Global Engage

8TH DIGITAL PATHOLOGY & AI CONGRESS ASIA 2024

10 - 11 September 2024 | NTU@One-North

The 8th Digital Pathology and AI Congress Asia brings together the pioneers at the point where digital pathology and artificial intelligence converge. KOLs will present a dynamic interchange of innovative breakthroughs and transformative ideas poised to reshape healthcare's landscape.

We are grateful to the leadership of **Dr. Yu Wei Miao**, the Lab Head in the Computational Digital Pathology Lab at Bioinformatics Institute (BII) in developing this year's conference program

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- **Alexander "Sasha" Sicular**, Executive Lead, Healthcare and Life Sciences (Formerly Head of Digital Pathology), **Google Public Sector**, USA
- **Richard Chen**, Doctor, **Harvard University**, USA
- **Xu Yan**, Professor, **Beihang University**, China
- **Cao Gang**, Principal Investigator, The Brain Cognition and Brain Disease Institute of Shenzhen Institute of Advanced Technology, **Chinese Academy of Sciences**, China
- **Peter Schueffler**, Professor, **Technical University of Munich**, Germany
- **Lee Copper**, Associate Professor of Pathology, Director, Division of Computational Pathology, Director, Center for Computational Imaging and Signal Analytics, **Northwestern University Feinberg School of Medicine**, USA
- **Hao Wang**, Professor, **National Institute for Food and Drug Control**, China
- **Savitri Krishnamurthy**, Professor, **MD Anderson Cancer Center**, USA
- **Chuan Xu**, Professor, **Jingfeng Laboratory**, China
- **Desiree Abdurachim**, Principal Scientist, **MSD**, Singapore
- **Naoko Tsuyama**, Project Scientist & Pathologist **Japanese Foundation for Cancer Research**, Japan
- **Ahmed Fadiel**, Computational Oncology Unit Director & Professor, **University of Chicago**, USA
- **Zaibo Li**, Associate Director, Digital and Computational Pathology, **Ohio State University**, USA
- **Guanglei Zhang**, Associate Professor, **Beihang University**, China
- **Thaker Harshwardhan**, Professor, **The University of Texas Medical Branch**, USA
- **Liansheng Wang**, Assistant Professor, **Xianmen University**, China
- **David Zhang**, Professor of Pathology & Oncological Sciences, **State University of New York Downstate Medical Center**, USA
- **Giovanni Lujan**, Director of Digital and Computational Pathology, **Ohio State University**, USA
- **Gareth Turner**, Consultant Histopathologist & Honorary Senior Clinical Lecturer, **Oxford University Hospitals NHS Foundation Trust**, UK
- **Tan Char Loo**, Senior Consultant, **National University Health System**, Singapore
- **Hao Chen**, Assistant Professor, **The Hong Kong University of Science and Technology**, Hong Kong
- **Xiangxue Wang**, Professor, **Nanjing University of Information Science & Technology**, China
- **Li Yan Khor**, Senior Consultant, **Singapore General Hospital**, Singapore
- **Arvind Rao**, Associate Professor of Computational Medicine and Bioinformatics, **University of Michigan, Ann Arbor**, USA
- **Lewis Hassell**, Professor of Excellence in Anatomic Pathology, Director of Anatomic Pathology, **The University of Oklahoma**, USA

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Li Liang

Chief Physician and Head, Nanfang Hospital, Southern Medical University

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Head of Cellular Image Informatics Division, Bioinformatics Institute (BII)

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Mattias Rantaleinen

Associate Professor & Founder, Karolinska Institutet & Stratipath)

