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Sunday, Oct 1

7:00 – 7:45 AM	**Registration & Continental Breakfast**
7:45 – 8:00 AM	**Welcome Remarks** Paul G. Nagy, PhD, CIIP, FSIIM, *Johns Hopkins University* Conference Co-Chair
8:00 – 9:00 AM	Opening Keynote Speaker **Expanding Horizons: An In-Depth Exploration of Generative AI in Medical Imaging** Woojin Kim, MD, Chief Medical Information Officer, *Rad AI*
9:00 – 10:30 AM Scan to review the session abstracts	**Scientific Abstract Presentations: Clinical Applications** Chair: Eliot L. Siegel, MD, FSIIM, *University of Maryland School of Medicine, VA Maryland Healthcare System,* Conference Co-Chair A Comparison of Convolutional Neural Network Architectures in Auto-Segmenting Primary Oropharyngeal Cancers from Contrast-Enhanced CT Scans Onur Sahin, PhD, *McGovern Medical School* Acute Respiratory Distress Syndrome (ARDS) Detection in the Pediatric Intensive Care Unit (PICU) Setting Demonstrates High Performance with Transfer Deep Learning Vahid Khalkhali, PhD, *Children's Hospital of Philadelphia* An Improved UNet++ Architecture for Deep Learning based Segmentation of Kidneys and Cysts in Autosomal Dominant Polycystic Kidney Disease (ADPKD) Chetana Krishnan, *University of Alabama at Birmingham* Augmenting the MIDRC Dataset using Deep Learning-Based Quantification of Abdominal Aortic Calcification: Proof-of-Concept for Population-Level Disease Screening Devina Chatterjee, *University of Maryland School of Medicine* Deep Multiclass Multiple-instance Learning For DSA Classification Reza Moein Taghavi, *UC Davis School of Medicine* Evaluation of an Artificial Intelligence Chatbot for Delivery of Interventional Radiology Patient Education Material Colin J. McCarthy, MD, *Beth Israel Deaconess Medical Center*

Sunday, Oct 1

10:30 – 10:45 AM	**Break**
10:45 AM – 12:15 PM Scan to review the session abstracts	**Scientific Abstract Presentations: Intelligent Imaging** Chair: Jeffrey H. Siewerdsen, PhD, FAAPM, FAIMBE, *MD Anderson Cancer Center,* Conference Co-Chair Automated Detection of Pericoronary Adipose Tissue Attenuation to Detect Inflammation on Coronary Computed Tomography Angiography Devina Chatterjee, *University of Maryland School of Medicine* Computer Vision-Derived Bone Mineral Density Measures of Thoracic Vertebra using Multiplanar Segmentation of Conventional Chest CT Quincy A. Hathaway, MD, PhD*, West Virginia University School of Medicine* Deformable Multi-modal Image Registration via Neural Optimal Transport: An Application to Multi-parametric MRI Registration Boah Kim, PhD, *National Institutes of Health Clinical Center* Evaluating Non-Anatomic Sequences to Predict the MGMT Status of Glioblastomas using Deep Learning Emma Barry, *University of Maryland School of Medicine* Learning to Generalize towards Unseen Domains via a Content-Aware Style Invariant Framework for Disease Detection from Chest X-rays Taufiq Hasan, PhD*, Bangladesh University of Engineering and Technology* Using AI to Create Deep Non-Contrast (DNC) Images with Photon-Counting CT: A Phantom Study Todd Soesbe, PhD*, UT Southwestern Medical Center*
12:15 – 1:15 PM	**Lunch** **Visit Scientific Abstract Posters**

