Jiwen Lu; Jie Zhou
- T-4 Quantifying Tensor Field Similarity with Global Distributions and Optimal Transport**
*Arnold Gomez**; Maureen Stone; Philip Bayly; Jerry Prince
- T-5 Cardiac Motion Scoring with Segment- and Subject-level Non-Local Modeling**
*Wufeng Xue; Gary Brahm; Stephanie Leung; Oglia Shmulovich; Shuo Li**
- T-6 Computational Heart Modeling for Evaluating Efficacy of MRI Techniques in Predicting Appropriate ICD Therapy**
*Eranga Ukwatta**; Plaman Nikolov; Natalia A. Trayanova; Graham Wright
- T-7 Multiview Two-Task Recursive Attention Model for Left Atrium and Atrial Scars Segmentation**
*Jun Chen; Guang Yang; Zhifan Gao; Hao Ni; Elsa Angelini; Tom Wong; Raad Mohiaddin; Yanping Zhang; Xiuquan Du; Heye Zhang**; Jennifer Keegan; David Firmin
- T-8 Learning Interpretable Anatomical Features Through Deep Generative Models: Application to Cardiac Remodeling**
*Carlo Biffi**; Ozan Oktay; Giacomo Tarroni; Wenjia Bai; Antonio De Marva; Georgia Doumou; Martin Rajchl; Reem Bedair; Sanjay Prasad; Stuart Cook; Declan O'Regan; Daniel Rueckert
- T-9 Joint Learning of Motion Estimation and Segmentation for Cardiac MR Image Sequences**
*Chen Qin**; Wenjia Bai; Jo Schlemper; Steffen Petersen; Stefan Piechnik; Stefan Neubauer; Daniel Rueckert
- T-10 Multi-Input and Dataset-Invariant Adversarial Learning (MDAL) for Left and Right-Ventricular Coverage Estimation in Cardiac MRI**
*Le Zhang**; Macro Pereanez; Stefan Piechnik; Stefan Neubauer; Steffen Petersen; Alejandro F Frangi
- T-11 Factorised spatial representation learning: application in semi-supervised myocardial segmentation**
*Agisilaos Chartsias**; Thomas Joyce; Giorgos Papanastasiou; Scott Semple; Michelle Williams; David Newby; Rohan Dharmakumar; Sotirios Tsaftaris
- T-12 The Deep Poincaré Map: A Novel Approach for Left Ventricle Segmentation**
*Yuanhan Mo**; Fangde Liu; Mcilwraith Douglas; Guang Yang; Jingqing Zhang; Taigang He; Yike Guo
- T-13 Bayesian VoxDRN: A Probabilistic Deep Voxelwise Dilated Residual Network for Whole Heart Segmentation from 3D MR Images**
*Zenglin Shi; Guodong Zeng; Le Zhang; Xiahai Zhuang; Lei Li; Guang Yang; Guoyan Zheng**
- T-14 Real-time Prediction of Segmentation Quality**
*Robert Robinson**; Ozan Oktay; Wenjia Bai; Vanya Valindria; Mihir Sanghvi; Nay Aung; José Paiva; Filip Zemrak; Kenneth Fung; Elena Lukaschuk; Aaron Lee; Valentina Carapella; Young Jin Kim; Bernhard Kainz; Stefan Piechnik; Stefan Neubauer; Steffen Petersen; Chris Page; Daniel Rueckert; Ben Glocker
- T-15 Recurrent Neural Networks for Aortic Image Sequence Segmentation with Sparse Annotations**
*Wenjia Bai**; Hideaki Suzuki; Chen Qin; Giacomo Tarroni; Ozan Oktay; Paul M. Matthews; Daniel Rueckert
- T-16 Deep Nested Level Sets: Fully Automated Segmentation of Cardiac MR images in Patients with Pulmonary Hypertension**
*Jinming Duan**; Jo Schlemper; Wenjia Bai; Timothy J W Dawes; Ghalib Bello; Georgia Doumou; Antonio De Marva; Declan O'Regan; Daniel Rueckert

- T-17 Atrial Fibrosis Quantification Based on Maximum Likelihood Estimator of Multivariate Images**
*Fuping Wu; Lei Li; Guang Yang; Tom Wong; Raad Mohiaddin; David Firmin; Jennifer Keegan; Lingchao Xu; Xiaohai Zhuang**
- T-18 Left Ventricle Segmentation via Optical-Flow-Net from Short-axis Cine MRI: Preserving the Temporal Coherence of Cardiac Motion**
Wenjun Yan; Yuanyuan Wang; Zeju Li; Rob Van Der Geest; Qian Tao*
- T-19 VoxelAtlasGAN: 3D Left Ventricle Segmentation on Echocardiography with Atlas Guided Generation and Voxel-to-voxel Discrimination**
Suyu Dong; Gongning Luo; Kuanquan Wang; Shaodong Cao; Ashley Mercado; Olga Shmuelovich; Henggui Zhang; Shuo Li*
- T-20 High-dimensional Bayesian Optimization of Personalized Cardiac Model Parameters via an Embedded Generative Model**
Jwala Dhamala; Sandesh Ghimire; John L. Sapp; Bohumil Milan Horacek; Linwei Wang*
- T-21 Generative Modeling and Inverse Imaging of Cardiac Transmembrane Potential**
Sandesh Ghimire; Jwala Dhamala; Prashanna Kumar Gyawali; John L. Sapp; Bohumil Milan Horacek; Linwei Wang*
- T-22 Pulmonary Vessel Tree Matching for Quantifying Changes in Vascular Morphology**
Zhiwei Zhai; Marius Staring; Hideki Ota; Berend C Stoel*
- T-23 MuTGAN: Simultaneous Segmentation and Quantification of Myocardial Infarction without Contrast Agents via Joint Adversarial Learning**
*Chen Xu; Lei Xu; Gary Brahm; Heye Zhang; Shuo Li**
- T-24 More Knowledge is Better: Cross-Modality Volume Completion and 3D+2D Segmentation for Intracardiac Echocardiography Contouring**
Haofu Liao; Yucheng Tang; Gareth Funka-Lea; Jiebo Luo; S. Kevin Zhou*
- T-25 Domain and Geometry Agnostic CNNs for Left Atrium Segmentation in 3D Ultrasound**
Markus A Degel; Nassir Navab; Shadi Albarqouni*
- T-26 Unsupervised Domain Adaptation for Automatic Estimation of Cardiothoracic Ratio**
Nanqing Dong; Michael C. Kampffmeyer; Xiaodan Liang; Zeya Wang; Wei Dai; Eric P. Xing*
- T-27 TextRay: Mining Clinical Reports to Gain a Broad Understanding of Chest X-rays**
Jonathan Laserson; Christine Dan Lantsman; Michal Cohen-Sdady; Itamar Tamir; Eli Goz; Chen Brestel; Shir Bar; Maya Atar; Eldad Elnekave*
- T-28 Localization and Labeling of Posterior Ribs in Chest Radiographs Using a CRF-regularized FCN with Local Refinement**
Alexander O Mader; Jens von Berg; Alexander Fabritz; Cristian Lorenz; Carsten Meyer*
- T-29 Evaluation of Collimation Prediction Based on Depth Images and Automated Landmark Detection for Routine Clinical Chest X-ray Exams**
Julien S negas; Axel Saalbach; Martin Bergtholdt; Sascha Jockel; Detlef Mentrup; Roman Fischbach*
- T-30 Efficient Active Learning for Image Classification and Segmentation using a Sample Selection and Conditional Generative Adversarial Network**
Dwarikanath Mahapatra; Behzad Bozorgtabar; Jean-Philippe Thiran; Mauricio Reyes*
- T-31 Iterative Attention Mining for Weakly Supervised Thoracic Disease Pattern Localization in Chest X-Rays**
Jinzheng Cai; Le Lu; Adam P Harrison; Xiaoshuang Shi; Pingjun Chen; Lin Yang*
- T-32 Task Driven Generative Modeling for Unsupervised Domain Adaptation: Application to X-ray Image Segmentation**
Yue Zhang; Shun Miao; Tommaso Mansi; Rui Liao*
- T-33 Towards Automated Colonoscopy Diagnosis: Binary Polyp Size Estimation via Unsupervised Depth Learning**
Hayato Itoh; Holger Roth; Le Lu; Masahiro Oda; Masashi Misawa; Yuichi Mori; Shin-ei Kudo; Kensaku Mori*

