AACR Special Conference in Cancer Research:

Cancer Evolution: The Dynamics of Progression and Persistence

In association with the Cancer Evolution Working Group (CEWG)

December 4 - 6, 2025 | The Clyde Hotel | Albuquerque, New Mexico

COCHAIRS

Mariam Jamal-Hanjani, University College London Cancer Institute, London, United Kingdom
Kenneth J. Pienta, Johns Hopkins University School of Medicine, Baltimore, Maryland
Mara H. Sherman, Memorial Sloan Kettering Cancer Center, New York, New York

Thursday, December 4, 2025

Registration
3 –7 p.m. | Grand Ballroom Foyer

Welcome and Plenary Session 1: Early Events and Clonal Origins
5-6:45 p.m. / Grand Ballroom 4 - 6
Session chair: James V. DeGregori, University of Colorado, Anschutz Medical Campus, Colorado

5 p.m.	**Welcome from the Cochairs** Mara H. Sherman, Memorial Sloan Kettering Cancer Center, New York, New York
5-5:20 p.m.	**The evolution of adaptive landscapes for somatic mutations to maximize animal fitness** James V. DeGregori, University of Colorado, Anschutz Medical Campus, Colorado
5:20-5:30 p.m.	Discussion/Q&A
5:30-5:50 p.m.	**Environmental oncogenomics: Investigating the impact of air pollution on lung cancer development** Emilia Lim, University of British Columbia, British Columbia, Canada
5:50-6:00 p.m.	Discussion/Q&A
6-6:20pm	**Signals and mechanisms of lung cancer promotion by air pollutants** William Hill, The Francis Crick Institute, London, United Kingdom
6:20-6:30 p.m.	Discussion/Q&A
6:30-6:40 p.m.	**Goliath clades and in vivo tracking of clonal dynamics show three phases of UV-induced skin carcinogenesis*** Kenneth Y. Tsai, H. Lee Moffitt Cancer Center & Research Institute, Tampa, Florida
6:40-6:45 p.m.	Discussion/Q&A

Opening Reception and Poster Session A
6:45-8:15 p.m. | Whyte and Chapel

Friday, December 5, 2025

Breakfast
7-8 a.m. | Grand Ballroom 1 - 3

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Plenary Session 2: Tracing and Modeling Tumor Evolution
Organized by the Cancer Evolution Working Group (CEWG)
8-9:35 a.m. | Grand Ballroom 4 - 6
Session Chair: Laura M. Heiser, Oregon Health and Science University, Portland, Oregon

8-8:05 a.m.	**Introduction** Laura M. Heiser
8:05-8:25 a.m.	**Reconstructing evolution with Stochastically Emergent Tumors (SETs) reveals in vivo vulnerabilities** Rohit Bose, University of California, San Francisco, California
8:25-8:35 a.m.	Discussion/Q&A
8:35-8:55 a.m.	**Measuring tumor evolution** Carlo C. Maley, Arizona State University, Tempe, Arizona
8:55-9:05 a.m.	Discussion/Q&A
9:05-9:25 a.m.	**Spatiotemporal lineage tracing reveals the dynamics and plasticity of cancer evolution** Dian Yang, Columbia University Irving Medical Center, New York, New York
9:25-9:35 a.m.	Discussion/Q&A

Coffee Break
9:35 – 10 a.m. | Grand Ballroom Foyer

Plenary Session 3: Evolution Under Therapy: Resistance Mechanisms
10-11:45 a.m. | Grand Ballroom 4 - 6
Session chair: Andrew J. Aguirre, Dana-Farber Cancer Institute, Boston, Massachusetts

10-10:20 a.m.	**Mechanisms of therapy resistance in pancreatic cancer** Andrew J. Aguirre, Dana-Farber Cancer Institute, Boston, Massachusetts
10:20-10:30 a.m.	Discussion/Q&A
10:30-10:50 a.m.	**Divergent evolution imparts tissue-specific metastatic proclivities and immunotherapy resistance** Nathan E. Reticker-Flynn, Stanford University, Stanford, California
10:50-11 a.m.	Discussion/Q&A
11-11:20 a.m.	**Can mutation rate be reduced in somatic cells for cancer prevention?** Susan M. Rosenberg, Baylor College of Medicine, Houston, Texas
11:20-11:30 a.m.	Discussion/Q&A
11:30-11:40 a.m.	**Tumoroid model of mesenchymal ovarian cancers reproduce chemoresistance and EMT** Kathleen Burkhardt, University of Michigan, Ann Arbor, Michigan

11:40-11:45 a.m. Discussion/Q&A

Lunch on your own
11:45 a.m.-1:15 p.m.