CONGRESS SCHEDULE

10th September 2024

0850	*Global Engage Welcome Remarks & Chairpersons's Opening Remarks*	
0900	**KEYNOTE ADDRESS** **Alexander "Sasha" Sicular, Executive Lead, Healthcare and Life Sciences (Formerly Head of Digital Pathology), Google Public Sector, USA** **DIGITAL PATHOLOGY DEVELOPMENTS IN GOOGLE PUBLIC SECTOR** Abstract: TBC	
0930	**KEYNOTE ADDRESS** **Xu Yan, Professor, Beihang University, China** **ZERO-SHOT NUCLEI DETECTION VIA VISUAL-LANGUAGE PRE-TRAINED MODELS** "Large-scale visual-language pre-trained models (VLPM) have proven their excellent performance in downstream object detection for natural scenes. However, zero-shot nuclei detection on H&E images via VLPMs remains underexplored. The large gap between medical images and the web-originated text-image pairs used for pre-training makes it a challenging task. In this paper, we attempt to explore the potential of the object-level VLPM, Grounded Language-Image Pre-training (GLIP) model, for zero-shot nuclei detection. Concretely, an automatic prompts design pipeline is devised based on the association binding trait of VLPM and the image-to-text VLPM BLIP, avoiding empirical manual prompts engineering. We further establish a self-training framework, using the automatically designed prompts to generate the preliminary results as pseudo labels from GLIP and refine the predicted boxes in an iterative manner. Our method achieves a remarkable performance for label-free nuclei detection, surpassing other comparison methods. Foremost, our work demonstrates that the VLPM pre-trained on natural image-text pairs exhibits astonishing potential for downstream tasks in the medical field as well. Code will be released at github.com/VLPMNuD"	
1000	**EPREDIA SPEAKING SESSION** **Topic: TBC** Abstract: TBC	
1030	*Morning Refreshments/ Poster Presentation/ One-to-One Meetings*	
	Implementation, Strategy & Technology & Application	*Computational Pathology & AI*
11:30	**Hao Wang, Professor, National Institutes for Food and Drug Control, China** **TREND OF INTERNATIONAL STANDARDIZATION OF AI-ENABLED MEDICAL DEVICE FOR PATHOLOGICAL APPLICATION**	**Peter Schueffler, Prof. Computational Pathology, Technical University of Munich, Germany** **COMPUTER AIDED PATHOLOGY: ON THE CHALLENGES AND CHANCES OF IN A ROUTINE LAB**

	In this presentation, the progress of current international standardization of AI-enabled medical device is discussed. The topics include general testing and evaluation, specific testing methods. data quality control and terminology. The impact of such standards on AI pathological applications is further analysed, which may help develop specific standards for AI-enabled pathological image processing software.	Transition to a digital workflow in a routine diagnostic lab is challenging due to high costs and extensive change management for both the lab personnel and the medical doctors. However, the transition opens new opportunities and efficiency gains for pathologists: From modern and family-friendly work environments to new AI-assisted diagnostic tools. We present the lessons learned after going fully digital in our pathology lab together with early results of multimodal AI for Glioma subtyping built with the help of digital pathology.
11:55	**Alex Lee Donald Cooper, Associate Professor of Pathology Director, Division of Computational Pathology; Director, Center for Computational Imaging and Signal Analytics, Northwestern University Feinberg School of Medicine, USA** **TRANSPARENT PROGNOSTIC MODELING OF INVASIVE BREAST CANCER OUTCOMES** Breast cancer is a heterogeneous disease with variable survival outcomes. Pathologists grade the microscopic appearance of breast tissue using the Nottingham criteria, which are qualitative and do not account for noncancerous elements within the tumor microenvironment. This talk will present the Histomic Prognostic Signature (HiPS), a comprehensive, interpretable scoring of the survival risk incurred by breast tumor microenvironment morphology. HiPS uses deep learning to accurately map cellular and tissue structures to measure epithelial, stromal, immune, and spatial interaction features. It was developed using a population-level cohort from the Cancer Prevention Study-II and validated using data from three independent cohorts, including the Prostate, Lung, Colorectal, and Ovarian Cancer trial, Cancer Prevention Study-3, and The Cancer Genome Atlas. HiPS consistently outperformed pathologists in predicting survival outcomes, independent of tumor-node-metastasis stage and pertinent variables. This was largely driven by stromal and immune features. In conclusion, HiPS is a robustly validated biomarker to support pathologists and improve patient prognosis.	**Gareth David Huw Turner, Consultant and Honorary Senior Lecturer in Haematopathology, Oxford University Hospitals NHS Trust, UK** **APPLYING AI TO THE DIAGNOSIS OF MYELOPROLIFERATIVE DISEASES IN HAEMATOPATHOLOGY** Using machine learning on digital pathology images from bone marrow trephines of patients with Myeloproliferative diseases (MPNs), quantitative description of megakaryocyte morphology and reticulin fibrosis identify distinct megakaryocyte phenotypes with clinical utility in distinguishing MPN from reactive samples and associating with underlying driver mutations (1). Automated analysis and continuous indexing of fibrosis (CIF) captures heterogeneity within MPN marrows allowing refined classification and disease monitoring. Combining topological data may help predict patients at increased risk of progression e.g. to assist in the discrimination of ET and pre-fibrotic PMF (pre-PMF) (2). The potential of combining digital imaging for diagnostics and machine learning approaches has applications across histopathology teaching/training, diagnosis/classification, drug trials and basic research, combining single cell transcriptomics for investigation of haematopoietic stem cell biology and its consequences for MPN patients.
12:20	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*

