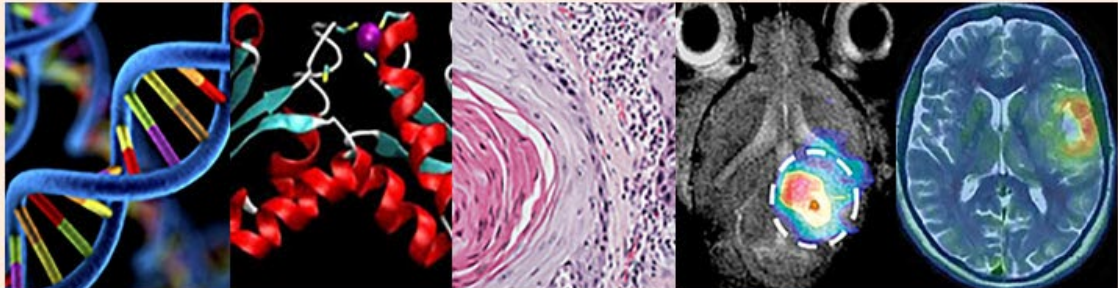


# CIRP



## May 20, 2024, Day 1, EDT

- 9:30 am Introduction**  
Huiming Zhang, PhD, DCTD, NCI
- 9:40 am Welcome**  
Janet Eary, MD, Associate Director, DCTD, NCI

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### Part I CIRP Program

**Moderators:** Huiming Zhang, PhD, DCTD, NCI  
Yantian Zhang, PhD, DCTD, NCI

- 9:45 am Session I CIRP Teams Progress**  
**WASHINGTON UNIVERSITY CO-CLINICAL IMAGING RESEARCH RESOURCE**  
Kooresh Shoghi, PhD, Washington University in St Louis
- 10:05 am A QUANTITATIVE PET/CT RESEARCH RESOURCE FOR CO-CLINICAL IMAGING OF LUNG CANCER THERAPIES**  
Paul Kinahan, PhD, University of Washington
- 10:25 am Established CIRP Team/Associate Member Progress**  
**CO-CLINICAL RESEARCH RESOURCES FOR IMAGING TUMOR ASSOCIATED MACROPHAGES**  
Heike Daldrup-Link, MD, Stanford University

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### **10:45 am Break (15 min)**

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- 11:00 am CO-CLINICAL QUANTITATIVE IMAGING OF SMALL CELL NEUROENDOCRINE PROSTATE CANCER USING HYPERPOLYZED 13C MRI**  
John Kurhanewicz, PhD, University of California at San Francisco
- 11:20 am DEVELOPMENT OF AN OPEN-SOURCE PRECLINICAL IMAGING INFORMATICS PLATFORM FOR CANCER RESEARCH**  
Kooresh Shoghi, PhD, Washington University in St Louis
- 11:40 am UNIVERSITY OF MICHIGAN QUANTITATIVE CO-CLINICAL IMAGING RESEARCH RESOURCE**  
Brian Ross, PhD, University of Michigan

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### **12:00 pm Lunch Break (80 min)**

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- 1:20 pm INTEGRATING OMICS AND QUANTITATIVE IMAGING DATA IN CO-CLINICAL TRIALS TO PREDICT TREATMENT RESPONSE IN TRIPLE NEGATIVE BREAST CANCER**  
Mike Lewis, PhD, Baylor College of Medicine
- 1:40 pm MDACC PREDICT**  
Charles Manning, PhD, MD Anderson Cancer Center

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2:00 pm      **Break (15 min)**

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2:15 pm      **Session II Poster Power Pitch**  
**Advances in Animal Models, Co-Clinical Trials, and Co-Clinical Imaging Applications**

**Moderators:** Cynthia Ma, PhD, Washington University in St Louis  
Rong Zhou, PhD, University of Pennsylvania

2:50 pm      **Advances in Imaging Acquisition, Data Processing, and Method Development**

**Moderators:** Robia Pautler, PhD, Baylor College of Medicine  
Robert Miyaoka, PhD, University of Washington

3:25 pm      **Advances in Informatics, Web Resources, and Method Development**

**Moderators:** James Gee, PhD, University of Pennsylvania  
Jason Crane, PhD, University of California San Francisco

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4:00 pm      **Session III Posters and Demonstrations**

