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xxi  Conference Committee

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T. Moreau, B. Gibaud, MediCIS team, INSERM (France)

8669 2C DTI quality control assessment via error estimation from Monte Carlo simulations [8669-85]
M. Farzinfar, Y. Li, A. R. Verde, I. Oguz, Univ. of North Carolina at Chapel Hill (United States); G. Gerig, The Univ. of Utah (United States); M. A. Styner, Univ. of North Carolina at Chapel Hill (United States)

8669 2D UNC-Utah NA-MIC DTI framework: atlas based fiber tract analysis with application to a study of nicotine smoking addiction [8669-86]
A. R. Verde, J.-B. Berger, Univ. of North Carolina at Chapel Hill (United States); A. Gupta, Univ. of North Carolina at Chapel Hill (United States) and Children’s Hospital of Pittsburgh, Univ. of Pittsburgh (United States); M. Farzinfar, A. Kaiser, V. W. Chanon, C. Boettiger, Univ. of North Carolina at Chapel Hill (United States); H. Johnson, J. Matsui, The Univ. of Iowa (United States); A. Sharma, The Univ. of Utah (United States); C. Goodlett, Kitware, Inc. (United States); Y. Shi, H. Zhu, Univ. of North Carolina at Chapel Hill (United States); G. Gerig, S. Goutard, The Univ. of Utah (United States); C. Vachet, Univ. of North Carolina at Chapel Hill (United States) and The Univ. of Utah (United States); M. Styner, Univ. of North Carolina at Chapel Hill (United States)

8669 2E Mapping longitudinal cerebral cortex development using diffusion tensor imaging [8669-87]
Y. Wang, Northwestern Polytechnical Univ. (China) and Univ. of North Carolina at Chapel Hill (United States); G. Li, M. Ahn, J. Nie, H. Zhu, Univ. of North Carolina at Chapel Hill (United States); L. Guo, Northwestern Polytechnical Univ. (China)
POSTER SESSION: OPTICAL COHERENCE TOMOGRAPHY

8669 2F 3D image noise reduction and contrast enhancement in optical coherence tomography [8669-88]
K. Xu, Q. Wang, Samsung Advanced Institute of Technology (China); W. Jang, Samsung Advanced Institute of Technology (Korea, Republic of); Z. Hao, H. Ren, J. Kim, Samsung Advanced Institute of Technology (China)

POSTER SESSION: IMAGE ENHANCEMENT

8669 2G Image denoising of low-radiation dose coronary CT angiography by an adaptive block-matching 3D algorithm [8669-89]
D. Kang, Univ. of Southern California (United States); P. Slomka, R. Nakazato, Cedars-Sinai Medical Ctr. (United States); J. Woo, Univ. of Maryland (United States); D. S. Berman, Cedars-Sinai Medical Ctr. (United States); C.-C. J. Kuo, Univ. of Southern California (United States); D. Dey, Cedars-Sinai Medical Ctr. (United States)

8669 2H Pulse sequence based multi-acquisition MR intensity normalization [8669-90]
A. Jog, S. Roy, A. Carass, J. L. Prince, Johns Hopkins Univ. (United States)

8669 2J Noise reduction using nonadditive Q-Gaussian filters in magnetic resonance images [8669-92]
I. J. A. Soares, L. O. Murta Jr., Univ. de São Paulo (Brazil)

8669 2K Multiscale TV flow with applications to fast denoising and registration [8669-93]
P. Athavale, R. Xu, Univ. of Toronto (Canada); P. Radau, Sunnybrook Research Institute (Canada); A. Nachman, Univ. of Toronto (Canada); G. Wright, Sunnybrook Research Institute (Canada)

8669 2L Robust blind deconvolution for fluorescence microscopy using GEM algorithm [8669-94]
B. Kim, T. Naemura, The Univ. of Tokyo (Japan)

8669 2M Image processing of infrared thermal images for the detection of necrotizing enterocolitis [8669-95]
R. Nur, Carleton Univ. (Canada); M. Frize, Carleton Univ. (Canada) and Univ. of Ottawa (Canada)

