

An AACR Special Conference on

Sarcomas

May 9-12, 2022 | Doubletree by Hilton Montreal | Montreal, QC, Canada

CO-CHAIRS:

Elizabeth R. Lawlor, Seattle Children's Research Institute, Seattle, WA

Poul H.B. Sorensen, British Columbia Cancer Research Centre, Vancouver, BC, Canada

E. Alejandro Sweet-Cordero, University of California, San Francisco, San Francisco, CA

CONFERENCE PROGRAM

[R] – Remote Presentation

* - Short Talk selected from Proffered Abstracts

MONDAY, MAY 9

6:30 p.m. – 7:30 p.m.

WELCOME AND OPENING KEYNOTE ADDRESS

Grand Salon Opera ABC

6:30 p.m. – 6:45 p.m.

Welcome from Cochairs

E. Alejandro Sweet-Cordero, University of California, San Francisco, San Francisco, CA

Poul H.B. Sorensen, British Columbia Cancer Research Centre, Vancouver, BC, Canada

Elizabeth R. Lawlor, Seattle Children's Research Institute, Seattle, WA

6:45 p.m. – 7:30 p.m.

An overview of applying discovery science to care for patients in need: Working together to advance our understanding and treatment of sarcomas

George D. Demetri, Dana-Farber Cancer Institute, Boston, MA

7:30 p.m. – 9:00 p.m.

OPENING RECEPTION

Soprano ABC + Foyer

Sarcomas

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TUESDAY, MAY 10

7:00 a.m. – 8:00 a.m.

CONTINENTAL BREAKFAST

Grand Salon Opera Foyer

8:00 a.m. – 10:00 a.m.

PLENARY SESSION 1: MESENCHYMAL STEM CELL & DEVELOPMENTAL BIOLOGY

Grand Salon Opera ABC

Session Chair: Deneen M. Wellik, University of Wisconsin, Madison, WI

8:00 a.m. – 8:30 a.m.

Skeletal stem cells in time and space

Charles F.K. Chan, Stanford University, Stanford, CA

8:30 a.m. – 9:00 a.m.

Role for Hox-expressing cells and Hox gene function in skeletal stem and progenitor cells

Deneen M. Wellik, University of Wisconsin, Madison, WI

9:00 a.m. – 9:30 a.m.

Mesenchymal progenitors and sarcomagenesis

T. Michael Underhill, University of British Columbia, Vancouver, BC, Canada

9:30 a.m. – 10:00 a.m.

On the use of stem cells to generate sarcoma in vitro models

Judith V.M.G. Boveé, Leiden University Medical Center, Leiden, Netherlands [R]

10:00 a.m. – 10:30 a.m.

BREAK

10:30 a.m. – 12:30 p.m.

PLENARY SESSION 2: TUMOR ECOSYSTEMS AND IMMUNE MICRONENVIRONMENT

Grand Salon Opera ABC

Session Chair: Seth M. Pollack, Northwestern University, Chicago, IL

An AACR Special Conference on

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May 9-12, 2022 | Doubletree by Hilton Montreal | Montreal, QC, Canada

- 10:30 a.m. – 11:00 a.m. **Immunobiology of sarcomas and therapeutic implications**
Nicolas J. Llosa, Johns Hopkins University, Baltimore, MD
- 11:00 a.m. – 11:30 a.m. **B cell immunity generation in tertiary lymphoid structures, a major determinant of sarcoma response to immunotherapy**
Wolf Hervé Fridman, Cordeliers Research Centre, Paris, France
- 11:30 a.m. – 12:00 p.m. **Altering the T cell receptor repertoire in the sarcoma tumor immune microenvironment**
Seth M. Pollack, Northwestern University, Chicago, IL
- 12:00 p.m. – 12:30 p.m. **Oncogenic transcription factors drive highly tumor specific LincRNA**
Olivier Delattre, Institut Curie, Paris, France
- 12:30 p.m. – 2:00 p.m. **LUNCH ON OWN**
- 2:00 p.m. – 4:00 p.m. **PLENARY SESSION 3: IMMUNOTHERAPY AND TARGETED THERAPIES**
Grand Salon Opera ABC
- Session Chair: **Christine A. Pratilas**, Johns Hopkins University, Baltimore, MD
- 2:00 p.m. – 2:30 p.m. **Novel targeted therapy approaches in NF1-MPNST**
Christine A. Pratilas, Johns Hopkins University, Baltimore, MD
- 2:30 p.m. – 3:00 p.m. **Identifying tumor-restricted target antigens for adoptive cellular immunotherapy to treat Ewing sarcoma using multi-omic discovery platforms**
Sabine Heitzeneder, Stanford Cancer Institute, Stanford, CA