- T-34 RIIS-DenseNet: Rotation-Invariant and Image Similarity Constrained Densely Connected Convolutional Network for Polyp Detection**
*Yixuan Yuan**; Wenjian Qin; Bulat Ibragimov; Bin Han; Lei Xing
- T-35 Interaction Techniques for Immersive CT Colonography: A Professional Assessment**
*Daniel S Lopes**; Daniel Medeiros; Soraia Paulo; Pedro Borges; Vitor Nunes; Vasco Mascarenhas; Marcos Veiga; Joaquim Jorge
- T-36 Quasi-automatic Colon Segmentation on T2-MRI Images with Low User Effort**
*Bernat Orellana**; Eva Monclús; Pere Brunet; Isabel Navazo; Álvaro Bendezú; Fernando Azpiroz
- T-37 AutoDVT: Joint Real-time Classification for Vein Compressibility Analysis in Deep Vein Thrombosis Ultrasound Diagnostics**
Ryutaro Tanno; Antonios Makropoulos; Salim Arslan; Ozan Oktay; Sven Mischkewitz; Fouad Al-Noor; Jonas Oppenheimer; Ramin Mandegaran; Bernhard Kainz*; Mattias Heinrich
- T-38 Ordinal Multi-Modal Feature Selection for Survival Analysis of Early-stage Renal Cancer**
*Wei Shao**; Jun Cheng; Liang Sun; Zhi Han; Daoqiang Zhang; Kun Huang
- T-39 Noninvasive Determination of Gene Mutations in Clear Cell Renal Cell Carcinoma using Multiple Instance Decisions Aggregated CNN**
*Mohammad Arafat Hussain**; Ghassan Hamarneh; Rafeef Abugharbieh
- T-40 Combining Convolutional and Recurrent Neural Networks for Classification of Focal Liver Lesions in Multi-Phase CT Images**
Liang Dong; Lanfen Lin*; Hongjie Hu; Qiaowei Zhang; Qingqing Chen; Yutaro Iwamoto; Xian-Hua Han; Yen-Wei Chen
- T-41 Construction of a Spatiotemporal Statistical Shape Model of Pediatric Liver from Cross-sectional Data**
*Atsushi Saito**; Koyo Nakayama; Antonio Reyes Porras Perez; Awais Mansoor; Elijah Biggs; Marius Linguraru; Akinobu Shimizu
- T-42 Deep 3D Dose Analysis for Prediction of Outcomes after Liver Stereotactic Body Radiation Therapy**
*Bulat Ibragimov**; Diego Toesca; Yixuan Yuan; Albert Koong; Daniel Chang; Lei Xing
- T-43 Liver Lesion Detection from Weakly-labeled Multi-phase CT Volumes with a Grouped Single Shot MultiBox Detector**
Sang-gil Lee; Jae Seok Bae; Hyunjae Kim; Jung Hoon Kim; Sungroh Yoon*
- T-44 A Diagnostic Report Generator from CT Volumes on Liver Tumor with Semi-supervised Attention Mechanism**
*Jiang Tian**; Cong Li; Zhongchao Shi; Feiyu Xu
- T-45 Less is More: Simultaneous View Classification and Landmark Detection for Abdominal Ultrasound Images**
*Zhoubing Xu**; Yuankai Huo; JinHyeong Park; Bennett A Landman; Andy Milkowski; Sasa Grbic; Shaohua Zhou
- T-46 Deep Active Self-paced Learning for Accurate Pulmonary Nodule Segmentation**
Wenzhe Wang; Yifei Lu; Bian Wu; Tingting Chen; Danny Z Chen; Jian Wu*
- T-47 CT-Realistic Lung Nodule Simulation from 3D Conditional Generative Adversarial Networks for Robust Lung Segmentation**
Dakai Jin; Ziyue Xu*; Youbao Tang; Adam P Harrison; Daniel Mollura
- T-48 Fast CapsNet for Lung Cancer Screening**
Aryan Mobiny; Hien V Nguyen*
- T-49 Mean Field Network Based Graph Refinement with Application to Airway Tree Extraction**
*Raghavendra Selvan**; Max Welling; Jesper Pedersen; Jens Petersen; Marleen de Bruijne
- T-50 High Sensitivity with Tiny Candidates for Pulmonary Nodule Detection**
Bin Wang; Guo-Jun Qi; Sheng Tang*; Liheng Zhang; Lixi Deng; Yongdong Zhang
- T-51 Deep Learning from Label Proportions for Emphysema Quantification**
*Gerda Bortsova**; Florian Dubost; Silas N Ørting; Ioannis Katramados; Laurens Hogeweg; Laura Thomsen; Mathilde Winkler; Marleen de Bruijne

