



Integrative Molecular Epidemiology: Bridging Cancer Biology and Precision Medicine

July 9-13, 2018 | Boston, MA



AACR Integrative Molecular Epidemiology Workshop: Bridging Cancer Biology and Precision Medicine

July 9-13, 2018 (**arrival July 8*)

Westin Copley Place, Boston • Boston, Massachusetts

**As of 6/29/18*

Director:

Thomas A. Sellers, Moffitt Cancer Center, Tampa, Florida

Codirectors:

Peter Kraft, Harvard T.H. Chan School of Public Health, Boston, Massachusetts

Lorelei A. Mucci, Harvard T.H. Chan School of Public Health, Boston, Massachusetts

Faculty:

1. Paul L. Auer, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
3. Kevin M. Brown, National Cancer Institute, Bethesda, Maryland
4. Clary B. Clish, Broad Institute, Cambridge, Massachusetts
4. Travis Gerke, Moffitt Cancer Center, Tampa, Florida
5. Bob T. Li, Memorial Sloan Kettering Cancer Center, New York, New York
6. Alvaro N. A. Monteiro, Moffitt Cancer Center, Tampa, Florida
7. Bogdan Pasaniuc, University of California, Los Angeles, California
8. Paul A. Scheet, The University of Texas MD Anderson Cancer Center, Houston, Texas
9. Shelley S. Tworoger, Moffitt Cancer Center, Tampa, Florida
10. Eliezer M. Van Allen, Dana-Farber Cancer Institute, Boston, Massachusetts

Lecturers:

1. Maria Teresa Landi, National Cancer Institute, Bethesda, Maryland
2. Brian M. Wolpin, Dana-Farber Cancer Institute, Boston, Massachusetts
3. Jun J. Yang, St. Jude Children's Research Hospital, Memphis, Tennessee
4. Rick A. Kittles, City of Hope Comprehensive Cancer Center, Duarte, California

Junior Faculty:

1. Jiyeon Choi, National Cancer Institute, Bethesda, Maryland

Day 0 – Sunday, July 8: Arrivals

Faculty and Attendees arrive throughout the day

Day 1 – Monday, July 9: Introduction, Fundamentals, and Germline Variation

7:00 AM **AACR Registration Desk Open**
Staffordshire Foyer

- 8:00 AM** **Continental Breakfast**
Gloucester/Newbury Rooms
- 8:45 AM** **Faculty Meeting**
Seating area near AACR Registration Desk
- 9:00 AM** **Welcome, Introductions, and Course Overview**
Staffordshire Room
Thomas A. Sellers, Moffitt Cancer Center, Tampa, Florida
- 10:00 AM** **Overview and Dimensions**
Staffordshire Room
Thomas A. Sellers, Moffitt Cancer Center, Tampa, Florida
- 10:30 AM** **Break**
Staffordshire Foyer
- 10:45 AM** **Biomarkers**
Staffordshire Room
Shelley S. Tworoger, Moffitt Cancer Center, Tampa, Florida
- 12:15 PM** **Lunch with Networking Roundtables**
Gloucester/Newbury Rooms
- 1:15 PM** **Evaluating and Validating Biomarker Assays**
Staffordshire Room
Shelley S. Tworoger, Moffitt Cancer Center, Tampa, Florida
- 2:15 PM** **What Is Known about the Genetic Epidemiology of Cancer (and What Is Not) and Genome-Wide Association Studies and Imputation-Based Association Mapping**
Staffordshire Room
Peter Kraft, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
Paul A. Scheet, The University of Texas MD Anderson Cancer Center, Houston, Texas
- 3:15 PM** **Break**
Staffordshire Foyer
- 3:30 PM** **Exome and Genome Sequencing**
Staffordshire Room
Paul L. Auer, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
Paul A. Scheet, The University of Texas MD Anderson Cancer Center, Houston, Texas
- 4:15 PM** **Exome and Genome Sequencing: “Designing your population sciences gene-mapping study on a budget!”**
Staffordshire Room
Paul L. Auer, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
Paul A. Scheet, The University of Texas MD Anderson Cancer Center, Houston, Texas

- 5:00 PM** **Discussion of Ioannidis and Rothman Articles**
Staffordshire Room
Peter Kraft, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
- 6:00 PM** **Opening Reception and Group Buffet Dinner**
Gloucester/Newbury Rooms
- 7:30 PM** **End of Day**

