

# PRIME-MICCAI workshop

**P**redictive **I**ntelligence in **M**edicine will reshape our healthcare technologies

Tentative PRIME Program (the time will be updated)

October 6, 2024 (1:30 PM to 6:00 PM Marrakesh time)

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| 13:30         | Introduction and Welcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 13:40 - 14:20 | <p>Keynote Speech 1 and Q&amp;A session</p> <p>Prof Tinashe Mutsvangwa - IMT-Atlantique &amp; University of Cape Town<br/><i>"Advancing Predictive Intelligence for Precision Medicine: Innovations Rooted in Africa"</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 14:20 - 15:00 | <p>Keynote Speech 2 and Q&amp;A session</p> <p>Dr Mirabela Rusu - Stanford University<br/><i>"Harnessing the power of AI for prostate cancer detection on B-Mode Ultrasound images "</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 15:00 - 15:30 | <p>Oral Session I</p> <p>(Each oral will be presented for 7 min + 3 min QA)</p> <p><b>O1: ID 13 - Physics-Guided Multi-View Graph Neural Network for Schizophrenia Classification via Structural-Functional Coupling</b><br/>Badhan Mazumder (Georgia State University); Ayush Kanyal (Georgia State University); Lei Wu (TReNDS); Vince Calhoun (TReNDS); Dong Hye Ye (Georgia State University; <a href="mailto:dongye@gsu.edu">dongye@gsu.edu</a>)*</p> <p><b>O2: ID 17 - MNA-net: Multimodal Neuroimaging Attention-based Architecture for Cognitive Decline Prediction</b><br/><a href="#">Jamie Vo</a> (The University of Western Australia)*, Naeha Sharif (The University of Western Australia); Ghulam Mubashar Hassan (The University of Western Australia);</p> |

15:30 - 16:30

**Coffee Break & Poster Session**

**P1: ID 2 - Modeling the Neonatal Brain Development Using Implicit Neural Representations**

*Florentin Bieder (University of Basel, [florentin.bieder@unibas.ch](mailto:florentin.bieder@unibas.ch))\*; Paul Friedrich (University of Basel); Hélène Corbaz (Basel University); Alicia Durrer (University of Basel); Julia Wolleb (Universität Basel); Philippe C. Cattin (University of Basel)*

**P2: ID 6 - Attention-Based-Features-Fusion Emotion-Guided fNIRS Classification Network for Prenatal Depression Recognition**

*Sijin Yu (South China University of Technology)\*; Xuejiao Li (中山大学附属第三医院); Huirong Lei (中山大学附属第三医院); Yingxue Yao (South China University of Technology); Zhaojin Chen (South China University of Technology); Zicong Zheng (South China University of Technology); Guodong Liang (South China University of Technology); Xiaofen Xing (South China University of Technology); Xin Zhang (South China University of Technology); Chengfang Xu (中山大学附属第三医院)*

**P3: ID 7 - Spectral Graph Sample Weighting for Interpretable Sub-cohort Analysis in Predictive Models for Neuroimaging**

*Magdalini Paschali (Stanford University)\*; Yuhang Jiang (Stanford University); Spencer T Siegel (Stanford); [Camila Gonzalez \(Stanford University; camgonza@stanford.edu\)](mailto:camgonza@stanford.edu); Kilian Pohl (Stanford); Akshay S Chaudhari (Stanford University); Qingyu Zhao (Weill Cornell Medicine)*

**P4: ID 10 - RCT: Relational Connectivity Transformer for Enhanced Prediction of Absolute and Residual Intelligence**

*Mohammad Arafat Hussain (Boston Children's Hospital, Harvard Medical School; [mohammad.hussain@childrens.harvard.edu](mailto:mohammad.hussain@childrens.harvard.edu))\*; Ellen Grant (Boston Children's Hospital, Harvard Medical School); Yangming Ou (Boston Children's Hospital, Harvard Medical School)*

**P5: ID 11 - Gene-to-Image: Decoding Brain Images from Genetics via Latent Diffusion Models**

*Sooyeon Jeon (POSTECH)\*; Yujee Song (POSTECH); [Won Hwa Kim \(POSTECH\)](#)*

**P6: ID 16 - Automated Patient-Specific Pneumoperitoneum Model Reconstruction for Surgical Navigation Systems in Distal Gastrectomy**

*Saebom Shin (AI Research, Hutom); Hye-su Jin (AI Research, Hutom); Kyungyoon Jung (hutom); Bokyoung Park (hutom); Jihun Yoon (AI Research, Hutom)\*; Sungjae Kim (hutom); Jung-Eun Park (Hutom ); Helen Hong (Seoul Women's University); Hansol Choi (Hutom); Seokrae Park (Hutom); Youngno Yoon (Hutom); Yoo Min Kim (Yonsei University, Severance Hospital); Min-Kook Choi (hutom); Woo Jin Hyung (hutom)*