12:50	**Lunch/ Poster Presentation/ One- to- One Meetings**	
13:50	**PANEL DISCUSSION** **MAXIMIZING ROI AND WORKFLOW EFFICIENCY THROUGH AI: STRATEGIES FOR EFFECTIVE DIGITAL PATHOLOGY IMPLEMENTATION** This panel will explore "Maximizing ROI and Workflow Efficiency through AI: Strategies for Effective Digital Pathology Implementation." The session will delve into how integrating artificial intelligence (AI) into digital pathology can improve diagnostic accuracy and streamline workflow processes. Experts will share practical strategies for implementing AI tools, maximizing return on investment (ROI), and optimizing workflow efficiency. Gain valuable insights into the transformative power of AI in pathology, and learn how to leverage these technologies to improve patient care and enhance operational outcomes. Expand your knowledge in digital pathology by learning from industry leaders in this insightful discussion. • **How can AI integration enhance diagnostic accuracy in digital pathology, and what are the key considerations for successful implementation?** • **What strategies can healthcare organizations adopt to maximize ROI when implementing AI tools in digital pathology?** • **How does AI impact workflow efficiency in digital pathology labs, and what are the best practices for optimizing workflow processes?** • **What are the current challenges and limitations of AI in digital pathology, and how can these be addressed to improve adoption and effectiveness?** • **How can healthcare professionals ensure that AI technologies in digital pathology comply with regulatory requirements and ethical standards?** **Panelists:** • Lewis Hassell, Professor of Excellence in Anatomic Pathology, Director of Anatomic Pathology, The University of Oklahoma, USA • Zaibo Li, Associate Director, Digital and Computational Pathology, Ohio State University, USA • Ahmed Fadiel, Computational Oncology Unit Director & Professor, University of Chicago, USA	**Arvind Rao, Associate Professor of Computational Medicine and Bioinformatics, University of Michigan Ann Arbor, USA** **MACHINE LEARNING APPROACHES TO THE INTERPRETATION OF THE TUMR MICROENVIRONMENT USING SPATIAL IMMUNO-PROFILING & SPATIAL TRANSCRIPTOMICS, FOR PERSONALIZED MEDICINE** Spatial profiling technologies like hyper-plex immunostaining in tissue, spatial transcriptomics etc have the potential to enable a multi-factorial, multi-modal characterization of the tissue microenvironment. Scalable, quantitative methods to analyze and interpret spatial patterns of protein staining and gene expression are required to understand cell-cell relationships in the context of local variations in tissue structure. Objective scoring methods inspired by recent advances in statistics and machine learning can serve to aid the interpretation of these datasets, as well as their integration with other, companion data like genomics. In this talk, we will discuss elements of spatial profiling from multiple studies as well as paradigms from statistics and machine learning in the context of these problems. This talk will also discuss the use of AI/ML and spatial analytics of the tumor microenvironment to derive spatial biomarkers of immunotherapy.
14:15		**David Y. Zhang, Adjunct Professor, State University of New York Downstate Medical Center, USA** **ARTIFICIAL INTELLIGENCE IN PROSTATE CANCER PATHOLOGY: HYPE OR TODAY'S REALITY** With the wide availability of digital pathology, artificial intelligence (AI) for pathology applications has drawn significant attention and promises great potential in pathology practice. We have developed a robust and flexible image management system (IMS) that allows integrating digital images into pathology practice. Furthermore, we developed an AI platform to enhance the ability of pathologists to review and diagnosis prostate cancer in biopsy sections. Our study demonstrated that AI can improve accuracy of identifying malignant glands, especially small glands. The objectives are: 1. Review the current development of AI applications in prostate pathology. 2. Present our IMS and AI in prostate biopsy applications.