- T-52 Tumor-aware, Adversarial Domain Adaptation from CT to MRI for Lung Cancer Segmentation**
*Jue Jiang; Yu-Chi Hu; Neelam Tyagi; Pengpeng Zhang; Andreas Rimner; Gig Mageras; Joseph Deasy; Harini Veeraraghavan**
- T-53 From Local to Global: A Holistic Lung Graph Model**
Yashin Dicente Cid; Oscar A Jimenez del Toro; Alexandra Platon; Henning Müller; Pierre-Alexandre Poletti*
- T-54 S4ND: Single-shot Single-scale Lung Nodule Detection**
Naji Khosravan; Ulas Bagci*
- T-55 Vascular Network Organization via Hough transform (VaNgOGH): A Novel Radiomic Biomarker for Diagnosis and Treatment Response**
Nathaniel Braman; Prateek Prasanna; Mehdi Alilou; Niha Beig; Anant Madabushi*
- T-56 DeepEM: Deep 3D ConvNets with EM for Weakly Supervised Pulmonary Nodule Detection**
Wentao Zhu; Yeeleng Vang; Yufang Huang; Xiaohui Xie*
- T-57 Statistical Framework for the Definition of Emphysema in CT Scans: Beyond Density Mask**
Gonzalo Vegas Sanchez-Ferrero; Raul San Jose Estepar*
- T-58 Conditional Generative Adversarial and Convolutional Networks for X-ray Breast Mass Segmentation and Shape Classification**
Vivek Kumar Singh; Santiago Romani; Hatem A. Rashwan; Farhan Akram; Nidhi Pandey; Md. Mostafa Kamal Sarker; Saddam Abdulwahab; Jordina Torrents Barrena; Adel Saleh; Miguel Arquez; Meritxell Arenas; Domenec Puig*
- T-59 A Robust and Effective Approach Towards Accurate Metastasis Detection and pN-stage Classification In Breast Cancer**
Byungjae Lee; Kyunghyun Paeng*
- T-60 3D Anisotropic Hybrid Network: Transferring Convolutional Features from 2D Images to 3D Anisotropic Volumes**
Siqi Liu; Daguang Xu; S. Kevin Zhou; Olivier Pauly; Sasa Grbic; Thomas Mertelmeier; Julia Wicklein; Anna Jerebko; Weidong Cai; Dorin Comaniciu*
- T-61 Deep Generative Breast Cancer Screening and Diagnosis**
Shayan Shams; Richard Platania; Jian Zhang; Joohyun Kim; Kisung Lee; Seung-Jong Park*
- T-62 Integrate Domain Knowledge in Training CNN for Ultrasonography Breast Cancer Diagnosis**
Jiali Liu; Wanyu Li; Ningbo Zhao; Kunlin Cao; Youbing Yin; Qi Song; Hanbo Chen; Xuehao Gong*
- T-63 Small Lesion Classification in Dynamic Contrast Enhancement MRI for Breast Cancer Early Detection**
Hao Zheng; Yun Gu; Yulei Qin; Xiaolin Huang; Jie Yang; Guang-Zhong Yang*
- T-64 Thermographic Computational Analyses of a 3D model of a Scanned breast**
Alisson Augusto Azevedo Figureiredo; Gabriela Menegaz; Henrique C Fernandes; Gilmar Guimarães*
- T-65 Y-Net: Joint Segmentation and Classification for Diagnosis of Breast Biopsy Images**
Sachin Mehta; Ezgi Mercan; Jamen Bartlett; Donald Weaver; Joann Elmore; Linda Shapiro*
- T-66 MRI Measurement of Placental Perfusion and Fetal Blood Oxygen Saturation in Normal Pregnancy and Placental Insufficiency**
Rosalind Aghwane; Magdalena Sokolska; Alan Bainbridge; David Atkinson; Giles Kendall; Jan Deprest; Tom Vercauteren; Anna L. David; Sebastien Ourselin; Andrew Melbourne*
- T-67 Automatic Lacunae Localization in Placental Ultrasound Images via Layer Aggregation**
Huan Qi; Sally Collins; Alison Noble*
- T-68 A Decomposable Model for the Detection of Prostate Cancer in Multi-Parametric MRI**
Nathan Lay; Yohannes Tsehay; Yohan Sumathipala; Ruida Cheng; Sonia Gaur; Clayton Smith; Adrian Barbu; Le Lu; Baris Turkbey; Peter Choyke; Peter Pinto; Ronald Summers*
- T-69 Direct Automated Quantitative Measurement of Spine via Cascade Amplifier Regression Network**
*Shumao Pang; Stephanie Leung; Ilanit Nachum; Qianjin Feng; Shuo Li**
- T-70 Estimating Achilles Tendon Healing Progress with Convolutional Neural Networks**
Norbert M Kapinski; Jakub Zielinski; Bartosz Borucki; Tomasz Trzcinski; Beata Ciszowska-Lyson; K S Nowinski*

18:15 – 19:45 Poster Session III

fMRI and Diffusion Imaging

- T-71 Multimodal Fusion of Brain Networks with Longitudinal Couplings**
*Wen Zhang**; Kai Shu; Suhang Wang; Huan Liu; Yalin Wang
- T-72 Penalized Geodesic Tractography (GGT) for Mitigating Gyral Bias in Cortical Tractography**
*Ye Wu**; Yuanjing Feng; Dinggang Shen; Pew-Thian Yap
- T-73 A Global Estimation Framework for Asymmetric Fiber Orientation Distributions**
*Ye Wu**; Yuanjing Feng; Dinggang Shen; Pew-Thian Yap
- T-74 Anchor-constrained Plausibility (ACP): a Novel Concept for Assessing Tractography and Reducing False-positives**
*Peter F Neher**; Bram Stieltjes; Klaus H. Maier-Hein
- T-75 Tract-Specific Group Analysis in Fetal Cohorts using in Utero Diffusion Tensor Imaging**
*Shadab Khan**; Caitlin Rollins; Cynthia Ortinau; Onur Afacan; Simon Warfield; Ali Gholipour
- T-76 Tract Orientation Mapping for Bundle-specific Tractography**
Jakob Wasserthal; Peter F Neher; Klaus H. Maier-Hein*
- T-77 Better Fiber ODFs From Suboptimal Data With Autoencoder Based Regularization**
Kanil Patel; Samuel Groeschel; Thomas Schultz*
- T-78 Identification of Gadolinium Contrast Enhanced Regions in MS lesions using Brain Tissue Microstructure Information Obtained from Diffusion and T2 Relaxometry MRI**
*Sudhanya Chatterjee**; Olivier Commowick; Onur Afacan; Simon Warfield; Christian Barillot
- T-79 A Bayes Hilbert Space for Compartment Model Computing in Diffusion MRI**
*Aymeric Stamm**; Olivier Commowick; Alessandra Menafoglio; Simon Warfield
- T-80 Detection and Delineation of Acute Cerebral Infarct on DWI using Weakly Supervised Machine Learning**
*Stefano Pedemonte**; Bernardo Bizzo; Stuart Pomerantz; Neil Tenenholtz; Bradley Wright; Mark Walters; Sean Doyle; Adam McCarthy; Renata Rocha De Almeida; Katherine Andriole; Mark Michalski; R. Gilberto Gonzalez
- T-81 Identification of Species-Preserved Cortical Landmarks**
*Tuo Zhang**; Xiao Li; Lin Zhao; Ying Huang; Lei Guo; Tianming Liu
- T-82 Deep Learning with Synthetic Diffusion MRI Data for Free-water Elimination in Glioblastoma Cases**
*Miguel Molina-Romero**; Benedict Wiestler; Pedro Gomez; Marion Menzel; Bjoern Menze
- T-83 Enhancing Clinical MRI Perfusion Maps with Data-driven Maps of Complementary Nature for Lesion Outcome Prediction**
*José Adriano Pinto**; Sérgio Pereira; Raphael Meier; Victor Alves; Roland Wiest; Carlos A. Silva; Mauricio Reyes
- T-84 Harmonizing Diffusion MRI Data Across Magnetic Field Strengths**
*Suheyra Cetin Karayumak**; Marek Kubicki; Yogesh Rathi
- T-85 Normative Modeling of Neuroimaging Data using Scalable Multi-Task Gaussian Processes**
*Seyed Mostafa Kia**; Andre Marquand
- T-86 Multi-Layer Large-Scale Functional Connectome Reveals Infant Brain Developmental Patterns**
*Han Zhang**; Natalie Stanley; Peter Mucha; Weiyan Yin; Weili Lin; Dinggang Shen
- T-87 A Riemannian Framework for Longitudinal Analysis of Resting-State Functional Connectivity**
*Qingyu Zhao**; Dongjin Kwon; Kilian Pohl
- T-88 Elastic Registration of Single Subject Task Based fMRI Signals**
*David Lee**; Joana Louriero; Katherine Narr; Roger Woods; Shantanu Joshi
- T-89 A Generative-Discriminative Basis Learning Framework to Predict Clinical Severity from Resting State Functional MRI Data**
*Niharika S D'Souza**; Mary Beth Nebel; Nicholas Wymbs; Stewart Mostofsky; Archana Venkataraman
- T-90 3D Deep Convolutional Neural Network Revealed the Value of Brain Network Overlap in Differentiating Autism Spectrum Disorder from Healthy Controls**