Day 2 – Tuesday, July 10: Integrating Data on Germline Variation (Part 2)/Integration of Data on Biological Function (Part 1)

- 8:00 AM** **Continental Breakfast**
Gloucester/Newbury Rooms
- 8:45 AM** **Faculty Meeting**
Seating area near AACR Registration Desk
- 9:00 AM** **Review and Questions**
Staffordshire Room
Discussion of questions from the previous day
- 9:15 AM** **Publicly Available Online Genomics and ‘Omics Resources (Part 1)**
Staffordshire Room
Paul L. Auer, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
- 10:30 AM** **Break**
Staffordshire Foyer
- 11:00 AM** **Publicly Available Online Genomics and ‘Omics Resources (Part 2)**
Staffordshire Room
Travis Gerke, Moffitt Cancer Center, Tampa, Florida
- 12:30 PM** **Group Photo Followed by Lunch with Networking Roundtables**
Gloucester/Newbury Rooms
- 2:00 PM** **Integrative Data Analysis Methods**
Staffordshire Room
Peter Kraft, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
Bogdan Pasaniuc, University of California, Los Angeles, California
- 3:00 PM** **Mendelian Randomization**
Staffordshire Room
Paul L. Auer, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
- 4:00 PM** **Break**
Staffordshire Foyer

- 4:30 PM** **Applied Research Seminar - Cancer Health Disparities**
Staffordshire Room
Rick A. Kittles, City of Hope Comprehensive Cancer Center, Duarte, California
- 5:15 PM** **Applied Research Seminar - Precision Medicine in Pediatric Oncology**
Staffordshire Room
Jun J. Yang, St. Jude Children's Research Hospital, Memphis, Tennessee
- 6:00 PM** **Group Buffet Dinner and Discussion on Survival Skills and Ethics**
Gloucester/Newbury Rooms
Moderators:
Peter Kraft, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
Paul A. Scheet, The University of Texas MD Anderson Cancer Center, Houston, Texas
- 7:30 PM** **End of Day**

Day 3 – Wednesday, July 11: Integration of Data on Biological Function (Part 2)

- 8:00 AM** **Continental Breakfast**
Gloucester/Newbury Rooms
- 8:45 AM** **Faculty Meeting**
Seating area near AACR Registration Desk
- 9:00 AM** **Review and Questions**
Staffordshire Room
Discussion of questions from the previous day
- 9:15 AM** **Establishing the *Functional* Chain of Causation**
Staffordshire Room
Alvaro N. A. Monteiro, Moffitt Cancer Center, Tampa, Florida
- 9:45 AM** **Research Vignettes: GWAS Functional Annotation on a Large Scale: Integration of QTLs and Massively Parallel Reporter Assays**
Staffordshire Room
Kevin M. Brown, National Cancer Institute, Bethesda, Maryland
Jiyeon Choi, National Cancer Institute, Bethesda, Maryland
- 10:15 AM** **Break**
Staffordshire Foyer
- 10:30 AM** **Overview of Epigenetics and Practical Issues in Transcriptomics**
Staffordshire Room
Paul L. Auer, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin
Alvaro N. A. Monteiro, Moffitt Cancer Center, Tampa, Florida

- 11:30 AM** **ENCODE and the Epigenome Roadmap in a Nutshell**
Staffordshire Room
Kevin M. Brown, National Cancer Institute, Bethesda, Maryland
Alvaro N. A. Monteiro, Moffitt Cancer Center, Tampa, Florida
- 12:00 PM** **Lunch with Networking Roundtables**
Gloucester/Newbury Rooms
- 1:00 PM** **eQTL and mQTL**
Staffordshire Room
Peter Kraft, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
Bogdan Pasaniuc, University of California, Los Angeles, California
- 2:00 PM** **Overview of Functional Genomic Characterization of GWAS Loci**
Staffordshire Room
Kevin M. Brown, National Cancer Institute, Bethesda, Maryland
- 3:00 PM** **Bioinformatics Toolkit for Functional Analysis**
Staffordshire Room
Jiyeon Choi, National Cancer Institute, Bethesda, Maryland
Travis Gerke, Moffitt Cancer Center, Tampa, Florida
- 3:30 PM** **Break**
Staffordshire Foyer
- 3:45 PM** **Functional Analysis Lab**
Staffordshire
Kevin M. Brown, National Cancer Institute, Bethesda, Maryland
Jiyeon Choi, National Cancer Institute, Bethesda, Maryland
Travis Gerke, Moffitt Cancer Center, Tampa, Florida
Alvaro N. A. Monteiro, Moffitt Cancer Center, Tampa, Florida
- 6:00 PM** **End of Sessions**
- 6:30 PM** **Workshop Social Event and Dinner**
Pick-up outside of hotel

