

09:15-10:30 Session 1 Oral: General Medical Image Computing

- 1.1 On Computing the Underlying Fiber Directions from the Diffusion Orientation Distribution Function I-1
- Luke Bloy, Ragini Verma
- 1.2 Extracting Tractosemas from a displacement probability field for tractography in DW-MRI I-9
- Angelos Barmountis, Baba Vemuri, Dena Howland, John Forder
- 1.3 New algorithms to map asymmetries of 3D surfaces I-17
- Benoît Combès, Sylvain Prima
- 1.4 A Distributed Spatio-Temporal EEG/MEG Inverse Solver I-26
- Wanmei Ou, Polina Golland, Matti Hamalainen
- 1.5 Tracking the swimming motions of *C. elegans* worms with Applications in Aging Studies I-35
- Christophe Restif, Dimitri Metaxas

11:00-12:00 Keynote Address

Using MRI to Understand and Treat the Heart

- Elliot McVeigh, Johns Hopkins University School of Medicine

15:45-17:00 Session 2 Oral: Modeling and Simulation

- 2.1 A new method for creating electrophysiological maps for DBS surgery and their application to surgical guidance I-670
- Srivatsan Pallavaram, Pierre-François D'Haese, Chris Kao, Hong Yu, Michael Remple, Joseph Neimat, Peter Konrad, Benoit Dawant
- 2.2 Cardiac Electrophysiology Model Adjustment Using the Fusion of MR and Optical Imaging I-678
- Damien Lepiller, Maxime Sermesant, Mihaela Pop, Hervé Delingette, Graham A. Wright, Nicholas Ayache
- 2.3 Dynamic model-driven quantitative and visual evaluation of the aortic valve from 4D CT I-686
- Razvan Ionasec, Bogdan Georgescu, Eva Gassner, Sebastian Vogt, Oliver Kutter, Michael Scheuering, Nassir Navab, Dorin Comaniciu
- 2.4 Interactive Simulation of Embolization Coils: Modeling and Experimental Validation I-695
- Jeremie Dequidt, Maud Marchal, Christian Duriez, Erwan Kerrien, Stephane Cotin
- 2.5 Modelling anisotropic viscoelasticity for real-time soft tissue simulation I-703
- Zeike Taylor, Olivier Comas, Mario Cheng, Josh Passenger, David Hawkes, David Atkinson, Sebastien Ourselin

17:15-18:15 Session 3 Oral: Motion Tracking and Compensation

- 3.1 3D Ultrasound-Guided Motion Compensation System for Beating Heart Mitral Valve Repair I-711
- Shelten Yuen, Samuel Kesner, Nikolay Vasilyev, Pedro del Nido, Robert Howe
- 3.2 A novel algorithm for heart motion analysis based on geometric constraints I-720
- Mingxing HU, Graeme Penney, Daniel Rueckert, Philip Edwards, Michael Figl, Pilip Pratt, David Hawkes
- 3.3 On-the-fly motion-compensated cone-beam CT using an a priori motion model I-729
- Simon Rit, Jochem Wolthaus, Marcel van Herk, Jan-Jakob Sonke

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- 3.4 A Statistical Motion Model based on Biomechanical Simulations for Data Fusion during Image-guided Prostate Interventions
- Yipeng Hu, Morgan Dominic, Hashin Uddin Ahmed, Doug Pendse, Mahua Sahu, Clare Allen, Mark Emberton, David Hawkes, Dean Barratt

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09:15-10:30 Session 4 Oral: Registration

- 4.1 Spherical Demons: Fast Surface Registration
- Boon Thye Yeo, Mert Sabuncu, Tom Vercauteren, Nicholas Ayache, Bruce Fischl, Polina Golland
- 4.2 Symmetric Log-Domain Diffeomorphic Registration: A Demons-based Approach
- Tom Vercauteren, Xavier Pennec, Aymeric Perchant, Nicholas Ayache
- 4.3 EEG to MRI registration based on global and local similarities of MRI intensity distributions
- Žiga Špiclin, Arne Hans, Frank H. Duffy, Simon K. Warfield, Boštjan Likar, Franjo Pernuš
- 4.4 Nonrigid Registration of Dynamic Renal MR Images Using a Saliency Based MRF Model
- Dwarikanath Mahapatra, Ying Sun
- 4.5 A Constrained Non-Rigid Registration Algorithm for use in Prostate Image-Guided Radiotherapy
- William Greene, Sudhakar Chelikani, Kailas Purushothaman, Zhe Chen, Jonathan Knisely, Lawrence Staib, Xenophon Papademetris, Jim Duncan

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11:00-12:00 Keynote Address

High resolution optical in vivo imaging of tumor cell motility, chemotaxis, invasion and metastasis in breast tumors

- John Condeelis, Albert Einstein College of Medicine

15:45-17:00 Session 5 Oral: Robotics and Interventions

- 5.1 Automatic Guidance of an Ultrasound Probe by Visual Servoing based on B-mode Image Moments
- Rafik Mebarki, Alexandre Krupa, Christophe Collewet
- 5.2 Gaze-Contingent 3D Control for Focused Energy Ablation in Robotic Assisted Surgery
- Danail Stoyanov, George Mylonas, Guang-Zhong Yang
- 5.3 MR Navigated Breast Surgery: Method and Initial Clinical Experience
- Timothy Carter, Christine Tanner, Nicolas Beechey-Newman, Dean Barratt, David Hawkes
- 5.4 Soft Tissue Tracking for Minimally Invasive Surgery: Learning Local Deformation Online
- Peter Mountney, Guang-Zhong Yang
- 5.5 Combination of Intraoperative 5-Aminolevulinic Acid-Induced Fluorescence and 3-D MR Imaging for Guidance of Robotic Laser Ablation for Precision Neurosurgery
- Hongen Liao, Koji Shimaya, Kaimeng Wang, Takashi Maruyama, Masafumi Noguchi, Yoshihiro Muragaki, Etsuko Kobayashi, Hiroshi Iseki, Ichiro Sakuma

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09:15-10:30 Session 6 Oral: Statistical Analysis

- 6.1 Discovering Modes of an Image Population through Mixture Modeling
- Mert Rory Sabuncu, Serdar Balci, Polina Golland 2-381
- 6.2 Sparse Approximation of Currents for Statistics on Curves and Surfaces
- Stanley Durrleman, Xavier Pennec, Alain Trounev, Nicholas Ayache 2-390
- 6.3 Probabilistic anatomic-functional parcellation of the cortex: how many regions?
- Alan Tucholka, Bertrand Thirion, Matthieu Perrot, Philippe Pinel, Jean-Francois Mangin, Jean-Baptiste Poline 2-399
- 6.4 Models of Normal Variation and Local Contrasts in Hippocampal Anatomy
- Xinyang Liu, Washington Mio, Yonggang Shi, Ivo Dinov, Xiuwen Liu, Natasha Lepore, Franco Lepore, Madeleine Fortin, Patrice Voss, Maryse Lassonde, Paul Thompson 2-407
- 6.5 Label Space: A Coupled Multi-Shape Representation
- James Malcolm, Yogesh Rathi, Martha Shenton, Allen Tannenbaum 2-416