*Yu Zhao**; Fangfei Ge; Shu Zhang; Tianming Liu

- T-91 Modeling 4D fMRI Data via Spatio-Temporal Convolutional Neural Networks (ST-CNN)**
*Yu Zhao**; Xiang Li; Wei Zhang; Shijie Zhao; Milad Makkie; Mo Zhang; Quanzheng Li; Tianming Liu
- T-92 The Dynamic Measurements of Regional Brain Activity for Resting-state fMRI: d-ALFF, d-fALFF and d-ReHo**
*Chao Tang; Yuqing Wei; Jiajia Zhao; Jingxin Nie**
- T-93 On Quantifying Local Geometric Structures of Fiber Tracts**
*Jian Cheng**; Tao Liu; Feng Shi; Ruiliang Bai; Jicong Zhang; Haogang Zhu; Dacheng Tao; Peter Basser
- T-94 Brain Biomarker Interpretation in ASD Using Deep Learning and fMRI**
*Xiaoxiao Li**; Nicha Dvornek; Juntang Zhuang; Pamela Ventola; James S Duncan
- T-95 Brain Decoding from Functional MRI using Long Short-term Memory Recurrent Neural Networks**
*Hongming Li**; Yong Fan
- T-96 Identification of Multi-scale Hierarchical Brain Functional Networks using Deep Matrix Factorization**
*Hongming Li**; Xiaofeng Zhu; Yong Fan
- T-97 Identification of Temporal Transition of Functional States using Recurrent Neural Networks from Functional MRI**
*Hongming Li**; Yong Fan
- T-98 Identifying Personalized Autism Related Impairments Using Resting Functional MRI and ADOS Reports**
*Omar Dekhil; Mohamed Tarek; Ahmed Shalaby; Ali Mahmoud; Andy Switala; Mohammed Ghazal; Hassan Hajjdiab; Begonya Garcia Zapirain; Adel Elmaghraby; Robert Keynton; Gregory Barnes; Ayman S El-Baz**
- T-99 Deep Chronectome Learning via Full Bidirectional Long Short-Term Memory Networks for MCI Diagnosis**
*Weizheng Yan**; Han Zhang; Jing Sui; Dinggang Shen
- T-100 Structured Deep Generative Model of fMRI Signals for Mental Disorder Diagnosis**
*Takashi Matsubara**; Tetsuo Tashiro; Kuniaki Uehara
- T-101 Cardiac Cycle Estimation for BOLD-fMRI**
*Michael Hutel**; Andrew Melbourne; David Thomas; Sebastien Ourselin
- T-102 Neural Activation Estimation in Brain Networks During Task and Rest Using BOLD-fMRI**
*Michael Hutel**; Andrew Melbourne; Sebastien Ourselin
- T-103 Identifying Brain Networks of Multiple Time Scales via Deep Recurrent Neural Network**
*Yan Cui**; Shijie Zhao; Han Wang; Leo Xie; Yaowu Chen; Junwei Han; Lei Guo; Fan Zhou; Tianming Liu
- T-104 A Novel Deep Learning Framework on Brain Functional Networks for Early MCI Diagnosis**
*Tae-Eui Kam**; Han Zhang; Dinggang Shen
- T-105 A Region-of-Interest-Reweight 3D Convolutional Neural Network for the Analytics of Brain Information Processing**
*Xiuyan Ni**; Zhennan Yan; Tingting Wu; Jin Fan; Chao Chen
- T-106 Quantitative Deconvolution of fMRI Data with Multiecho Sparse Paradigm Free Mapping**
*Cesar Caballero-Gaudes**; Stefano Moia; Peter A. Bandettini; Javier Gonzalez-Castillo
- T-107 Probabilistic Source Separation on resting-state fMRI and its Use for Early MCI Identification**
*Eunsong Kang; Heung-Il Suk**
- T-108 Learning Generalizable Recurrent Neural Networks from Small Task-fMRI Datasets**
*Nicha Dvornek**; Daniel Yang; Pamela Ventola; James S Duncan
- T-109 Fast Mapping of the Eloquent Cortex by Learning L2 Penalties**
*Nico Hoffmann**; Uwe Petersohn; Gabriele Schackert; Edmund Koch; Stefan Gumhold; Matthias Kirsch
- T-110 Combining Multiple Connectomes via Canonical Correlation Analysis Improves Predictive Models**
*Siyuan Gao**; Abigail Greene; Todd Constable; Dustin Scheinost
- T-111 Exploring Fiber Skeletons via Joint Representation of Functional Networks and Structural Connectivity**
*Shu Zhang**; Tianming Liu; Dajiang Zhu

