## Contents

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>SESSION 1 LAPAROSCOPY/ENDOSCOPY/BRONCOSCOPY</strong></td>
<td></td>
</tr>
<tr>
<td>8671 01</td>
<td>Technician-free system for image-guided bronchoscopy [8671-1]</td>
<td>R. Khare, The Pennsylvania State Univ. (United States); R. Bascom, Penn State Hershey Medical Ctr. (United States); W. E. Higgins, The Pennsylvania State Univ. (United States)</td>
</tr>
<tr>
<td>8671 02</td>
<td>Robust feature tracking for endoscopic pose estimation and structure recovery [8671-2]</td>
<td>S. Speidel, Karlsruher Institut für Technologie (Germany); S. Krappe, Fraunhofer-Institut für Integrierte Schaltungen (IIS) (Germany); S. Röhl, S. Bodenstedt, Karlsruher Institut für Technologie (Germany); B. Müller-Stich, Heidelberg Univ. (Germany); R. Dillmann, Karlsruher Institut für Technologie (Germany)</td>
</tr>
<tr>
<td>8671 03</td>
<td>Towards designing an optical-flow based colonoscopy tracking algorithm: a comparative study [8671-73]</td>
<td>J. Liu, National Institutes of Health (United States); K. R. Subramanian, The Univ. of North Carolina at Charlotte (United States); T. S. Yoo, National Library of Medicine (United States)</td>
</tr>
<tr>
<td>8671 04</td>
<td>Image guidance system for flexible endoscopes considering tissue deformation [8671-4]</td>
<td>R. Hoffmann, M. Figl, A. Bhatia, M. Kaar, W. Birkfellner, A. Püspök, A. Kratochwil, Medizinische Univ. Wien (Austria); J. B. Hummel, Medizinische Univ. Wien (Austria); J. F. Hummel, Medizinische Univ. Wien (Austria); J. B. Hummel, Medizinische Univ. Wien (Austria); J. F. Hummel, Medizinische Univ. Wien (Austria)</td>
</tr>
<tr>
<td></td>
<td><strong>SESSION 2 ABDOMINAL PROCEDURES</strong></td>
<td></td>
</tr>
<tr>
<td>8671 06</td>
<td>Evaluation of non-rigid constrained CT/CBCT registration algorithms for delineation propagation in the context of prostate cancer radiotherapy [8671-6]</td>
<td>M. Rubeaux, A. Simon, INSERM (France) and Univ. de Rennes 1 (France); K. Gnep, J. Colliaux, Ctr. Eugène Marquis (France); O. Acosta, INSERM (France) and Univ. de Rennes 1 (France); R. de Crevoisier, INSERM (France), Univ. de Rennes 1 (France) and Ctr. Eugène Marquis (France); P. Haigron, INSERM (France) and Univ. de Rennes 1 (France)</td>
</tr>
<tr>
<td>8671 07</td>
<td>Refinement and expansion of matched vessel graphs for intraoperative deformable registration of hepatic CT and ultrasound [8671-7]</td>
<td>M. Keil, A. Kaisler, C. Qyarzun Laura, S. Wesarg, Fraunhofer-Institut für Graphische Datenverarbeitung (Germany)</td>
</tr>
</tbody>
</table>
Fast radioactive seed localization in intraoperative cone beam CT for low-dose-rate prostate brachytherapy [8671-8]
Y. Hu, J. Xiong, G. Cohan, M. Zaider, G. Mageras, M. Zelefsky, Memorial Sloan-Kettering Cancer Ctr. (United States)

A dynamic dosimetry system for prostate brachytherapy [8671-9]
N. Kuo, Johns Hopkins Univ. (United States); E. Dehghan, Philips Research North America (United States); A. Deguet, D. Y. Song, J. L. Prince, J. Lee, Johns Hopkins Univ. (United States)

Fully automated prostate magnetic resonance imaging and transrectal ultrasound fusion via a probabilistic registration metric [8671-10]
R. Sparks, Rutgers, The State Univ. of New Jersey (United States) and Case Western Reserve Univ. (United States); B. N. Bloch, Boston Medical Ctr., Boston Univ. (United States); E. Feleppa, Lizi Ctr. for Biomedical Engineering, Riverside Research Institute (United States); D. Barratt, Univ. College London (United Kingdom); A. Madabhushi, Case Western Reserve Univ. (United States)

Nonrigid liver registration for image-guided surgery using partial surface data: a novel iterative approach [8671-11]
D. Rucker, Y. Wu, J. E. Ondrake, T. S. Pheiffer, A. L. Simpson, M. I. Miga, Vanderbilt Univ. (United States)

