

# Workshop on Computational Methods and Clinical Applications for Spine Imaging (CSI 2013)

September 26<sup>th</sup>, 2013

Nagoya, Japan

MICCAI 2013

Opening session	(Moderators: Jianhua Yao/Tobias Klinder/Shuo Li)	8:50-9:00
Invited talk I	(Moderators: Tobias Klinder)	9:00-9:45
Clinical indications and pitfalls of intraoperative 3D-image/ O-arm based navigation system, <i>Tokumi Kanamura, Konan Kosei Hospital, Japan</i>		
Segmentation I (CT)	(Moderators: Samuel Kadoury /Vipin Chaudhary)	9:45-10:45
2D-PCA based Tensor Level Set Framework for Vertebral Body Segmentation, <i>Ahmed Shalaby*, Aly Farag, Melih Aslan, University Of Louisville, USA</i>		
9:45-10:00		
Segmentation of vertebrae from 3D spine images by applying concepts from transportation and game theories, <i>Bulat Ibragimov*, Bostjan Likar, Franjo Pernus, Tomaž Vrtovec, University of Ljubljana, Slovenia</i>		
10:00-10:15		
Automatic and Reliable Segmentation of Spinal Canals in Low-Resolution, Low-Contrast CT Images, <i>Qian Wang, Le Lu, Diji Wu, Noha El-Zehiry, Dinggang Shen, Kevin Zhou*, Siemens Corporate Research</i>		
10:15-10:30		
A Robust Segmentation Framework for Spine Trauma Diagnosis, <i>Poay Hoon Lim, Ulas Bagci, Li Bai*, The University of Nottingham, UK</i>		
10:30-10:45		
Break		10:45-11:00
Computer Aided Detection and Diagnosis	(Moderators: Purang Abolmaesumi/Ben Glocker)	11:00-12:15
Computer Aided Detection of Spinal Degenerative Osteophytes on Sodium Fluoride PET/CT, <i>Jianhua Yao*, Hector Munoz, Joseph Burns, Le Lu, Ronald Summers, National Institutes of Health, USA</i>		
11:00-11:15		
Novel Morphological and Appearance Features for Predicting Physical Disability from MR Images in Multiple Sclerosis Patients, <i>Jeremy Kawahara*, Chris McIntosh, Roger Tam, Ghassan Hamarneh, Simon Fraser University, Canada</i>		
11:15-11:30		
Classification of Spinal Deformities using a Parametric Torsion Estimator, <i>Jesse Shen, Stefan Parent, Samuel Kadoury*, Ecole Polytechnique de Montreal, Canada</i>		
11:30-11:45		
Lumbar Spine Disc Herniation Diagnosis with a Joint Shape Model, <i>Raja Alomari, Vipin Chaudhary*, Jason Corso, Gurmeet Dhillon, SUNY Buffalo, USA</i>		
11:45-12:00		
Epidural Masses Detection on Computed Tomography Using Spatially-Constrained Gaussian Mixture Models, <i>Sanket Pattanaik, Jiamin Liu, Jianhua Yao*, Weidong Zhang, Evrim Turkbey, Xiao Zhang, Ronald Summers, National Institutes of Health, USA</i>		
12:00-12:15		
Lunch break		12:15-1:15

<b>Invited talk II</b>	<b>(Moderators: Jianhua Yao)</b>	<b>1:15-2:00</b>
Ultrasound Guided Spine Interventions: Epidural Guidance, <i>Purang Abolmaesumi, University of British Columbia, Canada</i>		
<b>Quantitative Imaging</b>	<b>(Moderators: Michel Audette /Tobias Klinder)</b>	<b>2:00-3:00</b>
Comparison of manual and computerized measurements of sagittal vertebral inclination in MR images, <i>Tomaž Vrtovec, Franjo Pernus*, Bostjan Likar, University, of Ljubljana, Slovenia</i>		
Eigenspine: Eigenvector Analysis of Spinal Deformities in Idiopathic Scoliosis, <i>Daniel Forsberg*, Claes Lundström, Mats Andersson, Hans Knutsson, Linköping University, Sweden</i>		
Quantitative Monitoring of Syndesmophyte Growth in Ankylosing Spondylitis Using Computed Tomography, <i>Sovira Tan, Jianhua Yao*, Lawrence Yao, Michael Ward, National Institutes of Health, USA</i>		
A Semi-automatic Method for the Quantification of Spinal Cord Atrophy, <i>Simon Pezold*, Michael Amann, Katrin Weier, Ketut Fundana, Ernst Radue, Till Sprenger, Philippe Cattin, University of Basel, Switzerland</i>		
<b>Break</b>		<b>3:00-3:15</b>
<b>Segmentation II (MR)</b>	<b>(Moderators: Franjo Pernus /Shuo Li)</b>	<b>3:15-4:00</b>
Multi-modal vertebra segmentation from MR Dixon in hybrid whole-body PET/MR, <i>Christian Buerger*, Jochen Peters, Irina Waechter-Stehle, Frank Weber, Tobias Klinder, Steffen Renisch, Philips Research</i>		
Segmentation of intervertebral discs from high-resolution 3D MRI using multi-level statistical shape models, <i>Ales Neubert*, Jurgen Fripp, Craig Engstrom, Stuart Crozier, the University of Queensland, Australia</i>		
A supervised approach towards segmentation of clinical MRI for automatic lumbar diagnosis, <i>Subarna Ghosh*, Manavender Malgireddy, Vipin Chaudhary, Gurmeet Dhillon, SUNY Buffalo, USA</i>		
<b>Registration/Labeling</b>	<b>(Moderators: Daniel Forsberg /Jianhua Yao)</b>	<b>4:00-4:45</b>
Automatic Segmentation and Discrimination of Connected Joint Bones from CT by Multi-atlas Registration, <i>Tristan Whitmarsh*, Graham Treece, Kenneth Poole, University of Cambridge, UK</i>		
Registration of MR to Percutaneous Ultrasound of the Spine for Image-Guided Surgery, <i>Lars Eirik Bø*, Rafael Palomar, Tormod Selbekk, Ingerid Reinertsen, SINTEF Technology and Society, Norway</i>		
Vertebrae Detection and Labelling in Lumbar MR Images, <i>Meelis Lootus*, Timor Kadir, Andrew Zisserman, Oxford University, UK</i>		
<b>Discussion</b>	<b>(Moderators: Shuo Li)</b>	<b>4:45-5:15</b>
Commercialization, Common data sets and challenges, Best paper award		