11:00-12:00 Session 7 Oral: Segmentation I

- 7.1 An atlas-based segmentation propagation framework using locally affine registration – Application to automatic whole heart segmentation
- Xiahai Zhuang, Kawal Rhode, David Hawkes, Simon Arridge, Reza Razavi, Derek Hill, Sebastien Ourselin 2-425
- 7.2 Atlas-based Auto-segmentation of Head and Neck CT Images
- Xiao Han, Mischa S. Hoogeman, Peter C. Levendag, Lyndon S. Hibbard, David N. Teguh, Peter Voet, Andrew C. Cowen, Theresa K. Wolf 2-434
- 7.3 Spectral Clustering as a Diagnostic Tool in Cross-Sectional MR Studies: An Application to Mild Dementia
- Paul Aljabar, Daniel Rueckert, William R. Crum 2-442
- 7.4 Bidirectional Segmentation of Three-Dimensional Cardiac MR Images Using A Subject-Specific Dynamical Model
- Yun Zhu, Xenophon Papademetris, Albert Sinusas, James Duncan 2-450

15:45-16:45 Session 8 Oral: Segmentation II

- 8.1 Fully Bayesian Joint Model for MR brain scan tissue and subcortical structure segmentation
- Benoit Scherrer, Florence Forbes, Catherine Garbay, Michel Dojat 2-1066
- 8.2 Detection of Deformable Objects in 3D Images using Markov-Chain Monte Carlo and Spherical Harmonics
- Khaled Khairy, Emmanuel Reynaud, Ernst Stelzer 2-1075
- 8.3 A Variational Level Set to Segmentation and Bias Correction of Medical Images with Intensity Inhomogeneity
- Chunming Li, Rui Huang, Zhaohua Ding, Chris Gatenby, Dimitris Metaxas, John Gore 2-1083
- 8.4 Markov Dependence Tree-based Segmentation of Deep Brain Structures
- Jue Wu, Albert C.S. Chung 2-1092

13:30-15:30 Session 9 Poster: Segmentation

9.1	MR Brain Tissue Classification Using an Edge-Preserving Spatially Variant Bayesian Mixture Model - Giorgos Sfikas, Christophoros Nikou, Nikolaos Galatsanos, Christian Heinrich	S-1	I-43
9.2	Semi-supervised Nasopharyngeal Carcinoma Lesion Extraction from Magnetic Resonance Images using Online Spectral Clustering with a Learned Metric - Wei Huang, Kap Luk Chan, Yan Gao, Jiayin Zhou, Vincent Chong	S-2	I-51
9.3	Multi-level Classification of Emphysema in HRCT lung images using delegated classifiers - Mithun Prasad, Arcot Sowmya	S-3	I-59
9.4	A Discriminative Model-Constrained Graph Cuts Approach to Fully Automated Pediatric Brain Tumor Segmentation in 3-D MRI - Michael Wels, Gustavo Carneiro, Alexander Aplas, Joachim Hornegger, Dorin Comaniciu	S-4	I-67
9.5	Prostate cancer probability maps based on ultrasound RF time series and SVM classifiers - Mehdi Moradi, Parvin Mousavi, Robert Siemens, Alexander Boag, Eric Sauerbrei, Purang Abolmaesumi	S-5	I-76
9.6	A Bayesian approach for liver analysis: algorithm and validation study - Moti Freiman, Ofer Eliassaf, Yoav Taieb, Leo Joskowicz, Jacob Sosna	S-6	I-85
9.7	Classification of suspected liver metastases using fMRI images: a machine learning approach - Moti Freiman, Yifat Edrei, Yehonatan Sela, Yitzchak Shmidmayer, Eitan Gross, Leo Joskowicz, Rinat Abramovitch	S-7	I-93
9.8	Evaluation of a Cardiac Ultrasound Segmentation Algorithm using a Phantom - Yong Yue, Hemant Tagare, Ernest Madsen, Gary Frank, Maritza Hobson	S-8	I-101
9.9	Automatic Recovery of the Left Ventricular Blood Pool in Cardiac Cine MR Images - Marie-Pierre Jolly	S-9	I-110
9.10	MRI Bone Segmentation using Deformable Models and Shape Priors - Jerome Schmid, Nadia Magnenat-Thalmann	S-10	I-119
9.11	Segmentation of Vessels Cluttered with Cells Using a Physics Based Model - Stephen J. Schmutge, Steve Keller, Nhat Nguyen, Richard Souvenir, Toan Huynh, Mark Clemens, Min C. Shin	S-11	I-127
9.12	Streamline flows for white matter fibre pathway segmentation in diffusion MRI - Peter Savadjiev, Jennifer S.W. Campbell, G. Bruce Pike, Kaleem Siddiqi	S-12	I-135
9.13	Toward Unsupervised Classification of Calcified Arterial Lesions - Gerd Brunner, Uday Kurkure, Deepak R. Chittarajulu, Raja PC Yalamanchili, Ioannis A. Kakadiaris	S-13	I-144
9.14	Weights and Topology: A Study of the Effects of Graph Construction on 3D Image Segmentation - Leo Grady, Marie-Pierre Jolly	S-14	I-153
9.15	Level Set Based Surface Capturing in 3D Medical Images - Bin Dong, Aichi Chien, Yu Mao, Jian Ye, Stanley Osher	S-15	I-162

Poster Sessions

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13:30-15:30 Session 9 Poster: Segmentation

9.16 Automatic Detection of Calcified Coronary Plaques in Computed Tomography Data Sets - Stefan Saur, Hatem Alkadhi, Lotus Desbiolles, Gabor Szekely, Philippe Cattin	S-16	I-170
9.17 Comprehensive Segmentation of Cine Cardiac MR Images - Maxim Fradkin, Cybele Ciofalo, Benoit Mory, Gillion Hautvast, Marcel Breeuwer	S-17	I-178
9.18 Segmentation of Pathologic Hearts in Long-Axis Late-Enhancement MRI - Cybele Ciofalo, Maxim Fradkin	S-18	I-186
9.19 Automatic Subcortical Segmentation Using a Novel Contextual Model - Jonathan Morra, Zhuowen Tu, Liana Apostolova, Amity Green, Arthur Toga, Paul Thompson	S-19	I-194
9.20 Lumbar Disc Localization and Labeling with a Probabilistic Model on both Pixel and Object Features - Jason Corso, Raja Alomari, Vipin Chaudhary	S-20	I-202
9.21 Topology preserving warping of binary images. Application to atlas-based skull segmentation - Sylvain Faisan, Nicolas Passat, Vincent Noblet, René Chabrier, Christophe Meyer	S-21	I-211
9.22 Robust segmentation and anatomical labeling of the airway tree from thoracic CT scans - Bram van Ginneken, Wouter Baggeman, Eva M. van Rikxoort	S-22	I-219
9.23 Spine Segmentation Using Articulated Shape Models - Tobias Klinder, Robin Wolz, Cristian Lorenz, Astrid Franz, Jörn Ostermann	S-23	I-227
9.24 Model-Based Segmentation of Hippocampal Subfields in Ultra-High Resolution In Vivo MRI - Koen Van Leemput, Akram Bakkour, Thomas Benner Benner, Graham Wiggins Wiggins, Larry Wald, Jean Augustinack, Brad Dickerson, Polina Golland, Bruce Fischl	S-24	I-235
9.25 Kinetic Modeling Based Probabilistic Segmentation for Molecular Images - Ahmed Saad, Ghassan Hamarneh, Torsten Müller, Ben Smith	S-25	I-244
9.26 Automatic delineation of sulci and improved partial volume classification for accurate 3D voxel-based cortical thickness estimation from MR - Oscar Acosta, Pierrick Bourgeat, Jurgen Fripp, Erik Bonner, Sebastien Ourselin, Olivier Salvado	S-26	I-253
9.27 R-PLUS: A Riemannian Anisotropic Edge Detection Scheme for Vascular Segmentation - Ali Gooya, Takeyoshi Dohi, Ichiro Sakuma, Hongen Liao	S-27	I-262
9.28 A Novel Method for Cortical Sulcal Fundi Extraction - Gang Li, Tianming Liu, Jingxin Nie, Lei Guo, Stephen Wong	S-28	I-270
9.29 Joint Segmentation of Thalamic Nuclei from a Population of Diffusion Tensor MR Images - Ulas Ziyen, Carl-Fredrik Westin	S-29	I-279
9.30 Bone Segmentation and Fracture Detection in Ultrasound Using 3D Local Phase Features - Ilker Hacihaliloglu, Rafeef Abugharbieh, Antony J. Hodgson, Robert N. Rohling	S-30	I-287