- T-112 Phase Angle Spatial Embedding (PhASE): A Kernel Method for Studying the Topology of the Human Functional Connectome**
Zachery Morrissey; Liang Zhan; Hyekyoung Lee; Johnson Keiriz; Angus Forbes; Olusola Ajilore; Alex Leow; Moo Chung*
- T-113 Edema-informed Anatomically Constrained Particle Filter Tractography**
Samuel Deslauriers-Gauthier; Drew Parker; Francois Rheault; Rachid Deriche; Steven Brem; Maxime Descoteaux; Ragini Verma*
- T-114 Thalamic Nuclei Segmentation using Tractography, Population-specific Priors and Local Fibre Orientation**
Carla Semedo; M. Jorge Cardoso; Sjoerd B. Vos; Carole Sudre; Martina Bocchetta; Annemie Ribbens; Dirk Smeets; Jonathan Rohrer; Sebastien Ourselin*
- T-115 rfDemons: Resting fMRI-based Cortical Surface Registration using BrainSync Transform**
Anand Joshi; Jian Li; Minqi Chong; Haleh Akrami; Richard Leahy*

Neuroimaging

- T-116 Using the Anisotropic Laplace Equation to Compute Cortical Thickness**
Anand Joshi; Chitresh Bhushan; Ronald Salloum; Jessica Wisnowski; David Shattuck; Richard Leahy*
- T-117 Volume-based Analysis of 6-month-old Infant Brain MRI for Autism Biomarker Identification and Early Diagnosis**
Li Wang; Gang Li; Feng Shi; Xiaohuan Cao; Chunfeng Lian; Dong Nie; Mingxia Liu; Han Zhang; Guannan Li; Zhengwang Wu; Weili Lin; Dinggang Shen*
- T-118 A Tetrahedron-based Heat Flux Signature for Cortical Thickness Morphometry Analysis**
*Yonghui Fan; Gang Wang; Natasha Lepore; Yalin Wang**
- T-119 Graph of Brain Structures Grading for Early Detection of Alzheimer's Disease**
Kilian Hett; Vinh-Thong Ta; Jose V. Manjon; Pierrick Coupé*
- T-120 Joint Prediction and Classification of Brain Image Evolution Trajectories from Baseline Brain Image with Application to Early Dementia**
*Can Gafuroglu; Islem Rekik**
- T-121 Temporal Correlation Structure Learning for MCI Conversion Prediction**
*Xiaoqian Wang; Weidong Cai; Dinggang Shen; Heng Huang**
- T-122 Synthesizing Missing PET from MRI with Cycle-consistent Generative Adversarial Networks for Alzheimer's Disease Diagnosis**
Yongsheng Pan; Mingxia Liu; Chunfeng Lian; Tao Zhou; Yong Xia; Dinggang Shen*
- T-123 Exploratory Population Analysis with Unbalanced Optimal Transport**
Samuel Gerber; Marc Niethammer; Martin Styner; Stephen R Aylward*
- T-124 Multi-Modal Synthesis of ASL-MRI Features with KPLS Regression on Heterogeneous Data**
Toni Lassila; Helena Faria; Ali Sarrami-Foroushani; Francesca Meneghello; Annalena Venneri; Alejandro F Frangi*
- T-125 A Novel Method for Epileptic Seizure Detection Using Coupled Hidden Markov Models**
Jeffrey Craley; Emily Johnson; Archana Venkataraman*
- T-126 Deep Convolutional Networks for Automated Detection of Epileptogenic Brain Malformations**
Ravnoor S Gill; Seok-Jun Hong; Fatemeh Fadaie; Benoit Caldairou; Boris Bernhardt; Carmen Barba; Armin Brandt; Vanessa Coelho; Ludovico d'Incerti; Matteo Lenge; Mira Semmelroch; Fabrice Bartolomei; Fernando Cendes; Francesco Deleo; Renzo Guerrini; Maxime Guye; Graeme Jackson; Andreas Schulze-Bonhage; Tommaso Mansi; Neda Bernasconi; Andrea Bernasconi*
- T-127 Binary Glioma Grading: Radiomics versus Pre-trained CNN Features**
Milan Decuyper; Stijn Bonte; Roel Van Holen*
- T-128 Automatic Irregular Texture Detection in Brain MRI without Human Supervision**
Muhammad Febrian Rachmadi; María del C. Valdés Hernández; Taku Komura*

- T-129 Learning Myelin Content in Multiple Sclerosis from Multimodal MRI through Adversarial Training**
*Wen Wei**; *Emilie Poirion*; *Benedetta Bodini*; *Stanley Durrleman*; *Nicholas Ayache*; *Bruno Stankoff*; *Olivier Colliot*
- T-130 Deep Multi-Structural Shape Analysis: Application to Neuroanatomy**
*Benjamin Gutierrez Becker**; *Christian Wachinger*
- T-131 Computational Modelling of Pathogenic Protein Behaviour-governing Mechanisms in the Brain**
*Konstantinos Georgiadis**; *Michael Hutel*; *Carla Semedo*; *Adeel Razi*; *Alexandra Young*; *Jonathan Schott*; *Sebastien Ourselin*; *Jason Warren*; *Marc Modat*
- T-132 Generative Discriminative Models for Multivariate inference and Statistical Mapping in Medical Imaging**
*Erdem Varol**; *Aristeidis Sotiras*; *Ke Zeng*; *Christos Davatzikos*
- T-133 Modeling Longitudinal Voxel-wise Feature Change in Normal Aging with Spatial-Anatomical Regularization**
Zhuo Sun; *Wei Xu*; *Shuhao Wang*; *Junnhai Xu*; *Yuchuan Qiao**
- T-134 Dilatation of Lateral Ventricles with Brain Volumes in Infants with 3D Transfontanelle US**
*Marc-Antoine Boucher**; *Amélie Dampousse*; *Ramy El-Jalbout*; *Sarah Lippé*; *Samuel Kadoury*
- T-135 Do Baby Brain Cortices that Look Alike at Birth Grow Alike During the First Year of Postnatal Development?**
*Islem Rekik**; *Gang Li*; *Weili Lin*; *Dinggang Shen*
- T-136 Multi-Label Transduction for Identifying Disease Comorbidity Patterns**
*Ehsan Adeli**; *Dongjin Kwon*; *Kilian Pohl*
- T-137 Text to Brain: Predicting the Spatial Distribution of Neuroimaging Observations from Text Reports**
*Jerome Dokes**; *Demian Wassermann*; *Russell Poldrack*; *Fabian M. Suchanek*; *Bertrand Thirion*; *Gael P Varoquaux*
- T-138 Semi-supervised Learning for Segmentation under Semantic Constraint**
*Pierre-Antoine Ganaye**; *Michael Sdika*; *Hugues Benoit-Cattin*
- T-139 Autofocus Layer for Semantic Segmentation**
Yao Qin; *Konstantinos Kamnitsas*; *Siddharth Ancha*; *Jay Nanavati*; *Garrison Cottrell*; *Antonio Criminisi*; *Aditya Nori**
- T-140 3D Segmentation with Exponential Logarithmic Loss for Highly Unbalanced Object Sizes**
*Ken C. L. Wong**; *Mehdi Moradi*; *Hui Tang*; *Tanveer Syeda-Mahmood*
- T-141 Revealing Regional Associations of Cortical Folding Alterations with In Utero Ventricular Dilation Using Joint Spectral Embedding**
*Oualid Benkarim**; *Gerard Sanroma*; *Gemma Piella*; *Islem Rekik*; *Nadine Hahner*; *Elisenda Eixarch*; *Miguel Angel González Ballester*; *Dinggang Shen*; *Gang Li*
- T-142 CompNet: Complementary Segmentation Network for Brain MRI Extraction**
*Raunak Dey**; *Yi Hong*
- T-143 One-pass Multi-task Convolutional Neural Networks for Efficient Brain Tumor Segmentation**
Chenhong Zhou; *Changxing Ding**; *Zhentai Lu*; *Xinchao Wang*; *Dacheng Tao*
- T-144 Deep Recurrent Level Set for Segmenting Brain Tumors**
*Ngan Le**; *Raajitha Gummadi*; *Marios Savvides*
- T-145 Pulse Sequence Resilient Fast Brain Segmentation**
*Amod Jog**; *Bruce Fischl*
- T-146 Improving Cytoarchitectonic Segmentation of Human Brain Areas with Self-supervised Siamese Networks**
*Hannah Spitzer**; *Kai Kiwitz*; *Katrin Amunts*; *Stefan Harmeling*; *Timo Dickscheid*
- T-147 Registration-Free Infant Cortical Surface Parcellation using Deep Convolutional Neural Networks**
*Zhengwang Wu**; *Gang Li*; *Li Wang*; *Feng Shi*; *Weili Lin*; *John Gilmore*; *Dinggang Shen*
- T-148 Joint Segmentation of Intracerebral Hemorrhage and Infarct from Non-Contrast CT Images of Post-Treatment Acute Ischemic Stroke Patients**
Hulin Kuang; *Mohamed Najm*; *Bijoy Menon*; *Wu Qiu**