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5:30 pm      **End of Day 1**

**May 21, 2024, Day 2, EDT**

**Part II Workshop on Co-Clinical Imaging Roadmap**

**9:30 am Session IV Co-Clinical Imaging in Advancing Precision Oncology**

**Moderators:** Brian Ross, PhD, University of Michigan  
John Kurhanewicz, PhD, University of California San Francisco

**9:30 am Introduction**

Brian Ross, PhD, University of Michigan  
John Kurhanewicz, PhD, University of California San Francisco

**10:00 am Animal models to enable co-clinical imaging trials**

Donna Peehl, PhD, University of California San Francisco

**10:30 am Image acquisition and data processing considerations to harmonize co-clinical imaging trials**

Cristian Badea, PhD, Duke University

**11:00 am Informatics needs to support integration of co-clinical imaging datasets, data mining, and advanced computing**

Koresh Shoghi, PhD, Washington University in St Louis

**11:30 am Summary and Further Discussions**

Brian Ross, PhD, University of Michigan  
John Kurhanewicz, PhD, University of California San Francisco

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**12:00 pm Lunch Break (60 min)**

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**Part III CIRP Working Groups**

**1:00 pm Session V Imaging Acquisition & Data Process (IADP) WG**

**Moderators:** Robia Pautler, PhD, Baylor College of Medicine  
Robert Miyaoka, PhD, University of Washington

**Presentations:**

**1:00 pm Small animal PET Imaging and Instrumentation**

Robert Miyaoka, PhD, University of Washington

**1:30 pm The International Photoacoustic Standardization Consortium: Prospects, challenges, and future directions on the path towards standardization in photoacoustic imaging**

Lina Hacker, PhD, University of Oxford

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**2:00 pm Break (10 min)**

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**2:10 pm Session VI Informatics & Outreach (IMOR) WG**

**Moderators:** James Gee, PhD, University of Pennsylvania  
Jason Crane, PhD, University of California San Francisco

- 2:10 pm**      **WG Updates**  
                   Jame Gee, PhD, University of Pennsylvania
- 2:15 pm**      **Data Archival and Resource Management Infrastructure for Preclinical Imaging**  
**Keynote: Federated Preclinical Imaging XNAT-Enabled Informatics (PIXI): PIXI interoperability environment demo to enable co-clinical imaging research in precision oncology**  
                   Andy Lassiter, Washington University in St Louis
- 2:31 pm**      **BiRAT: Platform for Biomedical Image Data Registry and Processing**  
                   Frezghi Habte, PhD, Stanford University
- 2:39 pm**      **NCI Imaging Data Commons: Towards transparency, reproducibility, and scalability in imaging AI**  
                   Andrey Fedorov, PhD, Brigham and Women's Hospital
- 2:47 pm**      **The MIRACCL Portal for Comparing Patient and PDX Response Using Cancer Image Features and Genomics in Co-Clinical Trials**  
                   Heidi Dowst, Baylor College of Medicine
- 2:55 pm**      **Discussions**

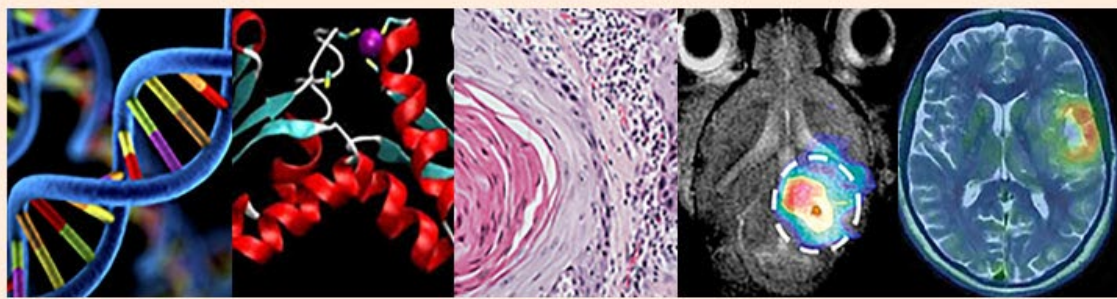
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**Part IV      CIRP Management and Business**