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13:30-15:30 Session 9 Poster: Segmentation

9.31 Interactive Separation of Segmented Bones in CT Volumes using Graph Cut - Lu Liu, David Raber, David Nopachai, Paul Commean, David Sinacore, Fred Prior, Robert Pless, Tao Ju	S-31	I-296
9.32 A comparison of methods for recovering intra-voxel white matter fiber architecture from clinical diffusion imaging scans - Alonso Ramirez-Manzanares, Philip Cook, James Gee	S-32	I-305
9.33 Active Scheduling of Organ Detection and Segmentation in Whole-body Medical Images - Yiqiang Zhan, Xiang Sean Zhou, Zhigang Peng, Arun Krishnan	S-33	I-313
9.34 A New Stochastic Framework for Accurate Lung Segmentation - Ayman El-Ba, Georgy Gimel'farb, Robert Falk, Trevor Holland, Teresa Shaffer	S-34	I-322
9.35 Active Volume Models with Probabilistic Object Boundary Prediction Module - Tian Shen, Yaoyao Zhu, Xiaolei Huang, Junzhou Huang, Dimitris Metaxas, Leon Axel	S-35	I-331
9.36 Improving Parenchyma Segmentation via Estimation-Segmentation of Tissue Parameter T1 and Group-wise Registration of Inversion Recovery MR Breast Images - Ye Xing, Zhong Xue, Sarah Englander, Mitchell Schnall, Dinggang Shen	S-36	I-342
9.37 Atlas-based segmentation of the germinal matrix from in-utero clinical MRI of the fetal brain - Piotr Habas, Kio Kim, Francois Rousseau, Orit Glenn, Anthony Barkovic, Colin Studholme	S-37	I-351
9.38 Segmenting Brain Tumors using Pseudo-Conditional Random Fields - Chi-Hoon Lee, Shaojun Wang, Albert Murtha Murtha, Matthew Brown, Russell Greiner	S-38	I-359
9.39 Localized Priors for the Precise Segmentation of Individual Vertebrae from CT Volume Data - Hong Shen, Andrew Litvin, Christopher Alvino	S-39	I-367
9.40 Cell Spreading Analysis with Directed Edge Profile-Guided Level Set Active Contours - Ilker Ersoy, Filiz Bunyak, Kannappan Palaniappan, Mingzhai Sun, Gabor Forgacs	S-40	I-376
9.41 Brain MR Image Segmentation Using Local and Global Intensity Fitting Active Contours/Surfaces - Li Wang, Chunming Li, Quansen Sun, Deshen Xia, Chiu-Yen Kao	S-41	I-384
9.42 Model-based segmentation using graph representations - Dieter Seghers, Jeroen Hermans, Dirk Loeckx, Frederik Maes, Dirk Vandermeulen, Paul Suetens	S-42	I-393
9.43 3D Brain Segmentation Using Active Appearance Models and Local Regressors - Kolawole Babalola, Tim Cootes, Carole Twinning, Vlad Petrovic, Chris Taylor	S-43	I-401

13:30-15:30 **Session 9 Poster: Segmentation**

- 9.44 Comparison and evaluation of segmentation techniques for subcortical structures in brain MRI
 - Kolawole Babalola, Brian Patenaude, Paul Aljabar, Julia Schnabel, David Kennedy, William Crum, Stephen Smith, Tim Cootes, Mark Jenkinson, Daniel Rueckert

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13:30-15:30 **Session 10 Poster: Shape and Statistical Analysis**

- 10.1 Hierarchical Shape Statistical Models for Segmentation of Lung Fields in Chest Radiographs
 - Yonghong Shi, Dinggang Shen
- 10.2 Sample Sufficiency and Number of Modes to Retain in Statistical Shape Modelling
 - Lin Mei, Michael Figl, Daniel Rueckert, Ara Darzi, Philip Edwards
- 10.3 Optimal Feature Point Selection and Automatic Initialization in Active Shape Model Search
 - Karim Lekadir, Guang-Zhong Yang
- 10.4 MR-less high dimensional spatial normalization of 11C PiB PET images on a population of Elderly, Mild cognitive impaired and Alzheimer disease patients
 - Jurgen Fripp, Pierrick Bourgeat, Parnesh Raniga, Oscar Acosta, Victor L Villemagne, Gareth Jones, Graeme O'Keefe, Christopher Rowe, Sebastien Ourselin, Olivier Salvador
- 10.5 Computational Atlases of Severity of White Matter Lesions in Elderly Subjects with MRI
 - Stathis Hadjidemetriou, Peter Lorenzen, Norbert Schuff, Susanne Mueller, Michael Weiner
- 10.6 Simulation of Ground-Truth Validation Data via Physically- and Statistically-based Warps
 - Ghassan Hamarneh, Preet Jassi, Lisa Tang
- 10.7 Shape Analysis with Overcomplete Spherical Wavelets
 - Boon Thye Yeo, Peng Yu, Ellen Grant, Bruce Fischl, Polina Golland
- 10.8 Particle-Based Shape Analysis of Multi-Object Complexes
 - Joshua Cates, P. Thomas Fletcher, Martin Styner, Heather Cody Hazlett, Ross Whitaker
- 10.9 Multivariate Statistical Analysis of Whole Brain Structural Networks Obtained Using Probabilistic Tractography
 - Emma Robinson, Michel Valstar, Anders Ericsson, Alexander Hammers, David Edwards, Daniel Rueckert
- 10.10 Optimized Conformal Parameterization of Cortical Surfaces Using Shape Based Matching of Landmark Curves
 - Lok Ming Lui, Sheshadri Thiruvankadam, Yalin Wang, Tony F. Chan, Paul M. Thompson
- 10.11 Construction of hierarchical multi-organ statistical atlases and their application to multi-organ segmentation from CT images
 - Toshiyuki Okada, Keita Yokota, Masatoshi Hori, Masahiko Nakamoto, Hironobu Nakamura, Yoshinobu Sato

S-45 I-417

S-46 I-425

S-47 I-434

S-48 I-442

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13:30-15:30 Session 10 Poster: Shape and Statistical Analysis