14:40	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*
15:10	**Afternoon Break/ Poster Presentation/ One- to- One Meetings**	
16:10	**Early Career Researcher Presentation** Char Loo Tan, Senior Consultant, National University Health System, Singapore **INTEGRATING DIGITAL PATHOLOGY INTO DAILY OPERATIONS: REALITIES AND CHALLENGES** Digital pathology represents a transformative leap forward in the field of diagnostic medicine, revolutionizing the way pathologists examine tissue samples and make critical clinical assessments. By harnessing cutting-edge imaging technology and advanced computational analysis, digital pathology enables the digitization of traditional glass slides, allowing for high-resolution viewing and analysis of tissue samples on computer screens. This innovative approach not only enhances the efficiency and accuracy of pathological evaluations but also facilitates remote collaboration, education, and research in ways previously unattainable with conventional microscopy. As healthcare systems worldwide embrace digitalization, digital pathology emerges as a cornerstone of modern pathology practice, promising to redefine standards of care, accelerate diagnostic workflows, and unlock new frontiers in precision medicine. Hereby, I will be sharing our experiences and the challenges we faced in integrating digital pathology into the department's daily operation.	**Early Career Researcher Presentation** Khor Li Yan, Senior Consultant, Singapore General Hospital, Singapore **JOINING THE AI FRAY – CHALLENGES AND REWARDS FROM A HISTOPATHOLOGIST'S PERSPECTIVE** Having collaborated with AI scientists from government agencies, research institutes and commercial vendors to develop and validating AI algorithms for histopathology, this talk will discuss the: • outline the unexpected challenges and rewards • provide insights from my varied experience For pathologists who are interested in getting their feet wet in algorithm development, this talk will include lessons learnt on providing high quality DP image data for algorithm development, the process of transferring mutual domain knowledge (between pathologist and AI scientist) relevant to the project, encountering limitations on DP image formats and SDKs, providing high quality annotations in an internet-separated environment, time-boxing of project goals for efficient results and considerations for the re-training of an algorithm with new data.
16:25	**Desire Abdurrachim, Principal Scientist, MSD, Singapore** **MULTI-MODAL AI DIGITAL PATHOLOGY TO ACCELERATE MASH DRUG DISCOVERY** Spatial biology is critical in the study of the liver because of the metabolic zonation in the liver lobules. We leverage AI digital pathology to investigate changes in the liver microenvironment during the progression of Metabolic Associated Steatohepatitis (MASH).	**Hao Chen, Assistant Professor, The Hong Kong University of Science and Technology, Hong Kong** **TOWARDS MULTIMODAL DATA INTEGRATION FOR ADVANCING PRECISION ONCOLOGY** Artificial intelligence (AI), especially deep learning with large-scale training datasets, has dramatically advanced the recognition performance in many domains including speech recognition, visual computing and natural language processing.