Sunday, Oct 1

1:15 – 2:45 PM	**Synthesizing Diagnostic Imaging Data Scientists Town Hall** Chair: Katherine P. Andriole, PhD, FSIIM, *Mass General Brigham* Conference Co-Chair Peter D. Chang, MD, *University of California, Irvine* Bradley J. Erickson, MD, PhD, CIIP, FSIIM, *Mayo Clinic Rochester* Elizabeth A. Krupinski, PhD, FSIIM, *Emory University* Sharmila Majumdar, PhD, *University of California, San Francisco* Paul H. Yi, MD, MS, *University of Maryland*
2:45 – 4:15 PM Scan to review the session abstracts	**Scientific Abstract Presentations: Data Sets, Emerging Technologies & NLP Models** Chair: Paul G. Nagy, PhD, CIIP, FSIIM, *Johns Hopkins University* Conference Co-Chair Attention-Based Weakly Supervised Deep Learning Model for Predicting the Progression of Barret's Esophagus to HGD/EAC using Pre-progression Whole Slide Images Shahriar Faghani, MD, *Mayo Clinic Rochester* ConTEXTual Net: A Multimodal Vision-Language Model for Segmentation of Pneumothorax Zachary Huemann, *University of Wisconsin-Madison* The Brain Tumor Segmentation (BraTS-METS) Challenge 2023 Ahmed W. Moawad, MD*, Mercy Catholic Medical Center* Using An Open-source Language Model to Abstract the Presence of Acute Cervical Spine Fracture from Radiologic Reports: A HIPAA Compliant Alternative to "ChatGPT“ Bardia Khosravi, MD, MPH, MHPE*, Mayo Clinic AI Laboratory* Using Graph Representation Learning to Passively Learn Imaging Protocols Dimitri Falco, PhD, *Quantivly* WESTERN-RLP: Augmenting Image-Caption Radiology Datasets using Image Embeddings Search of Large-Scale Natural Image Databases Kartik Gupta, *University of Western Ontario*

Sunday, Oct 1

4:15 – 4:30 PM	**Break**
4:30 – 5:15 PM	**The Do's and Don'ts of Publishing Machine Learning Manuscripts in the *Journal of Digital Imaging*** Elizabeth A. Krupinski, PhD, FSIIM, *Emory University* Editor in Chief, *Journal of Digital Imaging*
5:15 – 6:30 PM	**Choosing the Right Platform for Your AI Applications** **A Vendor Panel Discussion** Chair: Eliot L. Siegel, MD, FSIIM, *University of Maryland School of Medicine, VA Maryland Healthcare System,* Conference Co-Chair Sinan Batman, PhD, *TeraRecon* Jamie Chow, MBBS, *Blackford* Mohamed Shoura, PhD, *PaxeraHealth* Aaron Sullivan, *Bayer Digital Solutions* Venky Vaddineni, MS, *Hologic*
6:30 – 7:45 PM	**Networking Reception & Scientific Abstract Poster Discussions**

Scientific Abstract Posters

On display throughout the meeting

Scan to review the poster abstracts

Posters are displayed in the order of this listing

Adaptive Deep Learning for Precise Early Stage Lung Tumor Delineation on 4D Imaging
Luis Ricardo de la O Arevalo, MS*, University Medical Center Groningen*

Advancing Hepatic Decompensation Status Prediction through Computed Tomography-Based Radiomics Signature and Body Composition Model Integration
Yashbir Singh, PhD*, Mayo Clinic*

An Interactive Decision Support Tool for Evaluating Machine Learning Algorithm Performance in Medical Image Analysis developed by the Medical Imaging and Data Resource Center (MIDRC): MIDRC-MetricTree
Tingting Hu, PhD Candidate, *U.S. FDA*

Analysis of Intersectional Bias in a Novel Melanoma Image Classification Algorithm
Christopher Caligiuri, *Princeton University*

ChatGPT Enhanced Radiology Reporting using PRECISE Framework for Patient-Centered Care
Satvik Tripathi, *Massachusetts General Hospital*

Deep Learning-Based Natural Language Processing for Classification of Renal Surgical Pathology Outcomes in a Multi-Site Dataset
Satvik Tripathi, *Perelman School of Medicine at the University of Pennsylvania*

Deep Learning Assisted Curation of the CANDID-III Dataset with Free-text Reports
Anna Hu, *George Washington University School of Medicine and Health Sciences*

Evaluation of ChatGPT Performance on Radiology Board Exam-Style Questions
Anna Hu*, George Washington University School of Medicine and Health Sciences*

Decoder-Only Computed Tomography Radiology Reports (DOCTRR)
Tegan Keigher, MS*, Data Science Institute, University of Chicago*

Development of Medical Imaging Data Standardization for Imaging-Based Observational Research: OMOP Common Data Model Extension
Jen Park, MS*, Johns Hopkins University*

Scientific Abstract Posters

Do General Purpose Large Language Models Outperform Domain-Specific NLP Methods for Radiology Report Label Extraction?
Cody Savage, MD, *University of Maryland Medical Intelligent Imaging (UM2ii) Center*