Cryo-balloon catheter localization in fluoroscopic images [8671-12]
T. Kurzendorfer, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); A. Brost, Stanford Univ. (United States); C. Jakob, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); P. W. Mewes, Siemens AG (Germany); F. Bourier, Sanford Univ. (United States) and Krankenhaus Barmherzige Brüder (Germany); M. Koch, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); K. Kurzidim, Krankenhaus Barmherzige Brüder (Germany); J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); N. Strobel, Siemens AG (Germany)

Respiratory motion influence on catheter contact force during radio frequency ablation procedures [8671-13]
M. Koch, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); A. Brost, Stanford Univ. (United States); J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and School in Advanced Optical Technologies (Germany); N. Strobel, Siemens AG (Germany)

Image-based modeling and characterization of RF ablation lesions in cardiac arrhythmia therapy [8671-14]
C. A. Linte, J. J. Camp, M. E. Rettmann, D. R. Holmes III, R. A. Robb, Mayo Clinic (United States)

Validation of 3D surface imaging in breath-hold radiotherapy for breast cancer: one central camera unit versus three camera units [8671-15]
T. Alderliesten, A. Betgen, C. van Vliet-Vroegindeweij, P. Remeijer, The Netherlands Cancer Institute - Antoni van Leeuwenhoek Hospital (Netherlands)
**SESSION 4 HEAD AND NECK PROCEDURES**

**8671 0G** 3D surface imaging for guidance in breast cancer radiotherapy: organs at risk [8671-16]
T. Alderliesten, A. Betgen, C. van Vliet-Vroegindeweij, P. Remeijer, The Netherlands Cancer Institute - Antoni van Leeuwenhoek Hospital (Netherlands)

**8671 0H** Robot-assisted intracerebral hemorrhage evacuation: an experimental evaluation [8671-17]
J. Burgner, Vanderbilt Univ. (United States) and Leibniz Univ. Hannover (Germany); P. J. Swaney, R. A. Lathrop, Vanderbilt Univ. (United States); K. D. Weaver, Vanderbilt Univ. Medical Ctr. (United States); R. J. Webster III, Vanderbilt Univ. (United States)

**8671 0I** Automatic segmentation of intra-cochlear anatomy in post-implantation CT [8671-18]
F. A. Reda, B. M. Dawant, Vanderbilt Univ. (United States); T. R. McRackan, R. F. Labadie, Vanderbilt Univ. Medical Ctr. (United States); J. H. Noble, Vanderbilt Univ. (United States)

**8671 0J** A gaussian mixture + demons deformable registration method for cone-beam CT-guided robotic transoral base-of-tongue surgery [8671-19]
S. Reaungamornrat, W. P. Liu, S. Schafer, Y. Otake, S. Nithiananthan, A. Uneri, J. Richmon, Johns Hopkins Univ. (United States); J. Sargent, Intuitive Surgical, Inc. (United States); J. H. Siewerdsen, R. H. Taylor, Johns Hopkins Univ. (United States)

**8671 0K** Retractor-induced brain shift compensation in image-guided neurosurgery [8671-20]
X. Fan, S. Ji, Thayer School of Engineering at Dartmouth (United States); A. Hartov, Thayer School of Engineering at Dartmouth (United States) and Norris Cotton Cancer Ctr., Dartmouth Hitchcock Medical Ctr. (United States); D. Roberts, Dartmouth Medical School (United States) and Norris Cotton Cancer Ctr., Dartmouth Hitchcock Medical Ctr. (United States); K. Paulsen, Thayer School of Engineering at Dartmouth (United States), Dartmouth Medical School (United States) and Norris Cotton Cancer Ctr., Dartmouth Hitchcock Medical Ctr. (United States)

**SESSION 5 VISUALIZATION AND SEGMENTATION**

**8671 0L** How a surgeon becomes superman by visualization of intelligently fused multi-modalities [8671-21]
O. Erat, O. Pauly, Technische Univ. München (Germany); S. Weidert, P. Thaller, E. Euler, W. Mutschler, Ludwig-Maximilians-Univ. München (Germany); N. Navab, P. Fallavollita, Technische Univ. München (Germany)

**8671 0M** Non-photorealistic rendering for minimally invasive procedures [8671-22]
J. Raab, H. Schäfer, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); A. Brost, Stanford Univ. (United States); M. Stammlinger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); M. Pfister, Siemens AG (Germany)
Interactive 3D segmentation of the prostate in magnetic resonance images using shape and local appearance similarity analysis [8671-23]
M. Shahedi, Baines Ctr. for Translational Cancer Research, London Health Science Ctr. (Canada) and Robarts Research Institute, The Univ. of Western Ontario (Canada) and Biomedical Engineering Graduate Program, The Univ. of Western Ontario (Canada); D. W. Cool, C. Romagnoli, Robarts Research Institute, The Univ. of Western Ontario (Canada); A. D. Ward, Baines Ctr. for Translational Cancer Research, London Health Science Ctr. (Canada) and Biomedical Engineering Graduate Program, The Univ. of Western Ontario (Canada)