	In this talk, I will provide an overview of our multi-modal AI digital pathology toolboxes, which include Second Harmonic Generation (SHG), traditional H&E/Masson's Trichrome/PSR, dual IHC, multiplexed-IF, and integrated spatial omics imaging. I will also highlight how we utilize the technology to understand human disease biology, and through reverse translation, how we guide animal model selection, proof-of-biology, and proof-of-concept, to accelerate our MASH drug discovery pipeline. Beyond discovery efforts, I will also touch upon the industry's effort in leveraging AI digital pathology to aid pathologists in MASH scoring and its potential to improve the efficiency of MASH our clinical trials.	Despite its breakthroughs in above domains, its application to precision oncology remains yet to be explored, where large-scale fully and high-quality annotated datasets are not easily accessible. In this talk, I will share our recent progress on computational pathology with multimodal data integration for precision oncology through the lens of information theory, including cross-modal consistency, multimodal alignment and knowledge decomposition, with versatile applications to disease diagnosis, treatment response prediction, prognosis, etc. Challenges and future directions will also be discussed.
1650	**Ahmed Fadiel, Director and Co-Founder of the University of Chicago Medicine, Computational Oncology Unit, University of Chicago, USA** **A BIOINFORMATICS APPROACH TO DIGITAL PATHOLOGY** Digital pathology revolutionizes diagnostics with high-resolution whole slide imaging (WSI) but necessitates robust data management solutions. Bioinformatics platforms leverage cloud storage and distributed computing for efficient WSI storage, retrieval, and analysis. Machine learning algorithms, specifically deep convolutional neural networks (CNNs), automate image analysis tasks like tumor classification and segmentation, achieving superior accuracy and consistency compared to manual analysis. Standardization protocols like DICOM and OME ensure seamless data exchange across disparate platforms, fostering collaboration. Rigorous validation techniques employed by bioinformatics, including statistical analysis and concordance studies, guarantee the reliability and clinical adoption of these algorithms. Secure data encryption and access control mechanisms safeguard patient privacy and HIPAA compliance. By integrating bioinformatics with digital pathology, we unlock its potential to transform patient care, enabling the development of personalized treatment plans and advancing precision medicine initiatives.	
17:15	**End of Day 1/Networking Drinks Reception**	

0850	*Global Engage Welcome Remarks & Chairpersons's Opening Remarks*	
0900	**KEYNOTE ADDRESS** ***Richard Chen, Doctor, Harvard University, USA*** **A GENERAL-PURPOSE SELF-SUPERVISED MODEL FOR COMPUTATIONAL PATHOLOGY** Abstract: TBC	
0930	**KEYNOTE ADDRESS** ***Cao Gang Principal Investigator The Brain Cognition and Brain Disease Institute of Shenzhen Institute of Advanced Technology, Chinese Academy of Sciences*** **MULTIPLEX IMMUNOFLUORESCENCE (MIF) SOLUTIONS FOR DISEASE DIAGNOSTICS** Abstract: TBC	
1000	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*	
1030	*Morning Refreshments/ Poster Presentation/ One-to-One Meetings /Photo Session*	
	Implementation, Strategy & Technology & Application	*AI for Imaging and Digital Image Analysis*
11:30	**ROUNDTABLE DISCUSSION TOPICS** **Table 1** **DATA QUALITY AND AVAILABILITY IN DIGITAL PATHOLOGY: STRATEGIES FOR ENSURING ACCURACY AND ACCESSIBILITY** Discuss the strategies for ensuring the accuracy and accessibility of data in digital pathology, including quality control measures, data management practices, and collaborative initiatives to improve data sharing and availability **Table 2** **EXPLORING THE POTENTIAL OF LLM AND REGENERATIVE AI IN PATHOLOGY** Discuss the potential of large language models (LLMs) and regenerative artificial intelligence (AI) in pathology, including their applications in image analysis, diagnosis support, and data interpretation. Explore how these technologies can enhance pathology practice by improving accuracy, efficiency, and decision-making processes.	**Guanglei Zhang, Associate Professor, Beihang University, China** **Explicitly Bridge Pathological and Natural Image with Puzzles** Pathological image analysis is a crucial field in computer vision. Due to the annotation scarcity in the pathological field, most of recent works have leveraged self-supervised learning (SSL) trained on unlabeled pathological images, hoping to mine the representation effectively. However, there are two core defects in current SSL-based pathological pre-training: (1) they do not explicitly explore the essential focuses of the pathological field, and (2) they do not effectively bridge with and thus take advantage of the knowledge from natural images. To explicitly address them, we propose our PuzzleTuning framework. Firstly, we identify three task focuses that can effectively bridge knowledge of pathological and natural domain. Secondly, we devise a novel multiple puzzle restoring task, explicitly pre-training the model. Thirdly, we introduce an explicit prompt-tuning process to incrementally integrate the domain-specific knowledge, aligning the domain gap between natural and pathological images. Experimental results verified our PuzzleTuning framework.