Plenary Session 4: Metastasis: The Evolutionary Bottleneck
1:15-2:45 p.m. | Grand Ballroom 4 - 6
Session chair: Mariam Jamal-Hanjani, University College London Cancer Institute, London, United Kingdom

1:15-1:35 p.m. **Tracing metastasis evolution with hypermutable DNA**
Kamila Naxerova, Harvard Medical School, Boston, Massachusetts
1:35-1:45 p.m. Discussion/Q&A

1:45-2:05 p.m. **Evolution of lung cancer metastasis revealed through research autopsies in PEACE**
Mariam Jamal-Hanjani, University College London Cancer Institute, London, United Kingdom
2:05-2:15 p.m. Discussion/Q&A

2:15-2:25 p.m. **Examining the influence of the tumour microenvironment on metastasis in PEACE**
Sonya Hessey, University College London, London, United Kingdom
2:25-2:30 p.m. Discussion/Q&A

2:30-2:40 p.m. **Longitudinal study of bone marrow adipocytes throughout tungsten-enhanced breast cancer metastasis***
Charlotte M. McVeigh, University of New Mexico, Albuquerque, New Mexico
2:40-2:45 p.m. Discussion/Q&A

Lightning Lectures from Highly Rated Abstracts
2:45-3:15 p.m.| Grand Ballroom 4 - 6
Session chair: Nathan E. Reticker-Flynn, Stanford University, Stanford, California

2:45-2:48 p.m. **Introduction**
Nathan E. Reticker-Flynn

2:48-2:51 p.m. **Chromosomal rearrangements at the YAP/TAZ pathway genes are associated with heterogeneity and stem cell-like castration-resistant prostate cancer***

Alexander Martinez-Fundichely, Weill Cornell Medicine, New York, New York

2:51-2:54 p.m. **Decoding the evolutionary landscape of soft tissue sarcomas: from multiregion origins to therapy-driven adaptation***
Shaghayegh Soudi, Stanford Medicine, Stanford, California

2:54-2:57 p.m. **Genetic evolution of immune escape across cancers***
Wenjie Chen, The University of Texas MD Anderson Cancer Center, Houston, Texas

2:57-3 p.m. **Temporally resolved proteomics identifies nidogen-2 as a co-target in pancreatic cancer that modulates fibrosis and therapy response***
Brooke Pereira, Garvan Institute of Medical Research, Sydney, Australia

3-3:03 p.m. **Metabolic rewiring and cellular crosstalk may drive grade transformation in pancreatic neuroendocrine tumors***
Himanshu N. Singh, Memorial Sloan Kettering Cancer Center, New York, New York

3:03-3:06 p.m. **Modeling karyotype-driven adaptations to metabolic restrictions predicts therapeutic response and immunogenicity in cancer***
Vural Tagal, Moffitt Cancer Center, Tampa, Florida

3:06-3:09 p.m. **Integrated genomic analysis defines early and late drivers of glioma evolution and survival outcome in GBM***
Harpreet Kaur, National Cancer Institute, National Institutes of Health, Bethesda, Maryland

3:09-3:12 p.m. **Mapping clonal architecture and evolution in pediatric brain cancers***
Minh A. Nguyen, University of Pennsylvania, Philadelphia, Pennsylvania

Break
3:15-3:30 p.m.

Plenary Session 5: Co-evolution of Tumor and Host Metabolism
3:30-4:45 p.m. | Grand Ballroom 4 - 6
Session chair: Massimo Loda, Weill Cornell Medicine, New York, New York

3:30-3:50 p.m. **Stromal determinants of metastasis and lineage plasticity in prostate cancer**
Massimo Loda, Weill Cornell Medicine, New York, New York

3:50-4 p.m. Discussion/Q&A

4-4:20 p.m.	**Biomarker trajectories with tumor development and progression** Samir M. Hanash, MD Anderson Cancer Center, Houston, Texas
4:20-4:30 p.m.	Discussion/Q&A
4:30-4:40 p.m.	**NADPH-producing enzymes restrict precancer progression in the pancreas*** Megan Radyk, University of Michigan, Ann Arbor, Michigan
4:40-4:45 p.m.	Discussion/Q&A

Keynote Presentation (rescheduled)
4:45-5:20 p.m. | Grand Ballroom 4-6

4:45-4:47 p.m.	**Keynote Introduction** Mariam Jamal-Hanjani, University College London Cancer Institute, London, United Kingdom
4:47-5:17 p.m.	**Cancer cachexia** Eileen P. White, Rutgers University, New Brunswick, New Jersey
5:17-5:20 p.m.	Discussion/Q&A

Break
5:20-5:30 p.m.