- T-149 Patch-based Mapping of Transentorhinal Cortex with a Distributed Atlas**
*Jin Kyu Gahm**; Yuchun Tang; Yonggang Shi
- T-150 Spatially Localized Atlas Network Tiles Enables 3D Whole Brain Segmentation from Limited Data**
*Yuankai Huo; Zhoubing Xu; Katherine Aboud; Prasanna Parvathaneni; Shunxing Bao; Camilo Bermudez; Susan Resnick**; Laurie Cutting; Bennett A Landman
- T-151 Adaptive Feature Recombination and Recalibration for Semantic Segmentation: Application to Brain Tumor Segmentation in MRI**
*Sérgio Pereira**; Victor Alves; Carlos A. Silva
- T-152 Cost-sensitive Active Learning for Intracranial Hemorrhage Detection**
*Weicheng Kuo**; Christian Haene; Esther Yuh; Pratik Mukherjee; Jitendra Malik

Wednesday, September 19

11:30 – 12:30 Poster Session V

Computer Assisted Intervention

- W-1 X-ray-transform Invariant Anatomical Landmark Detection for Pelvic Trauma Surgery**
*Bastian Bier**; *Mathias Unberath*; *Jan-Nico Zaech*; *Javad Fotouhi*; *Mehran Armand*; *Greg Osgood*; *Nassir Navab*; *Andreas K Maier*
- W-2 Endoscopic Navigation in the Absence of CT Imaging**
*Ayushi Sinha**; *Xingtong Liu*; *Austin Reiter*; *Masaru Ishii*; *Gregory D. Hager*; *Russell H. Taylor*
- W-3 A Novel Mixed Reality Navigation for Laparoscopic Surgery**
*Jayender Jagadeesan**; *Brian Xavier*; *Franklin King*; *Ahmed Hosny*; *David Black*; *Steve Pieper*; *Ali Tavakkoli*
- W-4 Respiratory Motion Modelling using cGANs**
Alina Giger; *Robin Sandkuehler*; *Christoph Jud**; *Grzegorz Bauman*; *Oliver Bieri*; *Rares Salomir*; *Philippe C. Cattin*
- W-5 Physics-based Simulation to Enable Ultrasound Monitoring of HIFU Ablation: an MRI Validation**
*Chloé Audigier**; *Yoonsu Kim*; *Nicholas Ellens*; *Emad Boctor*
- W-6 DeepDRR - A Catalyst for Machine Learning in Fluoroscopy-guided Procedures**
*Mathias Unberath**; *Jan-Nico Zaech*; *Sing Chun Lee*; *Bastian Bier*; *Javad Fotouhi*; *Mehran Armand*; *Nassir Navab*
- W-7 Exploiting Partial Structural Symmetry for Patient-Specific Image Augmentation in Trauma Interventions**
*Javad Fotouhi**; *Mathias Unberath*; *Giacomo Taylor*; *Arash Ghaani Farashahi*; *Bastian Bier*; *Russ Taylor*; *Greg Osgood*; *Mehran Armand*; *Nassir Navab*
- W-8 Intraoperative Brain Shift Compensation using a Hybrid Mixture Model**
*Siming Bayer**; *Nishant Ravikumar*; *Maddalena Strumia*; *Xiaoguang Tong*; *Ying Gao*; *Martin Ostermeier*; *Rebecca Fahrig*; *Andreas K Maier*
- W-9 Video-based Computer Aided Arthroscopy for Patient Specific Reconstruction of the Anterior Cruciate Ligament**
*Carolina Raposo**; *Cristovao Sousa*; *Luis Ribeiro*; *Rui Melo*; *Joao P. Barreto*; *Pedro Oliveira*; *Pedro Marques*; *Fernando Fonseca*
- W-10 Simultaneous Segmentation and Classification of Bone Surfaces from Ultrasound Using a Multi-feature Guided CNN**
*Puyang Wang**; *Vishal Patel*; *Ilker Hacihaliloglu*
- W-11 Endoscopic Laser Surface Scanner for Minimally Invasive Abdominal Surgeries**
Jordan Geurten; *Wenyao Xia*; *Uditha Jarayathne*; *Terry M. Peters*; *Elvis Chen**
- W-12 Deep Adversarial Context-Aware Landmark Detection for Ultrasound Imaging**
*Ahmet Tuysuzoglu**; *Jeremy Tan*; *Kareem Eissa*; *Atilla P. Kiraly*; *Mamadou Diallo*; *Ali Kamen*
- W-13 Towards a Fast and Safe LED-based Photoacoustic Imaging using Deep Convolutional Neural Networks**
*Emran Mohammad Abu Anas**; *Haichong Kai Zhang*; *Jin Kang*; *Emad Boctor*
- W-14 An Open Framework Enabling Electromagnetic Tracking in Image-Guided Interventions**
*Herman A Jaeger**; *Stephen Hinds*; *Pádraig Cantillon-Murphy*
- W-15 Colon Shape Estimation Method for Colonoscope Tracking using Recurrent Neural Networks**
*Masahiro Oda**; *Holger Roth*; *Takayuki Kitasaka*; *Kazuhiro Furukawa*; *Ryoji Miyahara*; *Yoshiki Hirooka*; *Hidemi Goto*; *Nassir Navab*; *Kensaku Mori*
- W-16 Towards Automatic Report Generation in Spine Radiology using Weakly Supervised Framework**
Zhongyi Han; *Benzheng Wei*; *Stephanie Leung**; *Jonathan Chung*; *Shuo Li*