An AACR Special Conference on

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May 9-12, 2022 | Doubletree by Hilton Montreal | Montreal, QC, Canada

- 3:00 p.m. – 3:30 p.m. **Intratumoral activation of double-stranded RNA sensors induces systemic immune response to irradiated sarcoma**
Anusha Kalbasi, University of California Los Angeles, Los Angeles, CA
- 3:30 p.m. – 3:45 p.m. **Oncogene-induced matrix reorganization controls CD8+T cell immunity in the UPS microenvironment***
Ashley M. Fuller, University of Pennsylvania Perelman School of Medicine, Philadelphia, PA
- 3:45 p.m. – 4:00 p.m. **Antigen presentation and processing pathway is associated with early relapse after neoadjuvant immune checkpoint blockade (ICB) in dedifferentiated liposarcomas (DDLPS)***
Elise F. Nassif, University of Texas MD Anderson Cancer Center, Houston, TX
- 4:00 p.m. – 4:30 p.m. **BREAK**
- 4:30 p.m. – 5:30 p.m. **PROFFERED TALKS I**
Grand Salon Opera ABC
- Session Chair: Poul H.B. Sorensen**, Poul H.B. Sorensen, British Columbia Cancer Research Centre, Vancouver, BC, Canada
- 4:30 p.m. – 4:45 p.m. **YAP1 is a key regulator of EWS-FLI1-dependent malignant transformation upon IGF1 mediated reprogramming of bone mesenchymal stem cell-like cells***
Heinrich Kovar, St. Anna Children's Cancer Research Institute, Vienna, Austria

An AACR Special Conference on

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4:45 p.m. – 5:00 p.m.

Fusion protein-driven IGF-IR signals deregulate Hippo pathway promoting oncogenic cooperation of YAP1 and FUS-DDIT3*

Ruth Berthold, Münster University Hospital, Münster, Germany

5:00 p.m. – 5:15 p.m.

PRC2 inactivating mutations amplify cell death in response to DNMT1-targeted therapy through enhanced viral mimicry in malignant peripheral nerve sheath tumor*

Ping Chi, Memorial Sloan Kettering Cancer Center, New York, NY

5:15 p.m. – 5:30 p.m.

Multi-modal single-cell profiling of sarcomas from archival tissue reveals mechanisms of resistance to immune checkpoint inhibitors*

Sminu Bose, Columbia University, New York, NY

5:30 p.m. – 7:30 p.m.

POSTER SESSION A/RECEPTION

Soprano ABC + Foyer

WEDNESDAY, MAY 11

7:00 a.m. – 8:00 a.m.

CONTINENTAL BREAKFAST

Grand Salon Opera Foyer

8:00 a.m. – 10:00 a.m.