Multi-atlas-based automatic 3D segmentation for prostate brachytherapy in transrectal ultrasound images [8671-24]
S. Nouranian, S. S. Mahdavi, The Univ. of British Columbia (Canada); I. Spadinger, W. J. Morris, British Columbia Cancer Agency (Canada); S. E. Salcudean, P. Abolmaesumi, The Univ. of British Columbia (Canada)

A statistical multi-vertebrae shape+pose model for segmentation of CT images [8671-25]
A. Rasoulian, R. N. Rohling, P. Abolmaesumi, The Univ. of British Columbia (Canada)

SESSION 6 SIMULATION AND MODELING

Estimating periodic organ motions based on inverse kinematics using tetrahedron mesh registration [8671-26]
N. Kang, J.-Y. Kim, K. H. Kim, H.-E. Lee, J. D. K. Kim, Samsung Advanced Institute of Technology (Korea, Republic of)

Sources of error in CEMRA-based CFD simulations of the common carotid artery [8671-27]
M. O. Khan, Univ. of Toronto (Canada); B. A. Wasserman, Johns Hopkins Univ. (United States); D. A. Steinman, Univ. of Toronto (Canada)

A patient specific 4D MRI liver motion model based on sparse imaging and registration [8671-28]
Y. H. Noorda, L. W. Bartels, M. van Stralen, J. P. W. Pluim, Univ. Medical Ctr. Utrecht (Netherlands)

Sensitivity analysis and automation for intraoperative implementation of the atlas-based method for brain shift correction [8671-29]
I. Chen, A. L. Simpson, K. Sun, Vanderbilt Univ. (United States); R. C. Thompson, M. I. Miga, Vanderbilt Univ. (United States) and Vanderbilt Univ. Medical Ctr. (United States)

Image based cardiac acceleration map using statistical shape and 3D+t myocardial tracking models; in-vitro study on heart phantom [8671-30]
A. Pashaei, G. Piella, X. Planes, Univ. Pompeu Fabra (Spain); N. Duchateau, T. M. de Caralt, M. Sitges, Univ. de Barcelona (Spain); A. F. Frangi, Univ. of Sheffield (United Kingdom)

Measuring soft tissue material properties using stereovision and indentation: a proof-of-concept study [8671-31]
S. Ji, X. Fan, A. Hartov, Thayer School of Engineering at Dartmouth (United States); D. W. Roberts, Dartmouth Hitchcock Medical Ctr. (United States); K. D. Paulsen, Thayer School of Engineering at Dartmouth (United States) and Dartmouth Hitchcock Medical Ctr. (United States)
SESSION 7 KEYNOTE AND ORTHOPEDIC PROCEDURES

8671 0X **A video guided solution for screw insertion in orthopedic plate fixation** [8671-33]
J. Magaraggia, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Siemens AG (Germany); G. Kleinszig, R. Graumann, Siemens AG (Germany); E. Angelopoulou, J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany)

8671 0Y **Model-based cone-beam CT reconstruction for image-guided minimally invasive treatment of hip osteolysis** [8671-34]
Y. Otake, J. W. Stayman, W. Zbijewski, R. J. Murphy, M. D. Kutzer, R. H. Taylor, J. H. Siewersdsen, M. Armand, Johns Hopkins Univ. (United States)

SESSION 8 REGISTRATION AND TRACKING

8671 0Z **Automatic real-time tracking of fetal mouth in fetoscopic video sequence for supporting fetal surgeries** [8671-35]
R. Xu, T. Xie, J. Ohya, B. Zhang, Waseda Univ. (Japan); Y. Sato, Osaka Univ. (Japan); M. G. Fujie, Waseda Univ. (Japan)

8671 10 **A knowledge-driven quasi-global registration of thoracic-abdominal CT and CBCT for image-guided interventions** [8671-36]
L. Zhang, C. Chefd'hôtel, V. Ordy, Siemens Corp. Technology (United States); J. Zheng, X. Deng, Siemens Ltd. China (China); B. Odry, Siemens Corp. Technology (United States)

8671 11 **Significant acceleration of 2D-3D registration-based fusion of ultrasound and x-ray images by mesh-based DRR rendering** [8671-37]
M. Kaiser, Siemens AG (Germany) and Univ. Leipzig (Germany); M. John, A. Borsdorf, Siemens AG (Germany); P. Mountney, R. Ionasec, Siemens Corp. Technology (United States); A. Nöttling, Siemens AG (Germany); P. Kiefer, J. Seeburger, T. Neumuth, Univ. Leipzig (Germany)