Plenary Session 6: The Tumor Microenvironment: A Driver of Evolution
5:30-7:15 p.m. | Grand Ballroom 4 - 6
Session chair: Mara H. Sherman, Memorial Sloan Kettering Cancer Center, New York, New York

5:30-5:50 p.m.	**Forecasting carcinogenesis from fibroblast-epithelial interactions in the pancreas** Elana J. Fertig, University of Maryland School of Medicine, Baltimore, Maryland
5:50-6 p.m.	Discussion/Q&A
6-6:20 p.m.	**Forcing tumor evolution** Valerie M. Weaver, University of California San Francisco Medical Center, San Francisco, California
6:20 -6:30 p.m.	Discussion/Q&A
6:30-6:50 p.m.	**Deciphering cellular hierarchies in the pancreatic tumor microenvironment** Mara H. Sherman, Memorial Sloan Kettering Cancer Center, New York, New York
6:50-7 p.m.	Discussion/Q&A

7-7:10 p.m.	**Multi-omic spatial analysis reveals reshaping of tumour-immune dynamics at the transition to invasive colorectal cancer***
	Ann-Marie Baker, Institute of Cancer Research, London, United Kingdom
7:10-7:15 p.m.	Discussion/Q&A

Reception and Poster Session B
7:15-8:45 p.m. | Whyte and Chapel

Saturday, December 6, 2025

Breakfast
7-8 a.m. | Grand Ballroom 1 - 3

Plenary Session 7: Computational Approaches to Cancer Evolution
8-9:45 a.m. | Grand Ballroom 4 - 6
Session chair: Ben J. Raphael, Princeton University, Princeton, New Jersey

8-8:20 a.m.	**Reconstructing tumor evolution across space and time**
	Ben J. Raphael, Princeton University, Princeton, New Jersey
8:20-8:30 a.m.	Discussion/Q&A
8:30-8:50 a.m.	**Modeling tumor progression from single-cell sequencing data**
	Niko Beerenwinkel, ETH Zurich, Basel, Switzerland
8:50-9 a.m.	Discussion/Q&A
9-9:20 a.m.	**The evolutionary dynamics of cancer across species**
	Chris Venditti, University of Reading, Reading, UK
9:20-9:30 a.m.	Discussion/Q&A
9:30-9:40 a.m.	**Macroevolutionary genomics of cancer risk in birds and mammals**
	George Butler, University College London (UCL) Cancer Institute, London, United Kingdom
9:40-9:45 a.m.	Discussion/Q&A

Coffee Break
9:45-10 a.m. | Grand Ballroom Foyer

Plenary Session 8: Clinical Translation and Early Detection
10-11:45 a.m. | Grand Ballroom 4 – 6
Session chair: Marina Pasca di Magliano, University of Michigan Medical School, Ann Arbor, Michigan

10-10:20 a.m.	**Strategies to harness the immune effects of ionizing radiation**
	Silvia C. Formenti, Weill Cornell Medicine, New York, New York
10:20-10:30 a.m.	Discussion/Q&A

10:30-10:50 a.m.	**3D genomic analysis of human pancreatic precancer** Laura D. Wood, Johns Hopkins University School of Medicine, Baltimore, Maryland
10:50-11 a.m.	Discussion/Q&A
11-11:20 a.m.	**Evolution of the pancreatic cancer microenvironment** Marina Pasca di Magliano, University of Michigan Medical School, Ann Arbor, Michigan
11:20-11:30 a.m.	Discussion/Q&A
11:30-11:40 a.m.	**Mathematical biomarkers enable personalized adaptive therapy based on outcome prediction in prostate cancer*** Kit Gallagher, University of Oxford, Oxford, United Kingdom
11:40-11:45 a.m.	Discussion/Q&A

Ending Remarks/Departure
11:45 a.m. | Grand Ballroom 4 – 6

Mariam Jamal-Hanjani, University College London Cancer Institute, London, United Kingdom
Kenneth J. Pienta, Johns Hopkins University School of Medicine, Baltimore, Maryland
Mara H. Sherman, Memorial Sloan Kettering Cancer Center, New York, New York