10.12	Shape-Based Alignment of Hippocampal Subfields: Evaluation in Postmortem MRI - Paul A. Yushkevich, Brian B. Avants, John Pluta, David Minkoff, John A. Detre, Murray Grossman, James C. Gee	S-56	I-510
10.13	Customized Design of Hearing Aids Using Statistical Shape Learning - Gozde Unal, Delphine Nain, Greg Slabaugh, Tong Fang	S-57	I-518
10.14	A Novel Explicit 2D+t Cyclic Shape Model Applied to Echocardiography - Ramon Casero, J. Alison Noble	S-58	I-527
10.15	Spatial consistency in 3D tract-based clustering statistics - Matthan Caan, Lucas van Vliet, Charles Majoie, Eline Aukema, Kees Grimbergen, Frans Vos	S-59	I-535
10.16	Dynamic Probabilistic Atlas of Functional Brain Regions for Transcranial Magnetic Stimulation - Juha Koikkalainen, Mervi Könönen, Jari Karhu, Jarmo Ruohonen, Eini Niskanen, Jyrki Lötjönen	S-60	I-543
10.17	Unbiased Stratification of Left Ventricles - Srinivasan Rajagopalan, Shriram KS, Vivek Vaidya, Srikanth Suryanarayanan	S-61	I-551
10.18	3D Cerebral Cortical Morphometry in Autism: Increased Folding in Children and Adolescents in Frontal, Parietal, and Temporal Lobes - Suyash Awate, Lawrence Win, Paul Yushkevich, Robert Schultz, James Gee	S-62	I-559
10.19	Prediction of biomechanical parameters of the proximal femur using statistical appearance models and support vector regression - Karl Fritscher, Benedikt Schuler, Thomas Link, Felix Eckstein, Norbert Suhm, Markus H?nni, Clemens Hengg, Rainer Schubert	S-63	I-568
10.20	Automatic Labeling of Anatomical Structures in MR FastView Images Using a Statistical Atlas - Matthias Fenchel, Stefan Thesen, Andreas Schilling	S-64	I-576
10.21	Conformal Slit Mapping and Its Applications to Brain Surface Parameterization - Yalin Wang, Xianfeng Gu, Tony Chan, Paul Thompson, Shing-Tung Yau	S-65	I-585
10.22	Automatic Determination of Arterial Input Function for Dynamic Contrast Enhanced MRI in Tumor Assessment - Jeremy Chen, Jianhua Yao, David Thomasson	S-66	I-594
10.23	Robust Vessel Tree Modeling - Mehmet Akif Gulsun, Huseyin Tek	S-67	I-602
10.24	Exploratory Identification of Image-Based Biomarkers for Solid Mass Pulmonary Tumors - Ifeoma Nwogu, Jason J Corso	S-68	I-612
10.25	Measuring brain lesion progression with a supervised tissue classification system - Evangelia Zacharaki, Stathis Kanterakis, Bryan Nick, Christos Davatzikos	S-69	I-620
10.26	Regularized Discriminative Direction for Shape Difference Analysis - Luping Zhou, Richard Hartley, Lei Wang, Paulette Lieby, Nick Barnes	S-70	I-628

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13:30-15:30 Session 10 Poster: Shape and Statistical Analysis

10.27	LV Motion and Strain Computation from tMRI based on Meshless Deformable Models - Xiaoxu Wang, Ting Chen, Shaoting Zhang, Dimitris Metaxas, Leon Axel	S-71	I-636
10.28	Surface-Based Texture and Morphological Analysis Detects Subtle Cortical Dysplasia - Pierre Besson, Olivier Colliot, Neda Bernasconi, Alan Evans, Andrea Bernasconi	S-72	I-645
10.29	Multi-Attribute Non-Initializing Texture Reconstruction Based Active Shape Model (MANTRA) - Robert Toth, Jonathan Chapellow, Sona Pungavkar, Arjun Kalyanpur, Mark Rosen, Anant Madabhushi	S-73	I-653
10.30	A Comprehensive Segmentation, Registration, and Cancer Detection Scheme on 3 Tesla In Vivo Prostate DCE MRI - Satish Viswanath, B. Nicolas Bloch, Elisabeth Genega, Neil Rofsky, Robert Lenkinski, Jonathan Chappelow, Robert Toth, Anant Madabhushi	S-74	I-662

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13:30-15:30 Session 11 Poster: Miscellaneous

11.1	Identifying Regional Cardiac Abnormalities from Myocardial Strains Using Spatio-Temporal Tensor Analysis - Zhen Qian, Qingshan Liu, Dimitris Metaxas, Leon Axel	M-1	I-789
11.2	Volume Reconstruction by Inverse Interpolation: Application to Interleaved MR Motion Correction - Torsten Rohlfing, Martin H. Rademacher, Adolf Pfefferbaum	M-2	I-798
11.3A	Hybrid System for the Semantic Annotation of Sulco-Gyral Anatomy in MRI Images - Ammar Mechouche, Xavier Morandi, Christine Golbreich, Bernard Gibaud	M-3	I-807
11.4	Towards Multi-Directional OCT for Speckle Noise Reduction - Lukas Ramrath, Guillermo Moreno, Heike Mueller, Tim Bonin, Gereon Huettmann, Achim Schweikard	M-4	I-815
11.5	Automatic Tracking of Escherichia Coli Cells - Jun Xie, Shahid Khan, Mubarak Shah	M-5	I-824
11.6	Automatic Image Analysis of Histopathology Specimens Using Concave Vertex Graph - Lin Yang, Oncel Tuzel, Peter Meer, David J. Foran	M-6	I-833
11.7	Analysis of Surfaces Using Constrained Regression Models - Sune Darkner, Mert Sabuncu, Polina Golland, Rasmus Paulsen, Rasmus Larsen	M-7	I-842
11.8A	Global Approach for Automatic Fibroscopic Video Mosaicing in Minimally Invasive Diagnosis - Selen Atasoy, David Noonan, Selim Benhimane, Nassir Navab, Guang-Zhong Yang	M-8	I-850
11.9	Riemannian Framework for estimating Symmetric Positive Definite 4th Order Diffusion Tensors - Aurobrata Ghosh, Maxime Descoteaux, Rachid Deriche	M-9	I-858

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13:30-15:30 Session 11 Poster: Miscellaneous

11.10	Non-Uniform Gradient Prescription for Precise Angular Measurements Using DTI - Nathan Yanasak, Jerry Allison, Qun Zhao, Tom Hu, Krishnan Dhandapani	M-10	I-866
11.11	Spatial Weighed Element Based FEM Incorporating a Priori Information on Bioluminescence Tomography - Jin Shi, Jie Tian, Min Xu, Wei Yang	M-11	I-874
11.12	Geometric Deformable Model Driven by CoCRFs: Application to Optical Coherence Tomography - Gavriil Tsechpenakis, Brandon Lujan, Oscar Martinez, Giovanni Gregori, Philip Rosenfeld, Dimitris Metaxas	M-12	I-883
11.13	Contractile Analysis with Kriging Based on MR Myocardial Velocity Imaging - Su-Lin Lee, Andrew Huntbatch, Guang-Zhong Yang	M-13	I-892
11.14	Averaging Center Lines: Mean Shift on Paths - Theo van Walsum, Michiel Schaap, Coert T. Metz, Alina G. van der Giessen, Wiro J. Niessen	M-14	I-900
11.15	On Classifying Disease-induced Patterns in the Brain using Diffusion Tensor Images - Peng Wang, Ragini Verma	M-15	I-908
11.16	Findings in Schizophrenia by Tract-Oriented DT-MRI Analysis - Mahnaz Maddah, Marek Kubicki, William Wells, Carl-Fredrik Westin, Martha Shenton, Eric Grimson	M-16	I-917
11.17	Task-Specific Functional Brain Geometry from Model Maps - Georg Langs, Dimitris Samaras, Nikos Paragios, Jean Honorio, Rita Alia-Klein Ely, Tomasi Dardo, Volkow Nora, Goldstein Rita	M-17	I-925
11.18	Texture Classification in Lung CT using Local Binary Patterns - Lauge Sørensen, Saher Shaker, Marleen de Bruijne	M-18	I-934
11.19	A symmetry-based method for the determination of vertebral rotation in 3D - Tomaz Vrtovec, Franjo Pernus, Bostjan Likar	M-19	I-942
11.20	Spatio-Temporal Speckle Reduction In Ultrasound Sequences - Noura Azzabou, Nikos Paragios	M-20	I-951
11.21	Surface-based structural group analysis of fMRI data - Grégory Operto, Cédric Clouchoux, Rémy Bulot, Jean-Luc Anton, Olivier Coulon	M-21	I-959
11.22	Dynamic Cardiac Mapping on Patient-Specific Models - Kevin Wilson, Doug Jones, Gerard Guiraudon, Christian Linte, Chris Wedlake, John Moore, Terry Peters	M-22	I-967
11.23	Detection of DTI White Matter Abnormalities in Multiple Sclerosis Patients - Olivier Commowick, Pierre Fillard, Olivier Clatz, Simon Warfield	M-23	I-975
11.24	Automatic Mitral Valve Inflow Measurements from Doppler Echocardiography - JinHyeong Park, S. Kevin Zhou, John Jackson, Dorn Comaniciu	M-24	I-983
11.25	Motion Robust Magnetic Susceptibility and Field Inhomogeneity Estimation using Regularized Image Restoration Techniques for fMRI - Desmond Teck Beng Yeo, Jeffrey A. Fessler, Boklye Kim	M-25	I-991