PLENARY SESSION 4: MODEL SYSTEMS

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Session Chair: Mark E. Hatley, St. Jude Children's Research Hospital, Memphis, TN

An AACR Special Conference on

Sarcomas

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8:00 a.m. – 8:30 a.m.	Rhabdomyosarcoma: visions through the looking glass Mark E. Hatley, St. Jude Children’s Research Hospital, Memphis, TN
8:30 a.m. – 9:00 a.m.	Stem cell and developmental hierarchies in rhabdomyosarcoma David M. Langenau, Harvard Stem Cell Institute, Boston, MA
9:00 a.m. – 9:30 a.m.	ASPSR1-TFE3 reprograms transcription by organizing loops Kevin B. Jones, Huntsman Cancer Institute, University of Utah, Salt Lake City, UT
9:30 a.m. – 10:00 a.m.	Tissue engineered 3D osteosarcoma model to elucidate the role of bone matrix in osteosarcoma biology and drug response Fan Yang, Stanford University, Stanford, CA
10:00 a.m. – 10:30 a.m.	BREAK
10:30 a.m. – 11:15 a.m.	INTRODUCTION & SECOND KEYNOTE ADDRESS <i>Grand Salon Opera ABC</i>
10:30 a.m. – 10:35 a.m.	Introduction from Cochairs Poul H.B. Sorensen, British Columbia Cancer Research Centre, Vancouver, BC, Canada
10:35 a.m. – 11:15 a.m.	Impact of oxygen and nutrient on sarcoma tumor neighborhoods M. Celeste Simon, University of Pennsylvania, Philadelphia, PA
11:15 a.m. – 12:45 p.m.	LUNCH ON OWN

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Sarcomas

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12:45 p.m. – 2:45 p.m.

PLENARY SESSION 5: EPIGENOMICS AND TRANSCRIPTION

Grand Salon Opera ABC

Session Chair: Elizabeth R. Lawlor, Seattle Children's Research Institute, Seattle, WA

12:45 p.m. – 1:15 p.m.

Cell plasticity in Ewing sarcoma: A transcription factor tug-of-war

Elizabeth R. Lawlor, Seattle Children's Research Institute, Seattle, WA

1:15 p.m. – 1:45 p.m.

How to target lung metastasis: Dynamic changes in chromatin accessibility during osteosarcoma lung metastasis expose vulnerabilities

Peter C. Scacheri, Case Western Reserve University, Cleveland, OH

1:45 p.m. – 2:15 p.m.

Reprogramming of myogenic transcription factors in rhabdomyosarcoma

Heide L. Ford, University of Colorado Anschutz Medical Campus, Aurora, CO

2:15 p.m. – 2:30 p.m.

A single cysteine in PAX3-FOXO1 is relevant for transactivation and survival of rhabdomyosarcoma cells*

Beat W. Schäfer, University Children's Hospital, Zurich, Switzerland

2:30 p.m. – 2:45 p.m.

The 3D epigenome of rhabdomyosarcoma*

Berkley E. Gryder, Case Western Reserve University, Cleveland, OH

2:45 p.m. – 3:15 p.m.

BREAK

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Sarcomas

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3:15 p.m. – 4:45 p.m.

PLENARY SESSION 6: METABOLISM AND SIGNALING

Grand Salon Opera ABC

Session Chair: Poul H.B. Sorensen, British Columbia
Cancer Research Centre, Vancouver, BC, Canada

3:15 p.m. – 3:45 p.m.

Oncogenic signaling, metabolic adaptation, and sarcoma metastasis

Poul H.B. Sorensen, British Columbia Cancer Research
Centre, Vancouver, BC, Canada

3:45 p.m. – 4:15 p.m.

Argentine, Serine, xCT and ME, the therapeutic metabolism of different sarcomas

Brian A. Van Tine, Washington University in St. Louis, St.
Louis, MO

4:15 p.m. – 4:45 p.m.

Therapeutic efficacy of trametinib and ganitumab in RAS-mutated rhabdomyosarcoma

Marielle E. Yohe, National Cancer Institute, Bethesda, MD
[R]

4:45 p.m. – 5:00 p.m.

BREAK

5:00 p.m. – 6:00 p.m.

PROFFERED TALKS II

Grand Salon Opera ABC

Session Chair: E. Alejandro Sweet-Cordero, University of
California, San Francisco, San Francisco, CA

5:00 p.m. – 5:15 p.m.