11:55	**Table 3** **CANCER CARE: THE ROLE OF DIGITAL PATHOLOGY, AI, AND WSI IN ADVANCING RESEARCH, TREATMENT, AND DIAGNOSTIC PRECISION** Examine how digital pathology, artificial intelligence (AI), and whole slide imaging (WSI) are revolutionizing cancer care. Discuss their impact on research, treatment, and diagnostic precision, highlighting advances in image analysis, molecular profiling, and personalized medicine. **Table 4** **NAVIGATING DIGITAL PATHOLOGY REGULATIONS AND COMPLIANCE FOR QUALITY ASSURANCE** Discuss the regulatory landscape of digital pathology, including key regulations and standards that govern its implementation. Explore strategies for ensuring compliance, including quality assurance measures, documentation requirements, and staff training.	**Xiangxue Wang, Professor, Nanjing University of Information Science and Technology China** **IMAGE BASED BIOMARKER FOR CANCER PROGNOSIS AND TREATMENT RESPONSE PREDICTION** The spatial arrangement of cells within tissues and tumors can provide valuable information for predicting cancer prognosis and treatment response. The diagnosis and prognosis prediction of cancer typically rely on pathological analysis and biochemical examinations of the diseased tissue. However, these methods overlook the heterogeneity of cancer cells within tumors and the complex interactions between different cell types. Spatial arrangement and structural analysis, such as spatial transcriptomics and imaging techniques, offer new tools for researchers to analyze the spatial locations of cells within tissues or tumors, thereby deepening our understanding of the tumor microenvironment and the interactions between cancer cells and neighboring cells. With advancements in computational algorithms and artificial intelligence, mining the spatial relationships of cells within tumors from biomedical data and establishing their associations with cancer patient prognosis can offer new approaches and means for precise treatment of cancer patients. The speaker has been engaged in the analysis of pathological images and the fusion of multimodal medical information, and has made preliminary explorations in the prognosis and treatment prediction of malignant tumors such as lung cancer.
12:20	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*	***Solution Provider Presentation*** *For sponsorship opportunities please contact Reuben Raj: reuben@global-engage.com /+603 2779 0098 ext 1005*
12:50	***Lunch/ Poster Presentation/ One- to- One Meetings***	
13:50	**Poster Competition Winner Presentation** Poster competition abstract submission deadline is 9th August 2024.	**Poster Competition Winner Presentation** Poster competition abstract submission deadline is 9th August 2024.