8671 12 **Thin plate spline feature point matching for organ surfaces in minimally invasive surgery imaging** [8671-38]
B. Lin, Y. Sun, X. Qian, Univ. of South Florida (United States)

8671 13 **3D-3D registration of partial capitate bones using spin-images** [8671-39]
R. Breighner, D. R. Holmes III, S. Leng, K.-N. An, C. McCollough, K. Zhao, Mayo Clinic (United States)

8671 14 **A framework for measuring TRE at the tip of an optically tracked pointing stylus** [8671-40]
A. L. Simpson, N. P. Dillon, M. I. Miga, Vanderbilt Univ. (United States); B. Ma, York Univ. (Canada)
SESSION 9  ROBOTICS AND NEEDLE PROCEDURES

8671 15  Percutaneous needle placement using laser guidance: a practical solution [8671-42]
S. Xu, National Institutes of Health (United States); A. Kapoor, Siemens Corp. Research (United States); N. Abi-Jaoudeh, National Institutes of Health (United States); K. Imbesi, Duke Univ. (United States); C. W. Hong, Lerner College of Medicine, Cleveland Clinic (United States); D. Mazilu, National Institutes of Health (United States); K. Sharma, Children’s National Medical Ctr. (United States); A. M. Venkatesan, E. Levy, B. J. Wood, National Institutes of Health (United States)

8671 16  Software for MR image overlay guided needle insertions: the clinical translation process [8671-43]
T. Ungi, P. U-Thaninual, Queen’s Univ. (Canada); J. Fritz, I. I. Iordachita, Johns Hopkins Univ. (United States); A. J. Flammang, Siemens Corp. Research (United States); J. A. Carrino, Johns Hopkins Univ. (United States); G. Fichtinger, Queen’s Univ. (Canada)

8671 17  A fully actuated robotic assistant for MRI-guided prostate biopsy and brachytherapy [8671-44]
G. Li, H. Su, W. Shang, Worcester Polytechnic Institute (United States); J. Tokuda, N. Hata, C. M. Tempany, Brigham and Women’s Hospital (United States); G. S. Fischer, Worcester Polytechnic Institute (United States)

8671 18  Design of a decoupled MRI-compatible force sensor using fiber bragg grating sensors for robot-assisted prostate interventions [8671-45]
R. Monfaredi, Johns Hopkins Univ. (United States); R. Seifabadi, G. Fichtinger, Queen’s Univ. (Canada); I. Iordachita, Johns Hopkins Univ. (United States)

SESSION 10  KEYNOTE AND DIGITAL OPERATING ROOM AND KNOWLEDGE INTEGRATION IN THE OR: JOINT SESSION CONFERENCES 8671 AND 8674

8671 19  Integration of intraoperative and model-updated images into an industry-standard neuronavigation system: initial results [8671-46]
T. J. Schaewe, Medtronic, Inc. (United States); X. Fan, S. Ji, Thayer School of Engineering at Dartmouth (United States); A. Hartov, Thayer School of Engineering at Dartmouth (United States) and Norris Cotton Cancer Ctr., Dartmouth Hitchcock Medical Ctr. (United States); L. Hiemenz Holton, Medtronic, Inc. (United States); D. W. Roberts, Dartmouth Medical School (United States) and Norris Cotton Cancer Ctr., Dartmouth Hitchcock Medical Ctr. (United States); K. D. Paulsen, Thayer School of Engineering at Dartmouth (United States), Dartmouth Medical School (United States) and Norris Cotton Cancer Ctr., Dartmouth Hitchcock Medical Ctr. (United States); D. A. Simon, Medtronic, Inc. (United States)

8671 1A  Ontology-based prediction of surgical events in laparoscopic surgery [8671-47]
D. Katić, Karlsruher Institut für Technologie (Germany); A.-L. Wekerle, Heidelberg Univ. (Germany); F. Görtner, Karlsruher Institut für Technologie (Germany); H. Kenngott, B. P. Müller-Stich, Heidelberg Univ. (Germany); R. Dillmann, S. Speidel, Karlsruher Institut für Technologie (Germany)
Integration of 3D ¹H-magnetic resonance spectroscopy data into neuronavigation systems for tumor biopsies [8671-48]
B. Kanberoglu, Arizona State Univ. (United States); N. Z. Moore, Barrow Neurological Institute, St. Joseph’s Hospital and Medical Ctr. (United States); D. Frakes, L. J. Karam, Arizona State Univ. (United States); J. P. Debbins, Arizona State Univ. (United States) and Barrow Neurological Institute, St. Joseph’s Hospital and Medical Ctr. (United States); M. C. Preul, Barrow Neurological Institute, St. Joseph’s Hospital and Medical Ctr. (United States)