8669 2N Sparse dictionary representation and propagation for MRI volume super-resolution [8669-96]
X.-H. Han, Y.-W. Chen, Ritsumeikan Univ. (Japan)

POSTER SESSION: LABEL FUSION

8669 2O iSTAPLE: improved label fusion for segmentation by combining STAPLE with image intensity [8669-97]
X. Liu, A. Montillo, E. T. Tan, J. F. Schenck, GE Global Research (United States)
POSTER SESSION: MOTION

8669 2P  Tracking multiple neurons on worm images [8669-98]
T. Parag, Howard Hughes Medical Institute (United States); V. Butler, Univ. of Cambridge (United States); D. Chklovskii, Howard Hughes Medical Institute (United States)

8669 2Q  Involuntary motion tracking for medical dynamic infrared thermography using a template-based algorithm [8669-99]
T.-Y. Cheng, C. Herman, Johns Hopkins Univ. (United States)

POSTER SESSION: REGISTRATION

8669 2R  Volume-preserving correction of non-rigid registrations for the investigation of pleural thickening growth [8669-101]
P. Faltin, RWTH Aachen Univ. (Germany); T. Kraus, Univ. Hospital Aachen (Germany); K. Chaisawong, RWTH Aachen Univ. (Germany) and King Mongkut's Univ. of Technology North Bangkok (Thailand)

8669 2S  A framework for automatic tuning of system parameters and its use in image registration [8669-102]
R. H. Gong, Z. Yaniv, Children's National Medical Ctr. (United States)

8669 2T  3D registration of histology and ultrasound data for validation of prostate cancer imaging [8669-103]
S. G. Schalk, T. A. Saidov, Eindhoven Univ. of Technology (Netherlands); H. Wijkstra, Eindhoven Univ. of Technology (Netherlands) and Academic Medical Ctr. Univ. Hospital (Netherlands); M. Mischi, Eindhoven Univ. of Technology (Netherlands)

8669 2U  Automatic measurement of wrist synovitis from contrast-enhanced MRI: a registration-centered approach [8669-104]
P. Mysling, S. Darkner, J. Sporring, Univ. of Copenhagen (Denmark); E. Dam, M. Lillholm, Biomediq A/S (Denmark)

8669 2V  2D registration guided models for semi-automatic MRI prostate segmentation [8669-105]
R. Cheng, National Institutes of Health (United States); B. Turkbey, National Cancer Institute (United States); J. Senseney, National Institutes of Health (United States); M. Bernardo, National Cancer Institute (United States) and Frederick National Lab. (United States); A. Bokinsky, Geometric Tools, Inc. (United States); W. Gandler, E. McCreedy, T. Pohida, National Institutes of Health (United States); P. Choyke, National Cancer Institute (United States); M. J. McAuliffe, National Institutes of Health (United States)

8669 2W  Monoplane stereoscopic imaging method for inverse geometry x-ray fluoroscopy [8669-106]
M. T. Tomkowiak, M. S. Van Lysel, M. A. Speidel, Univ. of Wisconsin - Madison (United States)
8669 2X  Cortical correspondence via sulcal curve-constrained spherical registration with application to Macaque studies [8669-107]
I. Lyu, S. H. Kim, Univ. of North Carolina at Chapel Hill (United States); J.-K. Seong, Soongsil Univ. (Korea, Republic of); S. W. Yoo, Korea Advanced Institute of Science and Technology (Korea, Republic of); A. C. Evans, Montreal Neurological Institute, McGill Univ. (Canada); Y. Shi, Univ. of North Carolina at Chapel Hill (United States); M. Sanchez, Emory Univ. (United States); M. Niethammer, M. A. Styner, Univ. of North Carolina at Chapel Hill (United States)

8669 2Y  Novel PET/CT image fusion via Gram-Schmidt spectral sharpening [8669-108]
R. T. Kneusel, Exelis Visual Information Solutions (United States); P. N. Kneusel, Colorado School of Mines (United States)