14:05	**Giovanni M Lujan, MD, Associate Professor, Director of Digital and Computational Pathology, The Ohio State University, USA** **DIGITAL AND COMPUTATIONAL PATHOLOGY WORKFLOW AT A LARGE ACADEMIC CENTER IN THE USA, 3 YEAR EXPERIENCE** • History of OSU digitalization, ups and downs • Complete Digital Workflow, glassless and paperless • Main Obstacles and How we overcame them • Into the Next Frontier: Digital Pathology + AI = Computational Pathology	**Liansheng Wang, Professor, Xianmen University, China** **PATHOLOGICAL IMAGE ANALYSIS: FROM MICROSCOPIC TO ULTRA-MICROSCOPIC** This presentation explores the frontier of pathological image analysis. We delve into the advancements in deep learning that have revolutionized the analysis of pathological images, enabling not only the identification of diseases at earlier stages but also the prediction of disease progression and response to treatment. Our approach harnesses the power of computational analysis to interpret complex patterns within pathology images and multiplex data sets. We highlight several applications where these techniques have been successfully applied, including tumor classification, grading, and the mapping of genetic aberrations. Furthermore, the presentation will address the challenges of integrating pathology data with other multiplex data sources, such as genomic and proteomic data, to achieve a comprehensive understanding of disease mechanisms. Through case studies and recent research findings, we aim to demonstrate how the synergy between deep learning and ultra-microscopic image analysis is paving the way for a new era in precision medicine and diagnostic pathology.
14:30	**Chuan Xu, Professor of Oncology, Chief Physician Sichuan Academy of Medical Sciences, Sichuan Provincial People's Hospital, University of Electronic Science and Technology of China, China** **The Practical Implementation of Artificial Intelligence Assisted Digital Pathology in Clinical and Translational Researches** The detection of progression and recurrence at early stage from molecular pathology perspective is essential for companion diagnostics in anticancer therapy. Artificial intelligence (AI) assisted digital pathology with ultrasensitive detecting capacities which can identify biomarkers presented in low abundance may serve as potential instruments.	**Naoko Tsuyama, Project Scientist & Pathologist, Division of Pathology, Cancer Institute, Japanese Foundation for Cancer Research, Japan** **INTEGRATING GROSS SPECIMEN PHOTOS AND WSI FOR ENHANCED DIGITAL MAPPING OF HISTOLOGICAL REGIONS** Integrating pathology data is essential in addressing complex diagnostics, the increasing number of specimens, and the pathologist shortage. The advent of digital pathology platforms has heightened the focus on the integrated analysis of whole-slide images (WSIs) alongside data from varied modalities, such as gross photo images paired with WSIs. Pathologists initially perform a visual inspection of specimens to decide which areas require sectioning for histological examination. These sections are then processed into glass slides and converted into WSIs.

	Herein, we demonstrated the application of AI-driven assay in discovering novel targets and pathological features of cancer patients related to clinical outcomes and their underlying mechanisms in immune escape and treatment tolerance with examples from recent finding from our lab.	Traditionally, pathologists assess these images separately. However, recognizing that both image sets are derived from identical specimen sections but exhibit different modalities is critical. Correlating macroscopic and microscopic images is vital for digitally mapping histological regions to their corresponding specimen surfaces. This presentation will explore our department's daily diagnostic routine for this procedure and highlight the benefits of this integrated approach for enhancing diagnostic accuracy and data management efficiency.
14:55	**End of Day 2/ Conference Ends**	

POSTER PRESENTATION

This conference definitely provides an ideal platform to showcase your works with a captive audience. Whether looking for funding, job opportunities or simply wanting to share your work with a like-minded and focused group, poster presentations are an excellent way to join the heart of the congress.

Poster presentation abstract submission deadline is 16th August 2024.

POSTER COMPETITION

We are pleased to announce that we will be hosting a competition as part of this conference. Two exceptional entries will be selected to receive the following rewards:

- **$1000 Travel Grant**
- **15-Minute Speaking Position on the Conference Program**
- **Certificate of Participation**
- **Certificate of Achievement – Poster Competition**

Poster competition abstract submission deadline is 9th August 2024.

Representatives from solution provider organisations or experts already speaking on the program are not eligible to enter the competition but are welcome to present posters at the meeting as normal.

Download poster presentation/competition abstract form HERE.