Freehand ultrasound calibration: phantom versus tracked pointer [8671-49]
M. Welch, J. Andrea, T. Ungi, G. Fichtinger, Queen’s Univ. (Canada)

Development of a 3D ultrasound-guided system for thermal ablation of liver tumors [8671-50]
H. R. S. Neshat, Robarts Research Institute (Canada) and The Univ. of Western Ontario (Canada); D. W. Cool, The Univ. of Western Ontario (Canada); K. Barker, L. Gardi, Robarts Research Institute (Canada); N. Kakani, The Univ. of Western Ontario (Canada); A. Fenster, Robarts Research Institute (Canada) and The Univ. of Western Ontario (Canada)

Geometric reconstruction using tracked ultrasound strain imaging [8671-51]
T. S. Pheiffer, A. L. Simpson, J. E. Ondrake, Vanderbilt Univ. (United States); M. I. Miga, Vanderbilt Univ. (United States) and Vanderbilt Univ. Medical Ctr. (United States)

Quantitative evaluation of treatment related changes on multi-parametric MRI after laser interstitial thermal therapy of prostate cancer [8671-52]
S. Viswanath, Case Western Reserve Univ. (United States); R. Toth, Rutgers, The State Univ. of New Jersey (United States); M. Rusu, Case Western Reserve Univ. (United States); D. Sperling, New Jersey Institute of Radiology (United States); H. Lepor, Langone Medical Ctr., New York Univ. (United States); J. Futterer, Nijmegen Medical Ctr., Radboud Univ. (Netherlands); A. Madabhushi, Case Western Reserve Univ. (United States)

A flexure-based wrist for needle-sized surgical robots [8671-53]
D. P. Losey, P. A. York, P. J. Swaney, J. Burgner, R. J. Webster III, Vanderbilt Initiative in Surgery and Engineering, Vanderbilt Univ. (United States)

Real-time 3D Fourier-domain optical coherence tomography guided microvascular anastomosis [8671-54]
Y. Huang, Johns Hopkins Univ. (United States); Z. Ibrahim, W. P. A. Lee, G. Brandacher, Johns Hopkins Univ. School of Medicine (United States); J. U. Kang, Johns Hopkins Univ. (United States)
Towards cone-beam CT thermometry [8671-55]
M. Li, N. Abi-Jaoudeh, A. Kapoor, National Institutes of Health (United States); S. Kadoury, Philips Research North America (United States) and Ecole Polytechnique de Montreal (Canada); S. Xu, National Institutes of Health (United States); N. Noordhoek, A. Radaelli, B. Carelsen, Philips Healthcare (Netherlands); B. J. Wood, National Institutes of Health (United States)

Fast deformable registration for soft organs with large motion in HIFU treatment [8671-56]
X. Huang, The Hospital for Sick Children (Canada) and Univ. of Toronto (Canada); A. Abdalbari, Univ. of Ontario Institute of Technology (Canada); S. Zaheer, T. Looi, The Hospital for Sick Children (Canada); J. Ren, Univ. of Ontario Institute of Technology (Canada); J. Drake, The Hospital for Sick Children (Canada) and Univ. of Toronto (Canada)

A graph-based approach for local and global panorama imaging in cystoscopy [8671-3]
T. Bergen, T. Wittenberg, C. Münzenmayer, Fraunhofer-Institut für Integrierte Schaltungen (IIIS) (Germany); C. C. G. Chen, Johns Hopkins Medical Institutions (United States); G. D. Hager, Johns Hopkins Univ. (United States)

Experimental platform for intra-uterine needle placement procedures [8671-41]
Y. Madjidi, Queen's Univ. (Canada) and Austrian Ctr. for Medical Innovation and Technology (Austria); T. Haidegger, Austrian Ctr. for Medical Innovation and Technology (Hungary) and Budapest Univ. of Technology and Economics (Hungary); W. Ptacek, Austrian Ctr. for Medical Innovation and Technology (Austria); D. Berger, C. Kirisits, Medizinische Univ. Wien (Austria); G. Kronreif, Austrian Ctr. for Medical Innovation and Technology (Austria); G. Fichtinger, Queen's Univ. (Canada)

Patient-specific port placement for laparoscopic surgery using atlas-based registration [8671-57]
A. Enquobahrie, V. Shivaprabhu, S. Aylward, J. Finet, Kitware, Inc. (United States); K. Cleary, Children's National Medical Ctr. (United States); R. Alterovitz, Univ. of North Carolina at Chapel Hill (United States)