Day 4 – Thursday, July 12: Biomarkers and Tumor Profiling

- 7:45 AM** **Continental Breakfast**
Gloucester/Newbury Rooms
- 8:30 AM** **Faculty Meeting**
Seating area near AACR Registration Desk
- 8:45 AM** **Review and Questions**
Staffordshire Room
Discussion of questions from the previous day

- 9:00 AM** **Overview of Tumor Profiling, Tools, and Their Limitations**
Staffordshire Room
 Lorelei A. Mucci, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
- 10:15 AM** **Metabolomics**
Staffordshire Room
 Clary B. Clish, Broad Institute, Cambridge, Massachusetts
- 11:30 AM** **Lunch with Networking Roundtables**
Gloucester/Newbury Rooms
- 12:30 PM** **Practical Study Design**
Staffordshire Room
 Lorelei A. Mucci, Harvard T.H. Chan School of Public Health, Boston, Massachusetts
- 2:30 PM** **Offsite Laboratory Visits**
Begin at Lobby of Hotel
- Tour A: Pathology Lab – Massimo Loda/Ying Huang**
Tour B: BWH/Harvard Cohorts Biorepository and Microbiome Analysis Core at the Harvard T.H. Chan School of Public Health – Shelley S. Tworoger/ A. Heather Eliassen/ Eric Rimm
Tour C: Broad Institute Metabolomics Platform - Clary B. Clish
Tour D: Clinical Genetics – Heidi Rehm/Lisa Marie Mahanta
- 6:00 PM** **Back from Lab Visits/Evening Off**

Day 5 – Friday, July 13: Putting It All together

- 8:00 AM** **Continental Breakfast**
Gloucester/Newbury Rooms
- 8:45 AM** **Faculty Meeting**
Seating area near AACR Registration Desk
- 9:00 AM** **Review and Questions**
Staffordshire Room
Discussion of questions from the previous day
- 9:15 AM** **Precision Medicine - Predictive Modeling from High-Throughput Results: Available Tools and Issues to Consider**
Staffordshire Room
 Travis Gerke, Moffitt Cancer Center, Tampa, Florida
- 10:00 AM** **Precision Medicine - From Technology to Decision: What Does It Take? (Part 1)**
Staffordshire Room
 Eliezer M. Van Allen, Dana-Farber Cancer Institute, Boston, Massachusetts

- 11:00 AM** **Break**
Staffordshire Foyer
- 11:15 AM** **Precision Medicine - From Technology to Decision: What Does It Take? (Part 2)**
Staffordshire Room
Bob T. Li, Memorial Sloan Kettering Cancer Center, New York, New York
- 12:15 PM** **Lunch and Faculty Meeting**
Attendee Lunch: Gloucester/Newbury Rooms
Faculty Meeting: Courier Room (7th Floor)
- 1:30 PM** **Applied Research Seminar – Personalized Medicine for the Diagnosis and Treatment for Pancreatic Cancer**
Staffordshire Room
Brian M. Wolpin, Dana-Farber Cancer Institute, Boston, Massachusetts
- 2:30 PM** **Applied Research Seminar – Integrative Analyses of Exposures, Genetic Susceptibility, and Somatic Changes in Lung Cancer**
Staffordshire Room
Maria Teresa Landi, National Cancer Institute, Bethesda, Maryland
- 3:30 PM** **Closing Summary and Observations**
Staffordshire Room
All faculty
- 3:35 PM** **Post-test**
Staffordshire Room
- 4:05 PM** **End of Workshop**



**Integrative Molecular Epidemiology:
Bridging Cancer Biology and Precision Medicine**

July 9-13, 2018 | Boston, MA

AACR
American Association
for Cancer Research

The AACR thanks the following organizations for their generous support of this workshop.

Supporters



“This workshop is supported by the National Cancer Institute of the National Institutes of Health under Award Number R25CA174664. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.”