- 3:10 pm**      **Session VII Business Meeting**  
**All SC Members and NCI CIRP PDs**  
**Chair/moderators:** Brian Ross, PhD, University of Michigan  
                               John Kurhanewicz, PhD, University of California San Francisco  
                               Huiming Zhang, PhD, NCI

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- 3:30 pm**      **End of Day 2**



## **Power Pitch for CIRP Posters, 2:15 - 4:00 pm EDT, May 20, 2024**

### **Advances in Animal Models, Co-Clinical Trials, and Co-Clinical Imaging Applications**

#### **1. Novel B cell gene signature to predict clinical response to combined EGFR and glutaminolysis inhibition in *KRAS* wild-type colorectal cancer**

S-W Bae, KK Ciombor, et al., University of Texas MD Anderson Cancer Center

#### **2. Assessing response to chemotherapy in PDX models of small cell neuroendocrine prostate cancer using hyperpolarized $^{13}\text{C}$ Pyruvate MRI**

I Mali, S Sahin, et al., University of California San Francisco

#### **3. Evaluating $\Delta\text{FFNP}$ -PET as an imaging biomarker of estrogen receptor $\alpha$ ( $\text{ER}\alpha$ ) functional status in preclinical models of $\text{ER}\alpha$ + breast cancer with *ESR1* mutations**

C Shyam, T Whitehead, et al., Washington University in St Louis

#### **4. A Quantitative PET/CT Research Resource for Co-Clinical Imaging of Lung Cancer Therapies**

P Kinahan, R Miyaoka, et al., University of Washington

#### **5. Preliminary Analyses of single cell transcriptome reveal effects of stroma-directed drug and chemotherapy in a GEM model of pancreatic cancer**

H Choi, M Gupta, et al., University of Pennsylvania School of Medicine

#### **6. MRI Assessment of Bone Marrow Metrics in Myelofibrosis**

TH Robison, A Levinson, et al., University of Michigan School of Medicine

### **Advances in Imaging Acquisition, Data Processing, and Method Development**

#### **7. Repeatability of a quantitative multiparametric MRI protocol measuring perfusion, cellularity, and hypoxia in a murine model of glioma: Preliminary results**

A Das, DA Hormuth II, et al., University of Texas at Austin

#### **8. Reproducibility and Repeatability of $\text{T2}^*$ - and $\text{T2}$ -Mapping in Osteosarcomas**

R Roudi, LJ Pisani, et al., Stanford University

#### **9. Exploring VivoVist<sup>TM</sup> and Spectral Photon-Counting CT in Preclinical Cancer Studies**

CT Badea, A Richard, et al., Duke University

#### **10. Predicting the response of combination chemotherapy and targeted therapy *via* mathematical modeling in a murine model of pancreatic cancer**

K Vishwanath, R Zhou et al., University of Texas at Austin

#### **11. Prediction of pCR by molecular subtype using robust lesion segmentation and radiomics/AI in the I-SPY 2 breast cancer clinical trial**

HM Whitney, A Frantzen, et al., University of Chicago

#### **12. Modulating specific activity to determine optimal injected mass in reproducibility of $^{18}\text{F}$ FFNP-PET imaging of low progesterone receptor expression in $\text{ER}\alpha$ + breast cancer**

T Whitehead, C Shyam, et al., Washington University in St Louis

## **Advances in Informatics, Web Resources, and Method Development**

### **13. FAST (Fast Analytical Simulator of Tracer)-PET: an accurate and efficient PET analytical simulation tool**

Suya Li, M Hamdi, et al., Washington University in St Louis

### **14. The ePAD platform for extracting and analyzing imaging features in Cancer Co-Clinical Trials**

E Alkim, O Yurtsever, et al., Stanford University

### **15. Hybridizing CT Tumor Volume Measurements with Standard of Care Clinical Measures for Immunotherapy Response Prediction using Mechanistic Modeling and Machine Learning**

G Prakash, Z Wang, et al., Texas A&M University

### **16. Developing CT radiomics based Surrogates for mIF based Angiogenesis Biomarkers in Clear Cell Renal Cell Carcinoma**

A Setayesh, E Yi, et al., University of Southern California

### **17. Image imputation with conditional generative adversarial networks captures clinically relevant imaging features on computed tomography**

J Rich, J Le, et al., University of Southern California