Patient-specific liver deformation modeling for tumor tracking [8671-58]
Y.-T. Oh, Y. Hwang, J.-B. Kim, W.-C. Bang, J. D. K. Kim, C. Y. Kim, Samsung Advanced Institute of Technology (Korea, Republic of)

3D deformable organ model based liver motion tracking in ultrasound videos [8671-60]
J.-B. Kim, Y. Hwang, Y.-T. Oh, W.-C. Bang, H. Lee, J. D. K. Kim, C. Y. Kim, Samsung Advanced Institute of Technology (Korea, Republic of)

Real-time tumor tracking in B-mode images using respiratory signal and deformed liver models [8671-61]
Y. Hwang, Y.-T. Oh, J.-B. Kim, W.-C. Bang, H. Lee, J. D. K. Kim, C. Y. Kim, Samsung Advanced Institute of Technology (Korea, Republic of)
Surface-based prostate registration with biomechanical regularization [8671-62]
W. J. M. van de Ven, Nijmegen Medical Ctr., Radboud Univ. (Netherlands); Y. Hu, Univ. College London (United Kingdom); J. O. Barentsz, N. Karssemeijer, Nijmegen Medical Ctr., Radboud Univ. (Netherlands); D. Barratt, Univ. College London (United Kingdom); H. J. Huisman, Nijmegen Medical Ctr., Radboud Univ. (Netherlands)

Transorbital target localization in the porcine model [8671-63]
M. P. DeLisi, L. A. Mawn, R. L. Galloway, Vanderbilt Univ. (United States)

Image guidance could aid performance of atraumatic cochlear implantation surgical techniques [8671-64]
J. H. Noble, Vanderbilt Univ. (United States); R. F. Labadie, G. B. Wanna, Vanderbilt Univ. Medical Ctr. (United States); B. M. Dawant, Vanderbilt Univ. (United States)

Robotic-adjusatable microstereotactic frames for image-guided neurosurgery [8671-65]
L. B. Kratchman, J. M. Fitzpatrick, Vanderbilt Univ. (United States)

Marker detection evaluation by phantom and cadaver experiments for C-arm pose estimation pattern [8671-66]
T. Steger, M. Hoßbach, S. Wesarg, Fraunhofer-Institut für Graphische Datenverarbeitung (Germany)

Pose estimation quality assessment for intra-operative image guidance systems [8671-67]
A. Egli, G. Kleinszig, A. John, Siemens Medical Solutions GmbH (Germany); A. Fernandez, J. Cardelino, ICUC GmbH (Uruguay)

Intraoperative imaging for patient safety and QA: detection of intracranial hemorrhage using C-arm cone-beam CT [8671-68]
S. Schafer, A. Wang, Y. Otake, J. W. Stayman, W. Zbijewski, Johns Hopkins Univ. (United States); G. Kleinszig, Siemens Healthcare (Germany); X. Xia, G. L. Gallia, J. H. Siewerdsen, Johns Hopkins Univ. (United States)

Quantitative evaluation of multi-parametric MR imaging marker changes post-laser interstitial ablation therapy (LITT) for epilepsy [8671-69]
P. Tiwari, Case Western Reserve Univ. (United States); S. Danish, S. Wong, Univ. of Medicine and Dentistry of New Jersey (United States); A. Madabhushi, Case Western Reserve Univ. (United States)

Physiologically gated micro-beam radiation therapy using electronically controlled field emission x-ray source array [8671-70]
P. Chtcheprov, M. Hadsell, L. Burk, R. Ger, L. Zhang, H. Yuan, Y. Z. Lee, S. Chang, J. Lu, O. Zhou, The Univ. of North Carolina at Chapel Hill (United States)

Patient-specific model of a scoliotic torso for surgical planning [8671-71]
R. Harmouche, École Polytechnique de Montréal (Canada); F. Cheriet, École Polytechnique de Montréal (Canada) and Hôpital Ste-Justine, CHU Sainte-Justine (Canada); H. Labelle, Hôpital Ste-Justine, CHU Sainte-Justine (Canada); J. Dansereau, École Polytechnique de Montréal (Canada) and Hôpital Ste-Justine, CHU Sainte-Justine (Canada)
Automatic generation of digital anthropomorphic phantoms from simulated MRI acquisitions [8671-74]
C. Lindsay, M. A. Gennert, Worcester Polytechnic Institute (United States); A. Könik, Univ. of Massachusetts Medical School (United States); P. K. Dasari, Worcester Polytechnic Institute (United States) and Univ. of Massachusetts Medical School (United States); M. A. King, Univ. of Massachusetts Medical School (United States)