- W-17 A Natural Language Interface for Dissemination of Reproducible Biomedical Data Science**
*Rogers Jeffrey Leo John**; Jignesh Patel; Andrew Alexander; Vikas Singh; Nagesh Adluru
- W-18 Spatiotemporal Manifold Prediction Model for Anterior Vertebral Body Growth Modulation Surgery in Idiopathic Scoliosis**
*William Mandel; Olivier Turcot; Dejan Knez; Stefan Parent; Samuel Kadoury**
- W-19 Evaluating Surgical Skills from Kinematic Data using Convolutional Neural Networks**
*Hassan Ismail Fawaz**; Germain Forestier; Jonathan Weber; Lhassane Idoumghar; Pierre-Alain Muller
- W-20 Needle Tip Force Estimation using an OCT Fiber and a Fused convGRU-CNN Architecture**
*Nils Gessert**; Torben Priegnitz; Thore Saathoff; Sven-Thomas Antoni; David Meyer; Moritz Franz Hamann; Klaus-Peter Jünemann; Christoph Otte; Alexander Schlaefer
- W-21 Fast GPU Computation of 3D Isothermal Volumes in the Vicinity of Major Blood Vessels for Cryoablation Simulation**
*Ehsan Golkar**; Pramod P. Rao; Leo Joskowicz; Afshin Gangi; Caroline Essert
- W-22 A Machine Learning Approach to Predict Instrument Bending in Stereotactic Neurosurgery**
*Alejandro Granados**; Matteo Mancini; Sjoerd B. Vos; Oeslle Lucena; Vejay Vakharia; Roman Rodionov; Anna Miserocchi; Andrew W. McEvoy; John Duncan; Rachel Sparks; Sebastien Ourselin
- W-23 Deep Reinforcement Learning for Surgical Gesture Segmentation and Classification**
*Daochang Liu; Tingting Jiang**
- W-24 Automated Performance Assessment in Transoesophageal Echocardiography with Convolutional Neural Networks**
*Evangelos B Mazomenos**; Kamakshi Bansal; Bruce Martin; Andrew Smith; Susan Wright; Danail Stoyanov
- W-25 DeepPhase: Surgical Phase Recognition in CATARACTS Videos**
*Odysseas Zisimopoulos**; Evangello Flouty; Imanol Luengo; Petros Giataganas; Jean Nehme; Andre Chow; Danail Stoyanov
- W-26 Surgical Activity Recognition in Robot-Assisted Prostatectomy using Deep Learning**
*Aneeq Zia**; Andrew Hung; Irfan Essa; Anthony Jarc
- W-27 Unsupervised Learning for Surgical Motion by Learning to Predict the Future**
*Robert DiPietro**; Gregory D. Hager
- W-28 Volumetric Clipping Surface: Un-occluded visualization of structures preserving depth cues into surrounding organs**
*Bhavaya Ajani; Aditya Bharadwaj; Karthik Krishnan**
- W-29 Closing the Calibration Loop: An Inside-out-tracking Paradigm for Augmented Reality in Orthopedic Surgery**
*Jonas Hajek; Mathias Unberath**; Javad Fotouhi; Bastian Bier; Sing Chun Lee; Greg Osgood; Andreas K Maier; Mehran Armand; Nassir Navab
- W-30 Higher Order of Motion Magnification for Vessel Localisation in Surgical Video**
*Mirek Janatka**; Ashwin Sridhar; John Kelly; Danail Stoyanov
- W-31 Simultaneous Surgical Visibility Assessment, Restoration, and Augmented Stereo Surface Reconstruction for Robotic Prostatectomy**
*Xiongbiao Luo**; Ying Wan; Hui-Qing Zeng; Yingying Guo; Chidozie Henry Ewurum; Xiao-Bin Zhang; Jonathan McLeod; Terry M. Peters
- W-32 Real-time Augmented Reality for Ear Surgery**
*Raabid Hussain**; Alain Lalande; Roberto Marroquin ; Kibrom Berihu Girum; Caroline Guigou; Alexis Bozorg-Grayeli
- W-33 Framework for Fusion of Data- and Model-Based Approaches for Ultrasound Simulation**
*Christine Tanner**; Rastislav Starkov; Michael Bajka; Orcun Goksel