Enhancing Efficiency and Performance in Healthcare: A Federated Learning Approach for CT Image Segmentation
Alan McMillan, PhD*, UW Health*

Enhancing Radiology Reports and Medical Information Retrieval through Question and Answering with Large Language Models
Nitin Gupta, MS*, University of Chicago*

Evaluating the Diagnostic Performance of a Deep Learning Model for Detecting Thyroid Nodule Malignancy: An Expert Evaluation Study
Sanaz Vahdati, MD*, Mayo Clinic*

Extraction of Labels from Radiology Reports using ChatGPT
Jason Adleberg, MD*, Mount Sinai*

From the Operating Room to the Office: Digital Staining of White Light Cystoscopy Videos for Bladder Cancer Detection
Greyson Wintergerst*, Vanderbilt University*

Generation of Radiology Report's Impression from Findings' Description on Pediatric Abdomen Ultrasound
Dana Alkhulaifat, MD*, Children's Hospital of Philadelphia*

Large Language Model Improves Detection of Negated Expressions in Radiology Reports
Yonatan Babore, *University of Pennsylvania*

Identifying Cerebrospinal Fluid Leak using Brain MRI: A Deep Learning Approach
Shahriar Faghani, MD*, Mayo Clinic Rochester*

Towards Trustworthy Deep Learning: Applying Mondrian Conformal Prediction to Intracranial Hemorrhage Detection
Shahriar Faghani, MD, *Mayo Clinic Rochester*

Uncertainty Quantification in Radiogenomics Analysis Using Mondrian Conformal Prediction
Shahriar Faghani, MD*, Mayo Clinic Rochester*

Scientific Abstract Posters

Leveraging 3D Segmentation Datasets for Rapid Body Region Classification
Xue Li, MS*, University of Wisconsin-Madison*

mRMR-permute: Permutation Testing for Unbiased Minimum Redundancy Maximum Relevance Feature Selection
Winston T. Chu, PhD*, National Institutes of Health*

One Copy Is All You Need: Resource-Efficient Streaming of Medical Imaging Data at Scale
Pranav Kulkarni, *University of Maryland School of Medicine*

Text2Cohort: Democratizing the NCI Imaging Data Commons with Natural Language Cohort Discovery
Pranav Kulkarni, *University of Maryland School of Medicine*

Pruning and Principal Component Analysis (PCA) on UNet++ for Segmentation of Kidneys and Cysts in Autosomal Dominant Polycystic Kidney Disease (ADPKD)
Chetana Krishnan*, University of Alabama at Birmingham*

SegViz: A Federated Learning Framework to Train Multi-task Segmentation Models from Partially Annotated and Distributed Datasets
Adway U. Kanhere, MS, *University of Maryland School of Medicine*

Stimulated Raman Histology Image Reconstruction Using Weakly Supervised Generative Adversarial Networks
Sung Jik Cha, *Western Michigan University*

Unveiling Segmentation Errors: Enhancing Auto-Segmentation with ML Models Trained on Radiomic Features
Abishek Karki, PhD*, University of Virginia*

Using MONAI Pre-Trained Models for Colorectal Tissue Type Phenotyping: A Feasibility Study to Integrate Deep Learning Model Results using the Medical Extension OMOP CDM
Shijia Zhang, PhD Student*, Johns Hopkins University*