8669 2Z  Characterisation of respiratory motion extracted from 4D MRI [8669-110]
A. A. Abd. Rahni, Univ. Kebangsaan Malaysia (Malaysia) and Univ. of Surrey (United Kingdom); E. Lewis, K. Wells, Univ. of Surrey (United Kingdom)

8669 30  Extracting respiratory motion from 4D MRI using organ-wise registration [8669-111]
A. A. Abd. Rahni, Univ. Kebangsaan Malaysia (United Kingdom) and Univ. of Surrey (United Kingdom); R. Smith, E. Lewis, K. Wells, Univ. of Surrey (United Kingdom)

8669 31  Evaluation of 3D-2D registration methods for registration of 3D-DSA and 2D-DSA cerebral images [8669-112]
U. Mitrović, Ž. Špiclin, Univ. of Ljubljana (Slovenia); B. Likar, F. Permuš, Univ. of Ljubljana (Slovenia) and Sensum Computer Vision Systems (Slovenia)

8669 32  Super-resolution in cardiac MRI using a Bayesian approach [8669-113]
N. Velasco Toledo, Univ. Militar Nueva Granada (Colombia) and Univ. Nacional de Colombia (Colombia); A. Rueda, C. Santa Marta, Univ. Nacional de Educación a Distancia (Spain); E. Romero, Univ. Nacional de Colombia (Colombia)

8669 33  Stochastic image registration with user constraints [8669-114]
I. Kolesov, Georgia Institute of Technology (United States) and Comprehensive Cancer Ctr., Univ. of Alabama at Birmingham (United States); J. Lee, Comprehensive Cancer Ctr., Univ. of Alabama at Birmingham (United States); P. Vela, Georgia Institute of Technology (United States); A. Tannenbaum, Comprehensive Cancer Ctr., Univ. of Alabama at Birmingham (United States)

8669 34  A novel point-based nonrigid image registration scheme based on learning optimal landmark configurations [8669-115]
T. Wan, Case Western Reserve Univ. (United States); B. N. Bloch, Boston Univ. School of Medicine (United States); S. Danish, Univ. of Medicine and Dentistry of New Jersey (United States); A. Madabhushi, Case Western Reserve Univ. (United States)

8669 35  Recursive Bayesian estimation of respiratory motion using a modified autoregressive transition model [8669-116]
A. A. Abd. Rahni, Univ. Kebangsaan Malaysia (Malaysia) and Univ. of Surrey (United Kingdom); E. Lewis, K. Wells, Univ. of Surrey (United Kingdom)
8669 36  **Skeleton-based refinement of multi-material volumetric meshes** [8669-117]
C. Oyarzun Laura, P. Bueno Plaza, K. Drechsler, S. Wesarg, Fraunhofer IGD (Germany)

8669 37  **Image segmentation using normalized cuts with multiple priors** [8669-118]
E. Ruiz, M. Reisert, Univ. Medical Ctr. Freiburg (Germany)

8669 38  **Sparseness constrained nonnegative matrix factorization for unsupervised 3D segmentation of multichannel images: demonstration on multispectral magnetic resonance image of the brain** [8669-119]
I. Kopriva, A. Jukić, Ruđer Bošković Institute (Croatia); X. Chen, Soochow Univ. (China)

8669 39  **Customized hybrid level sets for automatic lung segmentation in chest x-ray images** [8669-120]
S. Kamalakannan, Texas Tech Univ. (United States) and National Library of Medicine (United States); S. Antani, R. Long, G. Thoma, National Library of Medicine (United States)

8669 3A  **An automatic tumor segmentation framework of cervical cancer in T2-weighted and diffusion weighted magnetic resonance images** [8669-121]
Y. Kao, W. Li, Institute of Automation (China); H. Xue, C. Ren, Peking Union Medical College Hospital (China); J. Tian, Institute of Automation (China)

8669 3B  **False-positive reduction of liver tumor detection using ensemble learning method** [8669-122]
A. Miyamoto, J. Miyakoshi, K. Matsuzaki, Hitachi, Ltd. (Japan); T. Irie, Hitachi General Hospital, Hitachi, Ltd. (Japan)