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13:30-15:30 Session 11 Poster: Miscellaneous

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|-------|--|------|--------|
| 11.26 | Cortical surface thickness as a classifier: Boosting for autism classification
- Vikas Singh, Lopamudra Mukherjee, Moo Chung | M-26 | 1-999 |
| 11.27 | Surface-based vector analysis using heat equation interpolation: a new approach to quantify local hippocampal volume changes
- Hosung Kim, Pierre Besson, Olivier Colliot, Andrea Bernasconi, Neda Bernasconi | M-27 | 1-1008 |
| 11.28 | Discovering Structure in the Space of Activation Profiles in fMRI
- Danial Lashkari, Nancy Kanwisher, Polina Golland | M-28 | 1-1016 |
| 11.29 | Left Ventricle Tracking Using Overlap Priors
- Ismail Ben Ayed, Yingli Lu, Shuo Li, Ian Ross | M-29 | 1-1025 |
| 11.30 | Mean q-ball strings obtained by constrained Procrustes analysis
- Irina Kezele, Cyril Poupon, Muriel Perrin, Yann Cointepas, Vincent El Kouby, Fabrice Poupon, Jean-François Mangin | M-30 | 1-1034 |
| 11.31 | Noninvasive Functional Imaging of 3D Cardiac Electrical Activity: A Human Study on Myocardial Infarction
- Linwei Wang, Heye Zhang, Ken CL Wong, Pengcheng Shi | M-31 | 1-1042 |
| 11.32 | A slicing-based coherence measure for clusters of DTI integral curves.
- Cagatay Demiralp, Gregory Shakhnarovich, Song Zhang, David H. Laidlaw | M-32 | 1-1051 |
| 11.33 | Brain Fiber Architecture, Genetics, and Intelligence: A High Angular Resolution Diffusion Imaging (HARDI) Study
- Ming-Chang Chiang, Marina Barysheva, Agatha Lee, Sarah Madsen, Andrea Klunder, Arthur Toga, Katie McMahon, Greig de Zubicaray, Matthew Meredith, Margaret Wright, Anuj Srivastava, Nikolay Balov, Paul Thompson | M-33 | 1-1060 |
| 11.34 | Group Statistics of DTI Fiber Bundles Using Spatial Functions of Tensor Measures
- Casey Goodlett, P. Thomas Fletcher, John Gilmore, Guido Gerig | M-34 | 1-1068 |
| 11.35 | Computational Pathology Analysis of Tissue Microarrays Predicts Survival of Renal Clear Cell Carcinoma Patients
- Thomas Fuchs, Peter Wild, Holger Moch, Joachim Buhmann | M-35 | 2-1 |
| 11.36 | Optimal acquisition schemes in High Angular Resolution Diffusion Weighted Imaging
- Vesna Prckovska, Alard Roebroek, Pim Pullens, Anna Villanova, Bart M. ter Haar Romeny | M-36 | 2-9 |
| 11.37 | 3D Dendrite Reconstruction and Spine Identification
- Wengang Zhou, Houqiang Li, Xiaobo Zhou | M-37 | 2-18 |
| 11.38 | Joint LMMSE estimation of DWI data for DTI processing
- Antonio Tristán-Vega, Santiago Aja-Fernández | M-38 | 2-27 |
| 11.39 | Evaluation of Rigid and Non-Rigid Motion Compensation of Cardiac Perfusion MRI
- Hui Xue, Jens Guehring, Latha Srinivasan, Sven Zuehlsdorff, Kinda Saddi, Christophe Chedhotel, Joseph V. Hajnal, Daniel Rueckert | M-39 | 2-35 |
| 11.40 | 3D Surface Matching and Registration through Shape Images
- Zhaoqiang Lai, Jing Hua | M-40 | 2-44 |

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11.42	Automatic Intra-operative Generation of Geometric Left Atrium / Pulmonary Vein Models from Rotational X-Ray Angiography - Carsten Meyer, Robert Manzke, Jochen Peters, Olivier Ecabert, Reinhard Kneser, Vivek Y. Reddy, Raymond C. Chan, Jürgen Weese	M-42	2-61
11.43	Efficient Computation of PDF-Based Characteristics from Diffusion MR Signal - Haz-Edine Assemlal, David Tschumperle, Luc Brun	M-43	2-70
11.44	Bayesian Motion Recovery Framework for Myocardial Phase-contrast Velocity MRI - Andrew Huntbatch, Su-Lin Lee, David Firmin, Guang-Zhong Yang	M-44	2-79
11.45	The Effect of Automated Marker Detection on In Vivo Volumetric Stent Reconstruction - Gert Schoonenberg, Pierre Lelong, Raoul Florent, Onno Wink, Bart ter Haar Romeny	M-45	2-87
11.46	Patch-based Markov models for event detection in fluorescence bioimaging - T. Pecot, C. Kervrann, Sabine Bardin, Bruno Goud, Jean Salamero	M-46	2-95
11.47	Belief Propagation for Depth Cue Fusion in Minimally Invasive Surgery - Benny Lo, Marco Visentini Scarzanella, Danail Stoyanov, Guang-Zhong Yang	M-47	2-104
11.48	Deformable Mosaicing for Whole-body MRI - Christian Wachinger, Ben Glocker, Jochen Zeltner, Nikos Paragios, Nikos Komodakis, Michael Sass Hansen, Nassir Navab	M-48	2-113
11.49	Impact of Rician Adapted Non-Local Means Filtering on HARDI - Maxime Descoteaux, Nicolas Wiest-Daessle, Sylvain Prima, Christian Barillot, Rachid Deriche	M-49	2-122
11.50	Towards Regional Elastography of Intracranial Aneurysms - Simone Balocco, Oscar Camara, Alejandro F. Frangi	M-50	2-131
11.51	Wall Motion Classification of Stress Echocardiography Based on Combined Rest-and-Stress Data - Sarina Mansor, Nicholas P. Hughes, J Alison Noble	M-51	2-139
11.52	Harmonic Surface Mapping With Laplace-Beltrami Eigenmaps - Yonggang Shi, Rongjie Lai, Kyle Kern, Nancy Scicotte, Ivo Dinov, Arthur Toga	M-52	2-147
11.53	Motion Correction in Respiratory Gated Cardiac PET/CT using Multi-Scale Optical Flow - Mohammad Dawood, Thomas Kösters, Michael Fieseler, Florian Büther, Xiaoyi Jiang, Frank Wübbeling, Klaus Schäfers	M-53	2-155
11.54	Parallelized Hybrid TGRAPPA Reconstruction for Real-Time Interactive MRI - Haris Saybasili, Peter Kellman, J. Andrew Derbyshire, Elliot McVeigh, Michael A. Guttman	M-54	2-163