Segmentation

- W-34 Bridging the Gap Between 2D and 3D Organ Segmentation with Volumetric Fusion Net**
Yingda Xia; Lingxi Xie; Fengze Liu; Zhuotun Zhu; Elliot K Fishman; Alan Yuille*
- W-35 Densely Deep Supervised Networks with Threshold Loss for Cancer Detection in Automated Breast Ultrasound**
*Na Wang; Cheng Bian; Yi Wang; Min Xu; Chenchen Qin; Xin Yang; Tianfu Wang; Anhua Li; Dinggang Shen; Dong Ni**
- W-36 Pyramid-based Fully Convolutional Networks for Cell Segmentation**
Tianyi Zhao; Zhaozheng Yin*
- W-37 Automated Object Tracing for Biomedical Image Segmentation Using a Deep Convolutional Neural Network**
Erica M Rutter; John Lagergren; Kevin Flores*
- W-38 RBC Semantic Segmentation for Sickle Cell Disease Based on Deformable U-Net**
Mo Zhang; Xiang Li; Mengjia Xu; Quanzheng Li*
- W-39 How to Exploit Weaknesses in Biomedical Challenge Design and Organization**
Annika Reinke; Matthias Eisenmann; Sinan Onogur; Marko Stankovic; Patrick Scholz; Peter Full; Hrvoje Bogunovic; Bennett A Landman; Oskar Maier; Bjoern Menze; Gregory Sharp; Korsuk Sirinukunwattana; Stefanie Speidel; Fons van der Sommen; Guoyan Zheng; Henning Müller; Michal Kozubek; Tal Arbel; Andrew Bradley; Pierre Jannin; Anette Kopp-Schneider*
- W-40 Accurate Detection of Inner Ears in Head CTs Using a Deep Volume-to-Volume Regression Network with False Positive Suppression and a Shape-Based Constraint**
Dongqing Zhang; Jianing Wang; Jack Noble; Benoit Dawant*
- W-41 Automatic Teeth Segmentation in Panoramic X-Ray Images Using a Coupled Shape Model in Combination with a Neural Network**
Andreas Wirtz; Sudesh Ganapati Mirashi; Stefan Wesarg*
- W-42 Craniomaxillofacial Bony Structures Segmentation from MRI with Deep-Supervision Adversarial Learning**
Miaoyun Zhao; Li Wang; Jiawei Chen; Dong Nie; Yulai Cong; Sahar Ahmad; Angela Ho; Peng Yuan; Steve H. Fung; Hannah H. Deng; James J Xia; Dinggang Shen*
- W-43 Esophageal Gross Tumor Volume Segmentation using a 3D Convolutional Neural Network**
Sahar Yousefi; Hessam Sokooti; Mohamed El-mahdi; Femke Peters; Mohammad Manzuri Shalmani; Roel Zinkstok; Marius Staring*
- W-44 Generalizing Deep Models for Ultrasound Image Segmentation**
Xin Yang; Haoran Dou; Ran Li; Xu Wang; Cheng Bian; Shengli Li; Dong Ni; Pheng-Ann Heng*
- W-45 Deep Learning Based Instance Segmentation in 3D Biomedical Images Using Weak Annotation**
Zhuo Zhao; Lin Yang; Hao Zheng; Ian Guldner; Siyuan Zhang; Danny Z Chen*
- W-46 Learn the New, Keep the Old: Extending Pretrained Models with New Anatomy and Images**
Firat Ozdemir; Philipp Fürnstahl; Orcun Goksel*
- W-47 ASDNet: Attention based Semi-supervised Deep Networks for Medical Image Segmentation**
Dong Nie; Yaozong Gao; Li Wang; Dinggang Shen*
- W-48 MS-Net: Mixed-Supervision Fully-Convolutional Networks for Full-Resolution Segmentation**
*Meet Shah; Shabbir Merchant; Suyash P. Awate**
- W-49 Segmentation of Renal Structures for Image-Guided Surgery**
Junjing Li; Pechin Lo; Ahmed Taha; Hang Wu; Tao Zhao*
- W-50 Kid-Net: Convolution Networks for Kidney Vessels Segmentation from CT-Volumes**
Ahmed A Taha; Pechin Lo; Junjing Li; Tao Zhao*
- W-51 Local and Non-local Deep Feature Fusion for Malignancy Characterization of Hepatocellular Carcinoma**
*Tianyou Dou; Lijuan Zhang; Hairong Zheng; Wu Zhou**

- W-52 AtlasNet: Multi-atlas Non-linear Deep Networks for Medical Image Segmentation**
*Maria Vakalopoulou**; Guillaume Chassagnon ; Norbert Bus; Rafael Marini-Silva; Evangelia Zacharaki; Marie-Pierre Revel; Nikos Paragios
- W-53 CFCM: segmentation via Coarse to Fine Context Memory**
*Fausto Milletari**; Nicola Rieke; Maximilian Baust; Marco Esposito; Nassir Navab
- W-54 A Multi-scale Pyramid of 3D Fully Convolutional Networks for Abdominal Multi-organ Segmentation**
*Holger Roth**; Chen Shen; Hirohisa Oda; Takaaki Sugino; Masahiro Oda; Yuichiro Hayashi; Kazunari Misawa; Kensaku Mori
- W-55 3D U-JAPA-Net: Mixture of Convolutional Networks for Abdominal Multi-Organ CT Segmentation**
*Hideki Kakeya**; Toshiyuki Okada; Yukio Oshiro
- W-56 Training Multi-organ Segmentation Networks with Sample Selection by Relaxed Upper Confident Bound**
*Yan Wang**; Yuyin Zhou; Peng Tang; Wei Shen; Elliot K Fishman; Alan Yuille
- W-57 A Novel Bayesian Model Incorporating Deep Neural Network and Statistical Shape Model for Pancreas Segmentation**
*Jingting Ma**; Feng Lin; Stefan Wesarg; Marius Erdt
- W-58 Fine-Grained Segmentation Using Hierarchical Dilated Neural Networks**
*Sihang Zhou**; Dong Nie; Ehsan Adeli; Yaozong Gao; Li Wang; Jianping Yin; Dinggang Shen
- W-59 Inter-site Variability in Prostate Segmentation Accuracy using Deep Learning**
*Eli Gibson**; Yipeng Hu; Nooshin Ghavami; Hashim Ahmed; Caroline Moore; Mark Emberton; Henkjan Huisman; Dean Barratt
- W-60 Deep Learning-based Boundary Detection for Model-based Segmentation with Application to MR Prostate Segmentation**
*Tom Brosch**; Jochen Peters; Alexandra Groth; Thomas Stehle; Jürgen Weese
- W-61 Deep Attentional Features for Prostate Segmentation in Ultrasound**
*Yi Wang; Zijun Deng; Xiaowei Hu; Lei Zhu**; Xin Yang; Xuemiao Xu; Pheng-Ann Heng; Dong Ni
- W-62 Accurate and Robust Segmentation of the Clinical Target Volume for Prostate Brachytherapy**
*Davood Karimi**; Qi Zeng; Prateek Mathur; Apeksha Avinash; Ingrid Spadinger; Sara Mahdavi; Purang Abolmaesumi; Septimiu Salcudean
- W-63 Accurate Weakly-Supervised Deep Lesion Segmentation using Large-Scale Clinical Annotations: Slice-Propagated 3D Mask Generation from 2D RECIST**
*Jinzheng Cai**; Yubao Tang; Le Lu; Adam P Harrison; Ke Yan; Jing Xiao; Lin Yang; Ronald Summers
- W-64 Semi-Automatic RECIST Labeling on CT Scans with Cascaded Convolutional Neural Networks**
*Yubao Tang**; Adam P Harrison; Mohammadhadi Bagheri; Jing Xiao; Ronald Summers
- W-65 Automatic Skin Lesion Segmentation on Dermoscopic Images by the Means of Superpixel Merging**
*Diego A Patiño**; Jonathan David Avendano Ortega; John W. Branch Bedoya
- W-66 Star Shape Prior in Fully Convolutional Networks for Skin Lesion Segmentation**
*Zahra Mirikharaji**; Ghassan Hamarneh
- W-67 Btrfly Net: Vertebrae Labelling with Energy-based Adversarial Learning of Local Spine Prior**
*Anjany Sekuboyina**; Markus Rempfler; Jan Kukacka; Giles Tetteh; Alexander Valentinitzsch; Jan Kirschke; Bjoern Menze
- W-68 Fast Vessel Segmentation and Tracking in Ultra High-Frequency Ultrasound Images**
*Tejas Sudharshan Mathai**; Lingbo Jin; Vijay Gorantla; John Galeotti
- W-69 Deep Reinforcement Learning for Vessel Centerline Tracing in Multi-modality 3D Volumes**
*Pengyue Zhang**; Fushen Wang; Yefeng Zheng