Estimation of lung tissue incompressibility variation throughout respiration for tumor targeting in lung radiotherapy [8671-75]
Z. Shirzadi, The Univ. of Western Ontario (Canada); A. Samani, The Univ. of Western Ontario (Canada) and Robarts Research Institute (Canada)

Experimental assessment of error in an electromagnetically-tracked ultrasound-guided needle navigation system [8671-76]
I. Ayukawa, T. Ungi, K. Hashtrudi-Zaad, G. Fichtinger, P. Mousavi, Queen's Univ. (Canada)

Phantom-based comparison of the accuracy of point clouds extracted from stereo cameras and laser range scanner [8671-77]
A. N. Kumar, T. S. Pheiffer, A. L. Simpson, R. C. Thompson, M. I. Miga, B. M. Dawant, Vanderbilt Univ. (United States)

Accurate pose estimation using single marker single camera calibration system [8671-78]
S. Pati, O. Erat, L. Wang, Technische Univ. München (Germany); S. Weidert, E. Euler, Ludwig-Maximilians-Univ. München (Germany); N. Navab, P. Fallavollita, Technische Univ. München (Germany)

Template-based CTA X-ray angio rigid registration of coronary arteries in frequency domain [8671-79]
T. Aksoy, Sabanci Univ. (Turkey); S. Demirci, Technische Univ. München (Germany); M. Degertekin, Yeditepe Univ. Hospital (Turkey); N. Navab, Technische Univ. München (Germany); G. Unal, Sabanci Univ. (Turkey)

Interactive initialization for 2D/3D intra-operative registration using the Microsoft Kinect [8671-80]
R. H. Gong, Ö. Güler, Z. Yaniv, Sheikh Zayed Institute for Pediatric Surgical Innovation, Children's National Medical Ctr. (United States)

Detection of the spatial accuracy of an O-arm in the region of surgical interest [8671-81]
T. Koivukangas, Univ. of Oulu (Finland) and Lewel Group (Finland); J. P. A. Katisko, Oulu Univ. Hospital (Finland); J. P. Koivukangsa, Oulu Univ. Hospital (Finland) and Univ. of Oulu (Finland)

Deformable image registration with content mismatch: a demons variant to account for added material and surgical devices in the target image [8671-82]
Fuzzy model-based body-wide anatomy recognition in medical images [8671-83]
J. K. Udupa, D. Odhner, Y. Tong, M. M. S. Matsumoto, Medical Image Processing Group, Univ. of Pennsylvania (United States); K. C. Ciesielski, Medical Image Processing Group, Univ. of Pennsylvania (United States) and West Virginia Univ. (United States); P. Vaideeswaran, V. Ciesielski, B. Saboury, L. Zhao, S. Mohammadianrasanani, D. A. Torigian, Medical Image Processing Group, Univ. of Pennsylvania (United States)

Optimal hierarchies for fuzzy object models [8671-84]
M. S. Matsumoto, J. K. Udupa, Medical Image Processing Group, Univ. of Pennsylvania (United States)

Segmentation of left atrial intracardiac ultrasound images for image guided cardiac ablation therapy [8671-85]
M. E. Rettmann, Mayo Clinic (United States); T. Stephens, Brigham Young Univ. (United States); D. R. Holmes III, C. Linte, D. L. Packer, R. A. Robb, Mayo Clinic (United States)

Automatic probe artifact detection in MRI-guided cryoablation [8671-86]
X. Liu, K. Tuncali, W. M. Wells III, G. P. Zientara, Brigham and Women's Hospital (United States) and Harvard Medical School (United States)

Reconstruction method for curvilinear structures from two views [8671-87]
M. Hoffmann, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); A. Brost, Stanford Univ. (United States); C. Jakob, M. Koch, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany); F. Bourier, K. Kurzdirim, Krankenhaus Barmherzige Brüder (Germany); J. Hornegger, Friedrich-Alexander-Univ. Erlangen-Nürnberg (Germany) and Erlangen Graduate School in Advanced Optical Technologies (Germany); N. Strobel, Siemens AG (Germany)

Efficacy of a novel IGS system in atrial septal defect repair [8671-88]
F. N. Mefleh, Clemson Univ. (United States); G. H. Baker, D. M. Kwartowitz, Clemson Univ. (United States) and Medical Univ. of South Carolina (United States)

Accuracy evaluation of a 3D ultrasound-guided biopsy system [8671-89]
W. J. Wooten III, J. A. Nye, D. M. Schuster, Emory Univ. (United States); P. T. Nieh, V. A. Master, Emory Univ. School of Medicine (United States); J. R. Votaw, Emory Univ. (United States); B. Fei, Emory Univ. (United States) and Georgia Institute of Technology (United States)