8669 3C  **Lobar fissure detection using line enhancing filters** [8669-123]
T. Klinder, Philips Research Europe (Germany); H. Wendland, Univ. of Lübeck (Germany); R. Wiemker, Philips Research Europe (Germany)

8669 3D  **Steerable wavelet transform for atlas based retinal lesion segmentation** [8669-124]
S. Ali, K. M. Adal, D. Sidibé, Lab. Le2i, CNRS, Univ. de Bourgogne (France); E. Chaum, The Univ. of Tennessee Health Science Ctr. (United States); T. P. Karnowski, Oak Ridge National Lab. (United States); F. Mériaudeau, Lab. Le2i, CNRS, Univ. de Bourgogne (France)

8669 3E  **Automated segmentation of MS lesions in brain MR images using localized trimmed-likelihood estimation** [8669-125]
A. Galimzianova, Ž. Špiclin, B. Likar, F. Pernuš, Univ. of Ljubljana (Slovenia)

8669 3F  **Development of a novel constellation based landmark detection algorithm** [8669-126]
A. Ghayoor, The Univ. of Iowa (United States) and The Univ. of Iowa Hospitals and Clinics (United States); J. G. Vaidya, The Univ. of Iowa (United States); H. J. Johnson, The Univ. of Iowa (United States) and The Univ. of Iowa Hospitals and Clinics (United States)

8669 3G  **Breast segmentation in MRI: quantitative evaluation of three methods** [8669-127]
A. Gubern-Mérida, Univ. of Girona (Spain) and Radboud Univ. Nijmegen Medical Ctr. (Netherlands); L. Wang, Fraunhofer MEVIS (Germany); M. Kallenberg, Radboud Univ. Nijmegen Medical Ctr. (Netherlands); R. Martí, Univ. of Girona (Spain); H. K. Hahn, Fraunhofer MEVIS (Germany); N. Karssemeijer, Radboud Univ. Nijmegen Medical Ctr. (Netherlands)
8669 3H **Fuzzy model based object delineation via energy minimization** [8669-128]
K. C. Ciesielski, West Virginia Univ. (United States) and Univ. of Pennsylvania (United States);
J. K. Udupa, D. Odhner, L. Zhao, Univ. of Pennsylvania (United States)

8669 3I **Consistent 4D brain extraction of serial brain MR images** [8669-129]
Y. Wang, Northwestern Polytechnical Univ. (China) and Univ. of North Carolina at Chapel Hill (United States);
G. Li, J. Nie, P.-T. Yap, Univ. of North Carolina at Chapel Hill (United States);
L. Guo, Northwestern Polytechnical Univ. (China); D. Shen, Univ. of North Carolina at Chapel Hill (United States)

8669 3J **Statistical representation of high-dimensional enhancement fields with application to consistent enhancement of chest x-ray images** [8669-130]
Z. Lao, Carestream Health Inc. (United States); X. Zheng, Nanjing Univ. (China); Q. Zou, NJM Insurance Group (United States)

8669 3K **Localizing and segmenting Crohn’s disease affected regions in abdominal MRI using novel context features** [8669-131]
D. Mahapatra, P. J. Schüffler, ETH Zurich (Switzerland); J. A. W. Tielbeek, Academic Medical Ctr. (Netherlands);
F. M. Vos, Academic Medical Ctr. (Netherlands) and Delft Univ. of Technology (Netherlands);
J. M. Buhmann, ETH Zurich (Switzerland)

8669 3L **Glottis segmentation using dynamic programming** [8669-132]
J. Chen, B. K. Gunturk, M. Kunduk, Louisiana State Univ. (United States)

8669 3M **Effects of T2-weighted MRI based cranial volume measurements on studies of the aging brain** [8669-133]
P. Vuong, D. Drucker, C. Schwarz, E. Fletcher, C. DeCarli, O. Carmichael, Alzheimer’s Disease Neuroimaging Initiative (United States)

8669 3N **Food image analysis for measuring food intake in free living conditions** [8669-134]
R. Dibiano, B. K. Gunturk, LSU (United States); C. K. Martín, Pennington Biomedical Research Ctr. (United States)