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11.56	Human brain myelination from birth to 4.5 years - Berengere Aubert-Broche, Vladimir Fonov, Ilana Leppert, G Bruce Pike, D Louis Collins	M-56	2-180
11.57	Toward a Flexible and Portable CT Scanner - Jeff Orchard, John T. W. Yeow	M-57	2-188
11.58	Adaptive Discriminant Wavelet Packet Transform and Local Binary Patterns for Meningioma Subtype Classification - Hammad Qureshi, Olcay Sertel, Nasir Rajpoot, Roland Wilson, Metin Gurcan	M-58	2-196
11.59	Colon Unfolding via Skeletal Subspace Deformation - Sandra Sudarsky, Bernhard Geiger, Christophe Chefd'Hotel, Lutz Guendel	M-59	2-205
11.60	Entropy-Optimized Texture Models - Sebastian Zambal, Katja Buhler, Jiri Hladuvka	M-60	2-213
11.61	Optimal Feature Selection Applied to Multispectral Fluorescence Imaging - Tobias Wood, Surapa Thiemjarus, Kevin Koh, Daniel Elson, Guang-Zhong Yang	M-61	2-222
11.62	AutoGate: Fast and Automatic Doppler Gate Localization in B-mode Echocardiogram - JinHyeong Park, S. Kevin Zhou, Costas Simopoulos, Dorin Comaniciu	M-62	2-230
11.63	Estimation of Ground-Glass Opacity Measurement in CT Lung Images - Yuanjie Zheng, Chandra Kambhamettu, Thomas Bauer, Karl Steiner	M-63	2-238
11.64	Bayesian Analysis of fMRI Data with ICA Based Spatial Prior - Deepti R. Bathula, Hemant D. Tagare, Lawrence H. Staib, Xenophon Papademetris, Robert T. Schultz, James S. Duncan	M-64	2-246
11.65	Spatiotemporal Decomposition in Object-Space along Reconstruction in Emission Tomography - Xavier Hubert, Dominique Chambellan, Samuel Legoupil, Regine Trebossen, Jean-Robert Deverre, Nikos Paragios	M-65	2-255
11.66	Assessment of Reliability of Multi-site Neuroimaging via Traveling Phantom Study - Sylvain Gouttard, Martin Styner, Marcel Prastawa, Joseph Piven, Guido Gerig	M-66	2-263
11.67	Fieldmap-Free Retrospective Registration and Distortion / Correction for EPI-based Functional Imaging - Clare Poynton, Mark Jenkinson, Stephen Whalen, Alexandra J. Golby, William Wells III	M-67	2-271
11.68	Physical-Space Refraction-Corrected Transmission Ultrasound Computed Tomography Made Computationally Practical - Shengying Li, Klaus Mueller, Marcel Jackowski, Donald Dione, Lawrence Staib	M-68	2-280
11.69	Tag Separation in Cardiac Tagged MRI - Junzhou Huang, Zhen Qian, Xiaolei Huang, Dimitris Metaxas, Leon Axel	M-69	2-289

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- David Shattuck, Ming-Chang Chiang, Marina Barysheva, Katie McMahon, Greig de Zubicaray, Matthew Meredith, Margaret Wright, Arthur Toga, Paul Thompson | M-70 | 2-298 |
| 11.71 | Human Vocal Tract Analysis by In Vivo 3D MRI During Phonation: A Complete System for Imaging, Quantitative Modeling, and Speech Synthesis
- Axel Wismueller, Johannes Behrends, Phil Hoole, Gerda Leinsinger, Maximilian Reiser, Per-Lennart Westesson | M-71 | 2-306 |
| 11.72 | Fast Motion Tracking of Tagged MRI using Angle Preserving Meshless Registration
- Ting Chen, Xiaoxu Wang, Dimitris Metaxas, Leon Axel | M-72 | 2-313 |
| 11.73 | Comparison of EPI distortion correction methods in diffusion tensor MRI using a novel framework
- Minjie Wu, Lin-Ching Chang, Lindsay Walker, Herve Lemaitre, Alan S. Barnett, Stefano Marengo, Carlo Pierpaoli | M-73 | 2-321 |
| 11.74 | Consensus-Locally Linear Embedding (C-LLE): Application to Prostate Cancer Detection on Magnetic Resonance Spectroscopy
- Pallavi Tiwari, Mark Rosen, Anant Madabhushi | M-74 | 2-330 |

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| 12.1 | Ablation Monitoring with 3D Elastography: Ex-vivo and In-vivo Studies
- Hassan Rivaz, Ioana Flemming, Lia Assumpcao, Gabor Fichtinger, Ulrike Hamper, Michael Choti, Gregory Hager, Emad Boctor | T-1 | 2-458 |
| 12.2 | Dynamic View Expansion for Enhanced Navigation in Natural Orifice Transluminal Endoscopic Surgery
- Mirna Lerotic, Adrian J. Chung, James Clark, Salman Valibeik, Guang-Zhong Yang | T-2 | 2-467 |
| 12.3 | Robotic system for transapical aortic valve replacement with MRI guidance
- Ming Li, Dumitru Mazilu, Keith Horvath | T-3 | 2-476 |
| 12.4 | Image Thickness Correction for Navigation with 3D Intra-cardiac Ultrasound Catheter
- Hua Zhong, Takeo Kanade, David Schwartzman | T-4 | 2-485 |
| 12.5 | Quantification of Edematic Effects in Prostate Brachytherapy Interventions
- Mohamed Hefny, Purang Abolmaesumi, Zahra Karimaghaloo, David G. Gobbi, Randy Ellis, Gabor Fichtinger | T-5 | 2-493 |
| 12.6 | A robot assisted hip fracture reduction with a navigation system
- Sanghyun Joung, Hirokazu Kamon, Hongen Liao, Junichiro Iwaki, Touji Nakazawa, Mamoru Mitsuishi, Yoshikazu Nakajima, Tsuyoshi Koyama, Nobuhiko Sugano, Yuki Maeda, Masahiko Bessho, Satoru Ohashi, Takuya Matsumoto, Isao Ohnishi, Ichiro Sakuma | T-6 | 2-501 |
| 12.7 | MRI Compatibility of Robot Actuation Techniques -- A Comparative Study
- Gregory Fischer, Axel Kreiger, Iulian Iordachita, Csaba Csoma, Louis Whitcomb, Gabor Fichtinger | T-7 | 2-509 |

