PRIME-MICCAI workshop

PRedictive Intelligence in MEdicine will reshape our healthcare technologies

PRIME Program on October 13th, 2019

08:00 - 09:00	Registration
09:15 - 09:30	Introduction and Welcome
09:30 - 10:45	**Oral Session 1** **O1 (09:30 - 9:45):** TADPOLE Challenge: Accurate Alzheimer's disease prediction through crowdsourced forecasting of future data *Razvan V. Marinescu, Neil P. Oxtoby, Alexandra L. Young Li, Esther E. Bron, Arthur W. Toga, Michael W. Weiner, Frederik Barkhof, Nick C. Fox, Polina Golland, Stefan Klein, Daniel C. Alexander* **O2 (09:45 - 10:00):** Modeling Disease Progression In Retinal OCTs With Longitudinal Self-Supervised Learning *Antoine Rivail, Ursula Schmidt-Erfurth, Wolf-Dieter Vogel, Sebastian M. Waldstein, Sophie Riedl, Christoph Grechenig, Zhichao Wu, Hrvoje Bogunovic* **O3 (10:00 - 10:15):** Deep Learning via Fused Bidirectional Attention Stacked Long Short-term Memory for Obsessive-Compulsive Disorder Diagnosis and Risk Screening *Chiyu Feng, Lili Jin, Chuangyong Xu, Peng Yang, Tianfu Wang, Baiying LeiTianfu Wang, Ziwen Peng* **O4 (10:15 - 10:30):** Diagnosis of Parkinson's Disease in Genetic Cohort Patients via Stage-wise Hierarchical Deep Polynomial Ensemble learning *Haijun Lei, Hancong Li, Ahmed Elazab, Xuegang Song, Zhongwei Huang, Baiying Lei* **O5 (10:30 - 10:45):** Generative Adversarial Irregularity Detection in Mammography Images *Milad Ahmadi, Mohammad Sabokrou, Mahmood Fathy, Reza Berangi, Ehsan Adeli*
10:45 - 11:30	**Keynote Speech 1** **Speaker:** Prof Le Lu (Bethesda Research Lab) **Title**: "Towards deep radiomics and deep clinical informatics in oncology imaging: an evolving Deep Lesion benchmark to achieve patient care significance!"
11:30 - 14:00	**Lunch and Poster Session** **P1:** Inter-fractional Respiratory Motion Modelling from Abdominal Ultrasound: A Feasibility Study *Alina Giger, Christoph Jud,Damien Nguyen,Miriam Krieger, Ye Zhang, Antony J. Lomax, Oliver Bieri, Rares Salomir, Philippe C. Cattin* **P2:** Adaptive Neuro-Fuzzy Inference System-based Chaotic Swarm Intelligence Hybrid Model for Recognition of Mild Cognitive Impairment from Resting-state fMRI

	Ahmed M. Anter, Zhiguo Zhang **P3:** Predicting Response to the Antidepressant Bupropion using Pretreatment fMRI *Kevin P. Nguyen, Cherise Chin Fatt, Alex Treacher, Cooper Mellema, Madhukar H. Trivedi, Albert Montillo* **P4:** Computed Tomography Image-Based Deep Survival Regression for Metastatic Colorectal Cancer using a Non-Proportional Hazards Model *Alexander Katzmann, Alexander Muhlberg, Michael Suhling, Dominik Norenberg, Stefan Maurus, Julian Walter Holch, Volker Heinemann, Horst-Michael Gro* **P5: 7** years of Developing Seed Techniques for Alzheimer's Disease Diagnosis using Brain Image and Connectivity Data Largely Bypassed Prediction for Prognosis *Mayssa Soussia, Islem Rekik* **P6:** Prediction of Clinical Scores for Subjective Cognitive Decline and Mild Cognitive Impairment *Aojie Li, Ling Yue, Manhua Liu, Shifu Xiao* **P7:** Predicting High-Resolution Brain Networks Using Hierarchically Embedded and Aligned Multi-Resolution Neighborhoods *Kubra Cengiz, Islem Rekik* **P8:** Support Vector based Autoregressive Mixed Models of Longitudinal Brain Changes and Corresponding Genetics in Alzheimers Disease *Qifan Yang, Sophia I. Thomopoulos, Linda Ding, Wesley Surento, Paul M. Thompson, Neda Jahanshad* **P9:** Treatment Response Prediction of Hepatocellular Carcinoma Patients from Abdominal CT Images with Deep Convolutional Neural Networks *Hansang Lee, Helen Hong, Jinsil Seong, Jin Sung Kim, Junmo Kim*
14:15 - 15:00	**Keynote Speech 2** **Speaker:** Prof Jong Chul Ye (KAIST) **Title**: "Geometrical Understanding of CNN for Biomedical Image Reconstruction"
15:00 - 15:30	**Oral Session 2** **O6 (15:00 – 15:15):** Hierarchical Adversarial Connectomic Domain Alignment for Target Brain Graph Prediction and Classification From a Source Graph *Alaa Bessadok, Mohamed Ali Mahjoub, Islem Rekik* **O7 (15:15– 15:30):** Automatic Detection of Bowel Disease with Residual Networks *Robert Holland, Uday Patel, Phillip Lung, Elisa Chotzoglou, Bernhard Kainz*
15:30 - 16:00	Coffee Break
16:00 - 16:45	**Keynote Speech 3** **Speaker:** Prof. Daniel Rueckert (Imperial College London) **Title**: "Learning clinically useful information from medical images"

16:45 - 17:15	**Oral Session 3** **O8 (16:45– 17:00):** Catheter Synthesis in X-Ray Fluoroscopy with Generative Adversarial Networks *Ihsan Ullah, Philip Chikontwe, Sang Hyun Park* **O9 (17:00 - 17:15):** Progressive Infant Brain Connectivity Evolution Prediction from Neonatal MRI using Bidirectionally Supervised Sample Selection *Olfa Ghribi, Gang Li, Weili Lin, Dinggang Shen, Islem Rekik*
17:15 - 17:30	Closing Remarks Best Paper Award