8669 3O **DEeP random walks** [8669-135]
M. Javanshir Moghaddam, Royal Institute of Technology KTH (Sweden); A. Eslami, N. Navab, Technical Univ. of Munich (Germany)

8669 3P **Analysis of brain white matter hyperintensities using pattern recognition techniques** [8669-136]
M. Bento, L. Rittner, S. Appenzeller, A. Lapa, R. Lotufo, State Univ. of Campinas (Brazil)

8669 3Q **An information theoretic approach to automated medical image segmentation** [8669-137]
E. Corona, Whirlpool Corp. (United States); J. E. Hill, B. Nutter, S. Mitra, Texas Tech Univ. (United States)

8669 3R **Automated segmentation of pulmonary lobes in chest CT scans using evolving surfaces** [8669-138]
P. Lo, Univ. of California, Los Angeles (United States); E. M. van Rikxoort, Radboud Univ. Nijmegen Medical Ctr. (Netherlands); F. Abtin, S. Ahmad, A. Ordookhani, J. Goldin, M. S. Brown, Univ. of California, Los Angeles (United States)
A multiscale graph cut approach to bright-field multiple cell image segmentation using a Bhattacharyya measure [8669-139]
S. M. Kang, J. W. L. Wan, Univ. of Waterloo (Canada)

Automatic segmentation of abdominal wall in ventral hernia CT: a pilot study [8669-140]
Z. Xu, W. M. Allen, Vanderbilt Univ. (United States); B. K. Poulose, Vanderbilt Univ. Medical Ctr. (United States); B. A. Landman, Vanderbilt Univ. (United States)

Graph cuts based left atrium segmentation refinement and right middle pulmonary vein extraction in C-arm CT [8669-141]
D. Yang, Y. Zheng, Siemens Corporate Technology (United States); M. John, Siemens AG (Germany)

Cortical thickness changes related to the processes of maturation and aging in healthy brains [8669-143]
H. H. Cunha, A. C. Santos, S. Rosset, C. E. G. Salmon, Univ. of São Paulo (Brazil)

A registration and atlas propagation based framework for automatic whole heart segmentation of CT volumes [8669-144]
X. Zhuang, Shanghai Advanced Research Institute (China); J. Song, S. Zhan, Shu Guang Hospital, Shanghai Univ. of Traditional Chinese Medicine (China); T. Lan, H. Huang, Shanghai Advanced Research Institute (China); M. Hu, S. Ourselin, Univ. College London (United Kingdom); Q. Li, Shanghai Advanced Research Institute (China)

Automatic segmentation of the preterm neonatal brain with MRI using supervised classification [8669-145]
S. M. Chită, M. Benders, P. Moeskops, K. J. Kersbergen, M. A. Viergever, I. Išgum, Univ. Medical Ctr. Utrecht (Netherlands)

Multi-organ segmentation from 3D abdominal CT images using patient-specific weighted-probabilistic atlas [8669-146]
C. Chu, M. Oda, Nagoya Univ. (Japan); T. Kitasaka, Aichi Institute of Technology (Japan); K. Misawa, Aichi Cancer Ctr. Hospital (Japan); M. Fujiwara, Y. Hayashi, Nagoya Univ. (Japan); R. Wolz, D. Rueckert, Imperial College London (United Kingdom); K. Mori, Nagoya Univ. (Japan)

POSTER SESSION: SHAPE

Shape manifold regression with spherical harmonics for hippocampus shape analysis [8669-148]
X. Chen, W. Li, Institute of Automation (China); J. Hua, Wayne State Univ. (United States); X. Zhang, H. He, Institute of Automation (China)

Computation on shape manifold for atlas generation: application to whole heart segmentation of cardiac MRI [8669-149]
X. Zhuang, Shanghai Advanced Research Institute (China); W. Shi, H. Wang, D. Rueckert, Imperial College London (United Kingdom); S. Ourselin, Univ. College London (United Kingdom)
Interactive 3D segmentation method based on uncertain local region updating in hierarchical MRF graph [8669-151]
S. H. Park, Seoul National Univ. (Korea, Republic of); I. D. Yun, Hankuk Univ. of Foreign Studies (Korea, Republic of)