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12.8 Robust image-based IVUS pullbacks gating - Carlo Gatta, Oriol Pujol, Oriol Rodriguez Leor, Josepa Mauri, Petia Radeva	T-8	2-518
12.9 Real-time 3D Reconstruction for Collision Avoidance in Interventional Environments - Alexander Ladikos, Selim Benhimane, Nassir Navab	T-9	2-526
12.10 Improvement of accuracy of marker-free bronchoscope tracking using electromagnetic tracker based on bronchial branch information - Kensaku Mori, Daisuke Deguchi, Takayuki Kitasaka, Yasuhito Suenaga, Yoshinori Hasegawa, Kazuyoshi Imaizumi, Hirotsugu Takabatake	T-10	2-535
12.11 Cooperative Robot Assistant for Retinal Microsurgery - Ioana Fleming, Marcin Balicki, John Koo, Iulian Iordachita, Ben Mitchell, James Handa, Gregory Hager, Russell Taylor	T-11	2-543
12.12 An Ultrasound-Guided Organ Biopsy Simulation with 6DOF Haptic Feedback - Dong Ni, Wing Yin Chan, Jing Qin, Yingge Qu, Yim Pan Chui, Simon S. H. Ho, Pheng Ann Heng	T-12	2-551
12.13 Simulations for Needle Insertion Using Eulerian Hydrocode FEM and Experimental Validations - Hiroyuki Kataoka, Shigeo Noda, Hideo Yokota, Shu Takagi, Ryutaro Himeno, Shigenobu Okazawa	T-13	2-560
12.14 Preoperative Surgery Planning for Percutaneous Hepatic Microwave Ablation - Weiming Zhai, Jing Xu, Yannan Zhao, Yixu Song, Lin Sheng, Peifa Jia	T-14	2-569
12.15 Long Bone X-ray Image Stitching Using Camera Augmented Mobile C-arm - Lejing Wang, Joerg Traub, Sandro Michael Heining, Selim Benhimane, Ekkehard Euler, Rainer Graumann, Nassir Navab	T-15	2-578
12.16 Intraoperative Navigation of an Optically Tracked Surgical Robot - Jordi Cornella, Ole Jakob Elle, Wajid Ali, Eigil Samset	T-16	2-587
12.17 Modelling Dynamic Fronto-Parietal Behaviour during Minimally Invasive Surgery - a Markovian Trip Distribution Approach - Daniel Richard Leff, Felipe Orihuela-Espina, Julian Leong, Ara Darzi, Guang-Zhong Yang	T-17	2-595
12.18 Detecting Informative Frames from Wireless Capsule Endoscopic Video using Color and Texture Features - Md. Khayrul Khayrul, Kensaku Mori Mori, Yasuhito Suenaga Suenaga, Takayuki Kitasaka, Yoshito Mekada	T-18	2-603
12.19 How Does the Camera Assistant Decide the Zooming Ratio of Laparoscopic Images? --Analysis and Implementation - Atsushi Nishikawa, Hiroaki Nakagoe, Kazuhiro Taniguchi, Yasuo Yamada, Mitsugu Sekimoto, Shuji Takiguchi, Morito Monden, Fumio Miyazaki	T-19	2-611
12.20 Precision Radiotherapy for Small Animal Research - Mohammad Matinfar, Iulian Iordachita, Eric Ford, John Wong, Peter Kazanzides	T-20	2-619
12.21 Modeling and Online Recognition of Surgical Phases using Hidden Markov Models - Tobias Blum, Nicolas Padoy, Hubertus Feulner, Nassir Navab	T-21	2-627

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12.22	Prostate Brachytherapy Seed Localization with Gaussian Blurring and Camera Self-Calibration - Junghoon Lee, Xiaofeng Liu, Jerry Prince, Gabor Fichtinger	T-22	2-636
12.23	Virtual Reality-Enhanced Ultrasound Guidance for Atrial Ablation: In vitro Epicardial Study - Cristian A. Linte, Andrew Wiles, John Moore, Chrisopher Wedlake, Terry M. Peters	T-23	2-644
12.24	Fast Marker Based C-Arm Pose Estimation - Bernhard Kainz, Markus Grabner, Matthias Ruther	T-24	2-652
12.25	Needle Insertion Study using Ultrasound-based 2D Motion Tracking - Ehsan Dehghan, Septimiu Salcudean	T-25	2-660
12.26	3D Dynamic Roadmapping for Abdominal Catheterizations - Frederik Bender, Martin Groher, Ali Khamene, Wolfgang Wein, Tim Hauke Heibel, Nassir Navab	T-26	2-668
12.27	Gaze-Contingent Motor Channelling and Haptic Constraints for Minimally Invasive Robotic Surgery - George Mylonas, Ka-Wai Kwok, Ara Darzi, Guang-Zhong Yang	T-27	2-676
12.28	Efficient 3D Tracking for Motion Compensation in Beating Heart Surgery - Rog?rio Richa, Philippe Pognet, Chao Liu	T-28	2-684
12.29	Path Planning and Workspace Determination for Robot-Assisted Insertion of Steerable Electrode Arrays for Cochlear Implant Surgery - Jian Zhang, Wei Wei, Spiros Manolidis, John T. Roland, Nabil Simaan	T-29	2-692
12.30	Software Strategy for Robotic Transperineal Prostate Therapy in Closed-Bore MRI - Junichi Tokuda, Gregory Fischer, Csaba Csoma, Simon DiMaio, David Gobbi, Gabor Fichtinger, Clare Tempany, Nobuhiko Hata	T-30	2-701
12.31	Real-time Simulation of 4D Lung Tumor Radiotherapy using a Breathing Model - Anand Santhanam, Twyla Willoughby, Amish Shah, Sanford Meeks, Jannick Rolland, Patrick Kupelian	T-31	2-710
12.32	Construction of statistical surgical planning model for automated 3D planning of femoral component in total hip arthroplasty - Masahiko Nakamoto, Itaru Otomaru, Masaki Takao, Nobuhiko Sugano, Yoshiyuki Kagiyama, Hideki Yoshikawa, Yukio Tada, Yoshinobu Sato	T-32	2-718

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13.1	Constitutive modeling of human liver based on in vivo measurements - Edoardo Mazza, Patrick Grau, Marc Hollenstein, Michael Bajka	T-33	2-726
13.2	Real-Time Simulation of Medical Ultrasound from CT Images - Ramtin Shams, Richard Hartley, Nassir Navab	T-34	2-734
13.3	Real-time Nonlinear FEM with Neural Network for Simulating Soft Organ Model Deformation - Ken'ichi Morooka, Xian Chen, Ryo Kurazume, Seiichi Uchida, Kenji Hara, Yumi Iwashita, Makoto Hashizume	T-35	2-742