Monday, Oct 2

7:00 – 7:45 AM	**Registration & Continental Breakfast**
7:45 – 8:45 AM	**AAPM-SIIM Symposium on Machine Intelligence in Medical Imaging: A Medical Physics Perspective** Chair: Jeffrey H. Siewerdsen, PhD, FAAPM, FAIMBE, *MD Anderson Cancer Center,* Conference Co-Chair Karen Drukker, PhD, MBA, FAAPM, FSPIE*, University of Chicago* Xun Jia, PhD, DABR, FAAPM, *Johns Hopkins University*
8:45 – 10:15 AM Scan to review the session abstracts	**Scientific Abstract Presentations: Generative AI & General Applications in NLP** Chair: Eliot L. Siegel, MD, FSIIM*, University of Maryland School of Medicine, VA Maryland Healthcare System,* Conference Co-Chair Automatic Personalized Impression Generation for PET Reports Using Large Language Models Xin Tie, MS*, University of Wisconsin-Madison* Hybrid Model for Whole-Body Synthetic CT Generation from TOF NAC PET Scans: Improved Accuracy and Attenuation Correction Alan McMillan, PhD*, UW Health* Improving the Readability of Patient-facing Information About Lung Cancer Using Large Language Models: ChatGPT, GPT-4 and Bard Hana Haver, MD*, University of Maryland Medical Intelligent Imaging (UM2ii) Center & Massachusetts General Hospital* Realistic Generation and Removal of Brain Tumoral Lesions on Multiparametric Brain MRI with Diffusion Models Pouria Rouzrokh, MD, MPH, MHPE*, Mayo Clinic AI Laboratory* Synthesizing fMRI from MRI and EEG: A Deep Generative Approach Shahriar Faghani, MD, *Mayo Clinic Rochester* Utilizing Generative AI to Recognize Racial Disparities in Imaging Registries: A Step Toward Model Explainability Bardia Khosravi, MD, MPH, MHPE, *Mayo Clinic AI Laboratory*

Monday, Oct 2

10:15 – 10:30 AM	**Break**
10:30 AM – 12:00 PM Scan to review the session abstracts	**Scientific Abstract Presentations: Toolkits and Machine Learning Algorithms** Chair: Paul G. Nagy, PhD, CIIP, FSIIM, *Johns Hopkins University* Conference Co-Chair A Comprehensive Guide to Preparing Medical Imaging Data for AI: A SIIM Survey Sanaz Vahdati, MD, *Mayo Clinic* Care to ExplAIn? Differential Impacts of Explanation Types on Physician Trust in AI Drew Prinster, PhD Candidate, *Johns Hopkins University* Evaluating the Utility of Self-Configuring Capsule Networks for Brain Image Segmentation Durga Sritharan, *Yale School of Medicine* Exploring Interpretation Maps as a Path to Discover Radiogenomics Biomarkers: A Call for Rethinking Shahriar Faghani, MD, *Mayo Clinic Rochester* From Isolation to Collaboration: Harmonizing Heterogeneous Medical Imaging Datasets with Partial Annotations Pranav Kulkarni, *University of Maryland School of Medicine* Machine Learning for the Prediction of Osteopenia/Osteoporosis using the Bone Attenuation of Multiple Osseous Sites from Chest Computed Tomography Ronnie Sebro, MD, PhD, *Mayo Clinic Florida*
12:00 – 1:00 PM	**Lunch** **Visit Scientific Abstract Posters**

Monday, Oct 2

1:00 – 2:15 PM	**Scientific Abstract Presentations: Clinical Applications** Chair: Katherine P. Andriole, PhD, FSIIM, *Mass General Brigham* Conference Co-Chair Coarse Race and Ethnicity Labels Mask Granular Underdiagnosis Disparities in Deep Learning Models for Chest X-Ray Diagnosis Preetham Bachina*, Johns Hopkins School of Medicine* Evolutionary Strategies of AI to Study Language Dominance on Functional MRI Joseph N. Stember, MD, PhD, *Memorial Sloan Kettering Cancer Center* Hanging Protocol Prediction by Image Identification (HAPPII) Jennifer Oettinger*, Mayo Clinic* Pediatric-specific nnU-Net and DeepMedic Methods for Autosegmentation of Brain Tumors: A Comparison Study Arastoo Vossough, PhD, MD, CIIP*, Children's Hospital of Philadelphia, University of Pennsylvania* THA-AID: A Trustworthy Deep Learning Tool for Total Hip Arthroplasty Automatic Implant Detection with Uncertainty and Outlier Quantification Pouria Rouzrokh, MD, MPH, MHPE*, Mayo Clinic AI Laboratory*
Scan to review the session abstracts	
2:15 – 3:15 PM	**Regulatory Science for AI-enabled Devices in Medical Imaging: A Perspective from the AI/ML Regulatory Science Research Program at the Office of Science and Engineering Laboratories (OSEL) at the FDA** Victor Garcia, MD, Staff Fellow, *U.S. Food and Drug Administration* Berkman Sahiner, PhD, SBRBPAS Expert, *U.S. Food and Drug Administration*
3:15 PM	**Closing Remarks** Katherine P. Andriole, PhD, FSIIM, *Mass General Brigham* Conference Co-Chair

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