

# Second International Workshop on Sexual dimorphism in cancer

April 17-19, The Olympic Museum, Lausanne

Wednesday Apr. 17<sup>th</sup> (9 AM-12 PM)

08:00-08:50: Arrival and registration

08:50-09:00: Welcoming remarks

**Gian-Paolo Dotto**

*Director Laboratory of Skin Aging and Cancer Prevention, Cutaneous Biology Research Center, Massachusetts General Hospital, Boston USA;  
Head/Neck Personalised Cancer Program, University Hospital of Lausanne, Switzerland*

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## SESSION 1: Sex differences in medicine

*Chair: Berna C. Özdemir*

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09:00-09:30: Overview of gender medicine

**Sabine Oertelt-Prigione**

*Professor of Gender in Primary and Transmural Care, Radboud University, Nijmegen, The Netherlands*

09:30-10:00: The gendered brain

**Michela Matteoli**

*Professor of Pharmacology, Humanitas University  
Director, Neuroscience Program Humanitas Clinical and Research Center, Rozzano, Milano, Italy*

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## SESSION 2: Epidemiological and clinically-relevant differences

*Chair: Berna C. Özdemir*

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10:00-10:30: Sex and gender differences in epidemiology and outcomes of non sex-related GI and lung cancers

**Anna Dorothea Wagner**

*Senior lecturer, head of the Gastrointestinal Cancer Clinic in the Department of Oncology, University Hospital of Lausanne, Switzerland*

10:30-11:15: Coffee break

11:15-11:45: Sex Differences in Health and Disease: a review of biological sex differences relevant to cancer

**Melissa Wilson**

*Associate Professor, School of Life Sciences, Center for Evolution & Medicine, Arizona State University, USA*

- 11:45-12:15: Using Big Data to have an impact on understanding sex differences in cancer: Exemplar in Brain Tumors  
**Jill Barnholtz-Sloan**  
*Associate Director, Informatics and Data Science (IDS) Program, Center for Biomedical Informatics and Information Technology (CBIIT); Senior Investigator, Trans-Divisional Research Program (TDRP), Division of Cancer Epidemiology and Genetics (DCEG), National Cancer Institute (NCI), USA*
- 12:15-14:00: Lunch break

Wednesday Apr. 17<sup>th</sup> (2 PM-6 PM)

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**SESSION 3: Genetic / epigenetic determinants of sex cancer differences (part I)**

*Chair: Anna Dart*

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- 14:00-14:30: Sex-specific differences in colorectal cancer  
**Ronald A. DePinho**  
*Harry Graves Burkhart III Distinguished University Chair  
Professor, Department of Cancer Biology  
The University of Texas MD Anderson Cancer Center, Houston, Texas, USA*
- 14:30-15:00: Sex influences cancer evolution in a stage- and site-specific manner  
**Paul Boutros**  
*Group leader, Institute for Urologic Oncology, University of California, Los Angeles (UCLA), USA*
- 15:00-15:15: Short talk: Androgen-dependent regulation of epigenetic factors in the sex discrepancy of urogenital cancers  
**Maria Pennuto**  
*University of Padova, Italy*
- 15:15-15:30: Short talk: Sexually dimorphic expression of FABP5 favors tissue persistence of chemotherapy-induced senescence in male mice  
**Boshi Wang**  
*ERIBA, UMCG, University of Groningen, the Netherlands*
- 15:30-16:30: Coffee and poster session
- 16:30-17:00: Pancancer analysis of the Y chromosome in cancer  
**Esther Rheinbay**  
*Assistant Professor of Medicine Massachusetts General Hospital Cancer Center Harvard Medical School, Boston, USA*
- 17:00-17:30: Y Chromosome loss in cancer drives tumor growth through immune evasion  
**Dan Theodorescu**  
*Professor of Urology, Pathology and Laboratory Medicine  
Director, Cedars-Sinai Cancer Center, Los Angeles, California, USA*
- 18:00-19:00: Wine and poster session

Thursday Apr. 18<sup>th</sup> (9 AM-12 PM)

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**SESSION 4: Genetic / epigenetic determinants of sex cancer differences (part II)**

*Chair: Susanna Chiocca*

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09:00-09:30: Accounting for sex differences variability in the design of sex-adapted cancer treatments

**Joshua Rubin**

*Professor of Pediatrics, Hematology and Oncology, Washington University School of Medicine, St. Louis, USA*

09:30-10:00: Impact of the sex epigenome on bladder cancer

**Sean Li**

*Professor of Medicine, Professor of Biomedical Sciences, Co-Leader, Cancer Biology Program, Cedars-Sinai's Samuel Oschin Comprehensive Cancer Institute, USA*

10:00-10:45: Coffee break

10:45-11:15: Sex difference in the glioblastoma immune response – implications for disease progression and opportunity to next-generation therapeutic development

**Justin Lathia**

*Professor and Vice Chair, Department of Cardiovascular & Metabolic Sciences, Director for Faculty Development, Lerner Research Institute; Scientific Director and Melvin H. Burkhardt Endowed Chair in Neuro-Oncology, Rose Ella Burkhardt Brain Tumor & Neuro-Oncology Center, Cleveland Clinic  
Reza Khatib MD Professor, Co-Leader, Molecular Oncology Program, Case Comprehensive Cancer Center, USA*