Prostate segmentation in 3D TRUS using convex optimization with shape constraint [8669-152]
W. Qiu, J. Yuan, Robarts Research Institute (Canada); E. Ukwatta, Robarts Research Institute (Canada) and The Univ. of Western Ontario (Canada); D. Tessier, Robarts Research Institute (Canada); A. Fenster, Robarts Research Institute (Canada) and The Univ. of Western Ontario (Canada)

A robust model-based approach to detect the mitral annulus in 3D ultrasound [8669-153]
B. Graser, D. Wald, German Cancer Research Ctr. (Germany); M. Seltel, Mint Medical GmbH (Germany); M. Grossgasteiger, R. de Simone, Univ. of Heidelberg (Germany); H.-P. Meinzer, German Cancer Research Ctr. (Germany); I. Wolf, German Cancer Research Ctr. (Germany) and Mannheim Univ. of Applied Science (Germany)

Segmentation of the left heart ventricle in ultrasound images using a region based snake [8669-154]
M. Landgren, N. C. Overgaard, A. Heyden, Lund Univ. (Sweden)

Automatic systole-diastole classification of mitral valve complex from RT-3D echocardiography based on multiresolution processing [8669-155]
G. K. W. Tsui, K.-Y. K. Wong, The Univ. of Hong Kong (Hong Kong, China); A. P. W. Lee, The Chinese Univ. of Hong Kong (Hong Kong, China)

Learning based ensemble segmentation of anatomical structures in liver ultrasound image [8669-156]
X. Feng, X. Shen, Q. Wang, Samsung Advanced Institute of Technology (China); J. Kim, Samsung Advanced Institute of Technology (Korea, Republic of); Z. Hao, Samsung Advanced Institute of Technology (China); Y. Hwang, W.-C. Bang, J. D. K. Kim, Samsung Advanced Institute of Technology (Korea, Republic of); J. Kim, Samsung Advanced Institute of Technology (China)

Gland segmentation of breast ultrasound exams [8669-157]
R. Braz, J. Moutinho, M. Freire, A. M. G. Pinheiro, M. Pereira, Univ. da Beira Interior (Portugal)

3D seam selection techniques with application to improved ultrasound mosaicing (Cum Laude Poster Award) [8669-158]
J. F. Kutarnia, P. C. Pedersen, Worcester Polytechnic Institute (United States)

Semiautomatic segmentation of atherosclerotic carotid artery lumen using 3D ultrasound imaging [8669-159]
M. M. Hossain, K. AlMuhanna, George Mason Univ. (United States); L. Zhao, School of Medicine, Univ. of Maryland (United States); B. Lal, School of Medicine, Univ. of Maryland (United States) and Veterans Affairs Maryland Health Care System (United States); S. Sikdar, George Mason Univ. (United States)
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Andreas Wahle, The University of Iowa (United States)

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   Punam K. Saha, The University of Iowa (United States)

2  DTI/Functional
   Sonia Pujol, Brigham and Women’s Hospital (United States) and Harvard Medical School (United States)

3  Shape Appearance
   Jerry L. Prince, Johns Hopkins University (United States)

4  Temporal and Motional Analysis
   Martin A. Styner, The University of North Carolina at Chapel Hill (United States)

5  OCT and Ultrasound
   Aaron Fenster, Robarts Research Institute (Canada)

6  Lung
   Josien P. Pluim, University Medical Center Utrecht (Netherlands)

7  Registration
   Benoît M. Dawant, Vanderbilt University (United States)

8  Segmentation and Localization
   Tomaž Vrtovec, University of Ljubljana (Slovenia)
9   Keynote and 2D-3D Registration  
    David R. Haynor, University of Washington (United States)  

10  Statistics of Images and Structures  
    Murray H. Loew, The George Washington University (United States)  

11  Label Fusion  
    Baowei Fei, Emory University (United States)  

    Poster Sessions  
    Bennett A. Landman, Vanderbilt University (United States)  
    Wiro J. Niessen, Erasmus MC (Netherlands)