Evaluation of three 3D US calibration methods [8671-90]
J. Hummel, Medizinische Univ. Wien (Austria) and Wilhelminenspital Wien (Austria); M. Kaar, R. Hoffmann, A. Bhatia, W. Birkfellner, M. Figl, Medizinische Univ. Wien (Austria)

Java multi-histogram volume rendering framework for medical images [8671-91]
J. Senseney, National Institutes of Health (United States) and Walter Reed National Military Medical Ctr. (United States); A. Bokinsky, Geometric Tools, Inc. (United States); R. Cheng, E. McCreedy, M. J. McAuliffe, National Institutes of Health (United States)

3-D examination of dental fractures with minimum user intervention [8671-92]
A. Souza, Carestream Health, Inc. (United States); A. Falcão, Univ. Estadual de Campinas (Brazil); L. Ray, Carestream Health, Inc. (United States)
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8 Registration and Tracking
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9 Robotics and Needle Procedures
   Robert J. Webster III, Vanderbilt University (United States)
   David M. Kwartowitz, Clemson University (United States)

10 Keynote and Digital Operating Room and Knowledge Integration in the OR: Joint Session Conferences 8671 and 8674
   Frank Sauer, Siemens Corporate Research (United States)
   William W. Boonn, The University of Pennsylvania Health System (United States)

11 Ultrasound Image Guidance: Joint Session with Conferences 8671 and 8675
   Johan G. Bosch, Erasmus Universiteit Rotterdam (Netherlands)
   Purang Abolmaesumi, The University of British Columbia (Canada)
12 Novel Imaging, Procedures, and Devices

Maryam E. Rettmann, Mayo Clinic (United States)
Guy Shechter, Philips Medical Systems (United States)
Introduction

We are pleased to introduce the 2013 edition of the SPIE Image-Guided Procedures, Robotic Interventions, and Modeling conference proceedings. As usual, the call for papers attracted outstanding submissions from all over the world. The quality of the research papers was excellent and the response from the community was positive. The conference continues to be a premier venue for our field, small enough to be highly collegial yet still showcasing the latest technical advances. The conference is an ideal setting for students to gain an understanding of the research community and interact with both peers and mentors.

Presented work was very translational with a significant focus on moving technology into the procedure room. Sessions focused on clinical/anatomical sites as well as technology development. Towards this end, Dr. Nassir Navab gave an outstanding keynote lecture emphasizing technology translation into the procedure room. Dr. Navab is a luminary in the field of image guidance as demonstrated by his extensive CV, active mentorship responsibilities in the community, leadership in several conferences, and success in commercialization of technology. Dr. Navab discussed the practical consideration for integrating technology into the surgical workflow. Moreover, he highlighted two technologies, Freehand SPECT and the Camera Augmented Mobile C-arm (CAMC), which are changing the way that surgeons work.

This year we participated in two joint sessions – the first with the Advanced PACS-based Imaging Informatics and Therapeutic Applications conference and the second with the Ultrasonic Imaging, Tomography, and Therapy conference. In the PACS joint session, the keynote speaker, Dr. Heinz Lemke, reinforced the notion that technology needs to be integrated at all levels of the interventional process. At the infrastructure level, it is necessary to design robust networks and communication interfaces which move data around the procedure room. At the procedure level, data must be processed and presented in a manner which is both useful and intuitive to the interventionist. In the Ultrasound session, presenters demonstrated the direct application of ultrasound to interventional procedures. These sessions continue to demonstrate the multi-disciplinary/multi-application environment that we work in.

This year, we welcomed three new members to the conference committee – Lena Maier-Hein of Deutsches Krebsforschungszentrum (Germany), Kensaku Mori of Nagoya University (Japan), and Maryam Rettmann of Mayo Clinic (United States). Each of these scientists brings a unique perspective to the conference based on their own research experiences. A cursory review of the committee membership clearly demonstrates that our community is diverse – geographically, topically, and otherwise. Terry Peters of Robarts Research Institute (Canada) has
decided to “retire” from the committee. Dr. Peters has decades of contributions to our conference – both as an author and committee member. We thank Dr. Peters for his contributions to the committee and look forward to his continued participation in the conference as a mentor and author.

It would be impossible to run this conference without the outstanding support of the SPIE staff members, including the office staff, management, and editors. They make our job easier, ensure that deadlines are met, and allow us to focus on the technical content. Particular thanks goes to the SPIE staff for always being on top of every detail.

Finally, we would like to thank all the attendees who come to give talks, present posters, and actively participate in the meeting. We look forward to seeing you next year in San Diego and for many years to come!

David R. Holmes III
Ziv R. Yaniv