11:15-12:00: Q&A session with Nature Reviews Cancer editor

**Anna Dart**

*Chief editor, Nature Reviews Cancer, UK*

12:00-14:00: Museum visit/Sightseeing (*lunch on your own*)

Thursday Apr. 18<sup>th</sup> (2 PM-6 PM)

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**SESSION 5: Hormones as determinants of sex cancer differences**

*Chair: Berna Özdemir/Susanna Chiocca*

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14:00-14:30: Classic and novel alternative sex steroid biosynthesis pathways in health and disease

**Christa Flück**

*Professor for Pediatric Endocrinology and Diabetology at the Bern University Children's Hospital, Bern, Switzerland*

- 14:30-15:00: Dual role of androgen receptor signaling in skin cancer  
**Gian-Paolo Dotto/Soumitra Ghosh**  
*Director Laboratory of Skin Aging and Cancer Prevention, Cutaneous Biology Research Center, Massachusetts General Hospital, Boston USA;  
Head/Neck Personalised Cancer Program, University Hospital of Lausanne, Switzerland*
- 15:00-15:30: Targeting Nonclassical Sex Hormone Signaling in Melanoma  
**Todd Ridky**  
*Associate Professor, Dermatology, Perelman School of Medicine, University of Pennsylvania, USA*
- 15:30-16:15: Coffee break
- 16:15-16:30: Short talk: Androgen loss weakens anti-tumor immunity and accelerates brain tumor growth  
**Juyeun Lee**  
*Cleveland clinic, USA*
- 16:30-16:45: Short talk: Sex-specificity in the epidermal skin response to UV exposure  
**Celine Lukowicz**  
*University of Lausanne, Switzerland*
- 16:45-17:00: Short talk: The role of androgen receptor in clear cell renal cell carcinoma  
**Chiara Boschelle**  
*University of Padova, Italy*
- 17:00-17:30: Sex hormone and sex chromosome on CD8+ T cell immunity in cancer  
**Zihai Li**  
*Klotz Memorial Chair in Cancer Research  
Professor and Founding Director, Pelotonia Institute for Immuno-Oncology, Ohio State University, USA*
- 17:30-18:30: Business meeting
- 19:00: Seated dinner

Friday Apr. 19<sup>th</sup> (9 AM-12 PM)

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**SESSION 6: Artificial Intelligence and Oncology:  
Current Innovations and Future Prospects**

*Chair: Christian Simon*

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- 09:00-09:30: Predicting outcome and histological subtypes in cutaneous and oesophageal in squamous cell carcinoma using AI  
**Jun (Alex) Wang**  
*Senior Lecturer, Barts Cancer Institute. Lead, Cancer Research UK Barts Centre Bioinformatics Core, UK*

- 09:30-10:00: AI for precision oncology  
**Olivier Michielin**  
*Director of the Oncology Department and Precision Oncology, Geneva University Hospitals, Switzerland*
- 10:00-10:30: Artificial intelligence for multimodal data integration in oncology  
**Faisal Mahmood**  
*Associate Professor, Pathology, Harvard Medical School  
Associate Professor, Division of Computational Pathology, Brigham And Women's Hospital; Associate Member, Cancer Program, Broad Institute of MIT and Harvard, USA*
- 10:30-11:15: Coffee Break
- 11:15-11:30: Short talk: Spermidine drives glioblastoma progression via interactions with different immune cell subsets in males and females  
**Kristen Kay**  
*Cleveland Clinic Lerner College of Medicine, USA*
- 11:30-11:45: Short talk: Exploring the role of sex and reproduction in Drosophila gut tumour models  
**Emily Strachan**  
*The Francis Crick Institute/MRC Laboratory of Medical Sciences, UK*
- 11:45-13:00: Lunch

Friday Apr. 19<sup>th</sup> (1 PM-3 PM)

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**SESSION 7: Broader perspectives**

*Chair: Gian-Paolo Dotto*

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- 13:00-13:30: Sex and cancer immunotherapy: Current understanding and challenges  
**Fabio Conforti**  
*Medical oncologist, Head of Unit of Breast Oncology, Humanitas Gavazzeni, Bergamo, Italy*
- 13:30-14:00: Understanding the role of sex hormones in cancer for the transgender community  
**Alison Berner**  
*ST5 Specialty Trainee in Medical Oncology, GI Oncology, St Bartholomew's Hospital; Speciality Doctor in Adult Gender Identity, Gender Identity Clinic, Tavistock and Portman NHS Foundation Trust, UK*
- 14:00-14:30: Sex and evolution  
**Adriana Maggi**  
*Professor of Pharmacological Biotechnologies, University of Milan, Italy*
- 14:30-14:45: Meeting overview  
**Anna Dart**  
*Chief editor, Nature Reviews Cancer, UK*

14:45-15:00: Poster awards and closing remarks

**Gian-Paolo Dotto**

*Director Laboratory of Skin Aging and Cancer Prevention, Cutaneous Biology  
Research Center, Massachusetts General Hospital, Boston USA;  
Head/Neck Personalised Cancer Program, University Hospital of Lausanne,  
Switzerland*