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| 13.4 | Modelling childbirth: Comparing athlete and non-athlete pelvic floor mechanics
- Xinshan Li, Jennifer Kruger, Jae-Hoon Chung, Martyn Nash, Poul Nielsen | T-36 | 2-750 |
| 13.5 | Modelling mammographic compression of the breast
- Jae-Hoon Chung, Vijay Rajagopal, Poul Nielsen, Martyn Nash | T-37 | 2-758 |
| 13.6 | Cardiac Medial Modeling and Time-Course Heart Wall Thickness Analysis
- Hui Sun, Brian Avants, Alejandro Frangi, Federico Sukno, James Gee, Paul Yushkevich | T-38 | 2-766 |
| 13.7 | Identification of atherosclerotic lesion-prone sites through patient-specific simulation of low-density lipoprotein accumulation
- Ufuk Olgac, Vartan Kurtcuoglu, Stefan C Saur, Dimos Poulikakos | T-39 | 2-774 |
| 13.8 | Exploring the Use of Proper Orthogonal Decomposition for Enhancing Blood Flow Images via Computational Fluid Dynamics
- Robert McGregor, Dominik Szczerba, Martin von Siebenthal, Krishnamurthy Muralidhar, Gabor Szekely | T-40 | 2-782 |
| 13.9 | Fast virtual stenting with deformable meshes: application to intracranial aneurysms
- Ignacio Larrabide, Alessandro Radaelli, Alejandro Frangi | T-41 | 2-790 |
| 13.10 | Dynamic Thermal Modeling of the Normal and Tumorous Breast under Elastic Deformation
- Li Jiang, Wang Zhan, Murray Loew | T-42 | 2-798 |
| 13.11 | Real-time Liver Deformation Modelling for MRgFUS
- James Ross, Rekha Tranquebar, Dattesh Shanbhag | T-43 | 2-806 |
| 13.12 | Passive Ventricular Mechanics Modelling Using Cardiac MR Imaging of Structure and Function
- Vicky Y Wang, Hoi Ieng Lam, Daniel B Ennis, Alistair A Young, Martyn P Nash | T-44 | 2-814 |

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| 14.1 | Fast Musculoskeletal Registration Based on Shape Matching
- Benjamin Gilles, Dinesh K. Pai | T-45 | 2-822 |
| 14.2 | Physically-Based Validation of Deformable Medical Image Registration
- Huai-Ping Lee, Ming Lin, Mark Foskey | T-46 | 2-830 |
| 14.3 | Adaptive boundary conditions for physically based follow-up breast MR image registration
- Liesbet Roose, Dirk Loeckx, Wouter Mollemans, Frederik Maes, Paul Suetens | T-47 | 2-839 |
| 14.4 | An Incremental Method for Registering Electroanatomic Mapping Data to Surface Mesh Models of the Left Atrium
- Aditya B. Koolwal, Federico Barbagli, Christopher R. Carlson, David H. Liang | T-48 | 2-847 |
| 14.5 | Fast, Adaptive Expectation-Maximization Alignment For Cryo-EM
- Hemant Tagare, Frederick Sigworth, Andrew Barthel | T-49 | 2-855 |

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14.6 Weight Preserving Image Registration for Monitoring Disease Progression in Lung CT - Vladlena Gorbunova, Pechin Lo Chien Pau, Asger Dirksen, Mads Nielsen, Marleen de Bruijne	T-50	2-883
14.7 Localization of Pelvic Anatomical Coordinate System Using US/Atlas Registration for Total Hip Replacement - Pezhman Foughi, Danny Song, Gouthami Chintalapani, Russell H. Taylor, Gabor Fichtinger	T-51	2-871
14.8 GPU Accelerated Non-rigid Registration for the Evaluation of Cardiac Function - Bo Li, Alistair Young, Brett Cowan	T-52	2-880
14.9 Non-rigid Image Registration with <i>SαS</i> Filters - Shu Liao, Albert C. S. Chung	T-53	2-888
14.10 Symmetric nonrigid image registration. Application to average brain templates construction. - Vincent Noblet, Christian Heinrich, Fabrice Heitz, Jean-Paul Armspach	T-54	2-897
14.11 Diffusion Tensor Image Registration Using Tensor Geometry and Orientation Features - Jinzhong Yang, Dinggang Shen, Christos Davatzikos, Ragini Verma	T-55	2-905
14.12 A Tensor-Based Morphometry Study of Genetic Influences on Brain Structure using a New Fluid Registration Method - Caroline Brun, Natasha Leporée, Xavier Pennec, Yi-Yu Chou, Agatha D. Lee, Marina Barysheva, Grieg de Zubicaray, Matthew Meredith, Katie McMahon, Margaret J. Wright, Arthur W. Toga, Paul M. Thompson	T-56	2-914
14.13 Effective Incorporation of Spatial Information in A Mutual Information Based 3D-2D Registration of A CT Volume to X-ray Images - Guoyan Zheng	T-57	2-922
14.14 A Nonrigid Image Registration Framework for Identification of Tissue Mechanical Parameters - Petr Jordan, Simona Socrate, Todd Zickler, Robert Howe	T-58	2-930
14.15 A Local Mutual Information Guided Denoising Technique and Its Application to Self-calibrated Partially Parallel Imaging - Weihong Guo, Feng Huang	T-59	2-939
14.16 Influence of Organ Motion and Contrast Enhancement on Image Registration - Andrew Melbourne, David Hawkes, David Atkinson	T-60	2-948
14.17 Anatomy-preserving nonlinear registration of deep brain ROIs using confidence-based block-matching - Manik Bhattacharjee, Alain Pitiot, Alexis Roche, Didier Dormont, Eric Bardinet	T-61	2-956
14.18 The Zernike Expansion - an example of a merit function for 2D/3D registration based on orthogonal functions - Shuo Dong, Joachim Kettenbach, Isabella Hinterleitner, Helmar Bergmann, Wolfgang Birkfellner	T-62	2-964

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| 14.19 | Registration of 4D Time-Series of Cardiac Images with Multichannel Diffeomorphic Demons
- Jean-Marc Peyrat, Herve Delingette, Maxime Sermesant, Xavier Pennec, Chenyang Xu, Nicholas Ayache | T-63 | 2-972 |
| 14.20 | An Active Contour-based Atlas Registration Model applied to Automatic Subthalamic Nucleus Targeting on MRI: Method and Validation
- Valerie Duay, Xavier Bresson, Javier Sanchez Castro, Claudio Pollo, Meritxell Bach Cuadra, Jean-Philippe Thiran | T-64 | 2-980 |
| 14.21 | Location Registration and Recognition (LRR) for Longitudinal Evaluation of Corresponding Regions in CT Volumes
- Michal Sofka, Charles Stewart | T-65 | 2-989 |
| 14.22 | Reducing Motion Artifacts in 3-D Breast Ultrasound using Non-Linear Registration
- Tobias Boehler, Heinz-Otto Peitgen | T-66 | 2-998 |
| 14.23 | Semi-Automatic Reference Standard Construction for Quantitative Evaluation of Lung CT Registration
- Keelin Murphy, Bram van Ginneken, Josien P.W. Pluim, Stefan Klein, Marius Staring | T-67 | 2-1006 |
| 14.24 | Automatic Deformable Diffusion Tensor Registration for Fiber Population Analysis
- Mustafa Okan Irfanoglu, Raghu Machiraju, Steffen Sammet, Carlo Pierpaoli, Michael Knopp | T-68 | 2-1014 |
| 14.25 | Deformable Ultrasound Registration Without Reconstruction
- Rupert Brooks, D. Louis Collins, Xavier Morandi, Tal Arbel | T-69 | 2-1023 |
| 14.26 | A Theoretical Comparison of Different Target Registration Error Estimators
- Mehdi Hedjazi Moghari, Burton Ma, Purang Abolmaesumi | T-70 | 2-1032 |
| 14.27 | Robust Brain Registration using Adaptive Probabilistic Atlas
- Jaime Ide, Rong Chen, Dinggang Shen, Edward Herskovits | T-71 | 2-1041 |
| 14.28 | Using curve-fitting of curvilinear features for assessing registration of clinical neuropathology with in vivo MRI
- Philippe Laissue, Chris Kenwright, Ali Hojjat, Alan Colchester | T-72 | 2-1050 |
| 14.29 | A maximal mass confinement principle for rigid and locally rigid image registration
- Julian Mattes, Johannes Gall, Alfredo Lopez | T-73 | 2-1058 |