A new invasive zebrafish model of Ewing sarcoma reveals EWSR1-FLI1-driven dysregulation of heparan sulfate proteoglycan metabolism and ERK signaling in developing tumors*

Elena Vasileva, Children's Hospital Los Angeles, Los
Angeles, CA

An AACR Special Conference on

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- 5:15 p.m. – 5:30 p.m. **Development of a pre-clinical metastatic model of human sarcoma to identify therapeutic targets***
Janai R. Carr-Ascher, University of California, Davis,
Sacramento, CA
- 5:30 p.m. – 5:45 p.m. **Characterization of the precancerous and cancer microenvironment in a zebrafish sarcoma model***
Heather R. Shive, The Ohio State University, Columbus, OH
- 5:45 p.m. – 6:00 p.m. **Targeted sequencing of 2,138 bone and soft tissue sarcomas reveals commonly altered pathways, subtype-independent genetic clusters, and potential therapeutic targets***
Benjamin A. Nacev, Memorial Sloan Kettering Cancer
Center, New York, NY
- 6:00 p.m. – 8:00 p.m. **POSTER SESSION B/RECEPTION**
Soprano ABC + Foyer

THURSDAY, MAY 12

- 7:00 a.m. – 8:00 a.m. **CONTINENTAL BREAKFAST**
Grand Salon Opera Foyer
- 8:00 a.m. – 9:45 a.m. **PLENARY SESSION 7: METASTASIS**
Grand Salon Opera ABC
- Session Chair: **E. Alejandro Sweet-Cordero**, University of
California, San Francisco, San Francisco, CA
- 8:00 a.m. – 8:30 a.m. **Identification of a “hypoxic secretome” and its role in metastasis**
T.S. Karin Eisinger, University of Pennsylvania,
Philadelphia, PA

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May 9-12, 2022 | Doubletree by Hilton Montreal | Montreal, QC, Canada

- 8:30 a.m. – 9:00 a.m. **Using genetically engineered mouse models to study sarcoma metastasis**
David G. Kirsch, Duke University, Durham, NC
- 9:00 a.m. – 9:30 a.m. **Epigenetic and genomic features define distinct cellular states with possible therapeutic relevance in osteosarcoma**
E. Alejandro Sweet-Cordero, University of California, San Francisco, San Francisco, CA
- 9:30 a.m. – 9:45 a.m. **Novel mechanisms of ezrin function in osteosarcoma metastasis***
Aykut Uren, Georgetown University, Washington, D.C.
- 9:45 a.m. – 10:15 a.m. **BREAK**
- 10:15 a.m. – 12:15 p.m. **PLENARY SESSION 8: GENOMICS/OMICS**
Grand Salon Opera ABC
- Session Chair: Rebecca A. Gladdy**, Lunenfeld-Tanenbaum Research Institute, Toronto, ON, Canada
- 10:15 a.m. – 10:45 a.m. **CaTCH it if you can: Understanding tumor evolution using CRISPRa-based functional lineage tracing**
Anna C. Obenauf, The Research Institute of Molecular Pathology, Vienna, Austria **[R]**
- 10:45 a.m. – 11:15 a.m. **Pan-sarcoma diagnostics and measurements of drug resistance**
Adam Shlien, The Hospital for Sick Children, Toronto, ON, Canada

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11:15 a.m. – 11:45 a.m.

The origins of leiomyosarcoma: Implications for prognosis and defining new therapeutic options

Rebecca A. Gladdy, Lunenfeld-Tanenbaum Research Institute, Toronto, ON, Canada

11:45 a.m. – 12:15 p.m.

A population-based, whole genome sequencing approach to mapping the genetic basis of mesenchymal malignancies

David M. Thomas, Garvan Institute of Medical Research, Darlinghurst, Sydney, Australia

12:15 p.m.

CLOSING REMARKS & DEPARTURE