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|               | <p><b>P7: ID 18 - Improving Brain MRI Segmentation with Multi-Stage Deep Domain Unlearning</b><br/> Domen Preloznik (Laboratory of Imaging Technologies, University of Ljubljana, <a href="mailto:domen.preloznik@fe.uni-lj.si">domen.preloznik@fe.uni-lj.si</a>); Ziga Spiclin (University of Ljubljana)*</p> <p><b>P8: ID 19 - DynGNN: Dynamic Memory-enhanced Generative GNNs for Predicting Temporal Brain Connectivity</b><br/> Scarlet Xiao (Imperial College London; <a href="mailto:scarlet.xiao20@imperial.ac.uk">scarlet.xiao20@imperial.ac.uk</a>); Islem Rekik (Imperial College London)*</p> <p><b>P9: ID 20 - Strongly Topology-preserving GNNs for Brain Graph Super-resolution</b><br/> Pragya Singh (Imperial College London; <a href="mailto:pragya.singh23@imperial.ac.uk">pragya.singh23@imperial.ac.uk</a>); Islem Rekik (Imperial College London)*</p> <p><b>P10: ID 25 - Integrating Deep Learning with Fundus and Optical Coherence Tomography for Cardiovascular Disease Prediction</b><br/> Cynthia L Maldonado Garcia (University of Leeds)*; Nishant Ravikumar (University of Leeds); Alejandro Federico Frangi (University of Manchester); arezoo zakeri (University of Manchester)</p> <p><b>P11: ID 26 - Self-Supervised Contrastive Learning for Consistent Few-Shot Image Representations</b><br/> Sanaz Karimijafarbigloo (University of Regensburg); Reza Azad (RWTH University)*; <a href="#">Dorit Merhof (University of Regensburg)</a></p> <p><b>P12: ID 28 - Segmentation of Brain Metastases in MRI: A Two-Stage Deep Learning Approach with Modality Impact Study</b><br/> <a href="#">Yousef Sadegheih (University of Regensburg)</a>; Dorit Merhof (University of Regensburg)*</p> <p><b>P13: ID 22 - Identifying brain ageing trajectories using variational autoencoders with regression model in neuroimaging data stratified by sex and validated against dementia-related risk factors</b><br/> Berta Calm Salvans (BarcelonaBeta Brain Research Center)*; Irene Cumplido-Mayoral (BarcelonaBeta Brain Research Center); Juan Domingo Gispert (BarcelonaBeta Brain Research Center); <a href="#">Veronica Vilaplana (Technical University of Catalonia (UPC))</a></p> |
| 16:30 - 17:10 | <p><b>Keynote Speech 3 and Q&amp;A session</b></p> <p><b>Prof Li Shen - University of Pennsylvania</b><br/> “Enhancing Alzheimer’s Research with AI and Informatics: Strategies for Mining Brain Imaging Genomics Data”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| 17:10 - 17:30 | <p style="text-align: center;"><b>Oral Session II</b></p> <p><i>(Each oral will be presented for 7 min + 3 min QA)</i></p> <p><b>O3: ID 21 - Generative Hypergraph Neural Network for Multiview Brain Connectivity Fusion</b><br/> <i>Mayssa Soussia (National Engineering School of Sousse, ENISo; <a href="mailto:mayssa.soussia@gmail.com">mayssa.soussia@gmail.com</a>)*; Islem Rekik (Imperial College London); Mohamed Ali Mahjoub (LATIS lab, National Engineering School of Sousse, ENISo, Sousse, Tunisia)</i></p> <p><b>O4: ID 27 - Neurocognitive Latent Space Regularization for Multi-Label Diagnosis from MRI</b><br/> <i>Jocasta Manasseh-Lewis (Stanford University); Felipe Godoy (Stanford University); Wei Peng (Stanford University); Robert Paul (University of Missouri – St. Louis); Ehsan Adeli (Stanford University)*; Kilian Pohl (Stanford).</i></p> |
| 17:30 - 18:10 | <p style="text-align: center;"><b>Keynote Speech 4 and Q&amp;A session</b></p> <p style="text-align: center;"><b>Dr Ghada Zamzmi - Center for Devices and Radiological Health (CDRH) &amp; FDA</b><br/> <b>“Navigating Regulatory Challenges:</b><br/> <i>Predictive or Analytical: Postmarket Monitoring of Medical AI Algorithms”</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 18:10-18:15   | <p style="text-align: center;"><b>Closing Remarks and Awards</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |