BRCA1, BRCA2 and Beyond: An Update on Hereditary Cancer

Keynote Speaker and Basser Global Prize Awardee: Maria Jasin, PhD

TUESDAY, MAY 7, 2019
WEDNESDAY, MAY 8, 2019

Smilow Center for Translational Research Auditorium/Commons
(enter through Perelman Center for Advanced Medicine)
Program Overview

This symposium is designed to educate researchers, scientists, and health care providers in cancer genetics by presenting cutting-edge data from renowned BRCA1/2 researchers. This symposium will provide new information on the basic biology of known cancer susceptibility genes. In addition, progress in cancer screening and prevention as well as ongoing work in targeted therapy for BRCA1/2 mutation carriers will be discussed through a series of lectures and panel discussions. Attendees will have the opportunity to network with colleagues working in the field.

PROGRAM OBJECTIVES

At the completion of this symposium, attendees should be able to:

- Discuss new research on the basic biology of BRCA1 and BRCA2 and other homologous repair deficiency genes.
- Describe current ethical, legal and social issues associated with carrying a BRCA1/2 mutation.
- Review new approaches to screening and prevention of hereditary breast and ovarian cancer.
- Discuss new advances in cancer treatment for BRCA1/2 mutation carriers.

WHO SHOULD ATTEND

Healthcare providers including medical oncology, surgical oncology, gynecology oncology, ob-gyn, genetic counselors, primary care physicians and nurses/nurse practitioners who are interested in the genetics of BRCA1/2 related cancers.
KEYNOTE SPEAKER AND BASSER GLOBAL PRIZE Awardee

Maria Jasin, PhD
Memorial Sloan Kettering Cancer Center

Maria Jasin, PhD, is a member of the Developmental Biology Program at Memorial Sloan Kettering Cancer Center and a professor at the Weill Graduate School of Medical Sciences at Cornell University. Jasin’s research has helped define the roles of BRCA1 and BRCA2 in DNA repair, uncover the role of homologous recombination, and has been transformational in the understanding of how cancer is suppressed by genes such as BRCA1/2. Her discoveries have led to numerous investigative efforts worldwide, resulting in a greater understanding of how cancer develops and in new therapies that can lengthen the lives of cancer patients. One of her current research efforts is on understanding DNA repair in the breast and different developmental stages and contexts.

SYMPOSIUM CHAIR

Susan M. Domchek, MD
Executive Director, Basser Center for BRCA
Director, Mariann and Robert MacDonald Cancer Risk Evaluation Center

Susan Domchek is the Basser Professor in Oncology at the Perelman School of Medicine of the University of Pennsylvania. She serves as Executive Director of the Basser Center for BRCA at the Abramson Cancer Center and Director of the Mariann and Robert MacDonald Cancer Risk Evaluation Program. Her work focuses on the genetic evaluation and medical management of individuals with inherited risk factors for cancer. Dr. Domchek is particularly interested in developing new cancer therapies, such as PARP inhibitors, for breast cancer patients due to genetic risk factors. An elected member of the National Academy of Medicine and American Society of Clinical Investigation, Dr. Domchek is also a member of the American Society of Clinical Oncology for which she has served on a number of committees. A significant contributor to the oncology literature, she has authored/co-authored more than 250 articles appearing in scholarly journals including the New England Journal of Medicine, the Journal of the American Medical Association and the Journal of Clinical Oncology. Dr. Domchek also serves on a number of editorial review boards, as well as on the Scientific Advisory Board for the Breast Cancer Research Foundation.
SYMPOSIUM CO-ORGANIZERS

Ronald Drapkin, MD, PhD
Associate Professor of Pathology in Obstetrics & Gynecology
Director, Ovarian Cancer Research Center
Director of Gynecologic Cancer Research, Basser Center for BRCA

Dana Farengo Clark, MS, LCGC
Genetic Counselor
Mariann & Robert MacDonald Cancer Risk Evaluation Center
Basser Center for BRCA

Roger Greenberg, MD, PhD
Professor of Cancer Biology
Investigator, Abramson Family Cancer Research Institute
Director of Basic Science, Basser Center for BRCA

Robin Herzog, MSN, CRNP
Nurse Practitioner
Department of Hematology Oncology
Abramson Cancer Center
University of Pennsylvania

Katherine L. Nathanson, MD
Professor of Medicine
Deputy Director, Abramson Cancer Center
Director of Genetics, Basser Center for BRCA

PENN MEDICINE FACULTY

Robert A. Aronowitz, MD
Professor and Chair
Department of History and Sociology of Science

GUEST SPEAKERS

Ben Black, PhD
Professor
Department of Biochemistry and Biophysics

Joan Brugge, PhD
Louise Foote Pfeiffer Professor of Cell Biology
Chair, Cell Biology, Division of Gynecologic Oncology
Harvard Medical School

Sharon Cantor, PhD
Associate Professor
Department of Molecular, Cell and Cancer Biology
University of Massachusetts

Andrea Downing
BRCA Community Data Organizer
Founder, Brave Bosom

Daniel Durocher, PhD
Tom Kierans Research Chair in Mechanisms of Cancer Development
Lunenfeld-Tanenbaum Research Institute
Mount Sinai Hospital

Gareth Evans, MD, FCRP
Professor of Medical Genetics and Cancer Epidemiology
University of Manchester

Amanda Brandt Ganzak, MS, LCGC
Genetic Counselor
Yale University
GUEST SPEAKERS CONTINUED

Ryan Jensen, PhD
Associate Professor
Department of Therapeutic Radiology and Pathology
Yale School of Medicine

Hannah Klein, PhD
Professor of Biochemistry and Molecular Pharmacology
Professor of Medicine
Professor of Pathology
NYU Langone Health

Ranjit Manchanda, MD, MRCOG, PhD
Clinical Senior Lecturer
Consultant Gynaecological Oncologist
Barts Cancer Institute
Queen Mary University of London

Kenneth Offit, MD, MPH
Chief, Clinical Genetics Service
Robert and Kate Niehaus Chair in Inherited Cancer Genomics
Vice Chair, Academic Affairs, Department of Medicine
Memorial Sloan Kettering Cancer Center

Shailja Pathania, PhD
Assistant Professor
Department of Cancer Biology
University Of Massachusetts

Anya Prince, MPP, JD
Associate Professor of Law
University of Iowa, College of Law

Mark Robson, MD
Chief, Breast Medicine Service
Clinic Director, Clinical Genetics Service
Memorial Sloan Kettering Cancer Center

Hui Zong, PhD
Associate Professor of Microbiology, Immunology, and Cancer Biology
University of Virginia, School of Medicine
7TH ANNUAL SCIENTIFIC SYMPOSIUM
AGENDA

TUESDAY, MAY 7, 2019

Smilow Center for Translational Research | Auditorium/Commons

7:30-8:15 Registration
8:15-8:30 Welcome

Morning Session

8:30-9:00 Single-cell analysis of breast tissues from BRCA1 and BRCA2 mutation carriers to identify premalignant alterations
Joan Brugge, PhD

9:00-9:30 Immunogenetics of BRCA1/2-associated breast and ovarian cancers
Katherine L. Nathanson, MD

9:30-10:00 Loss of base excision repair drives chemotherapy resistance in BRCA2 mutant cancer
Shailja Pathania, PhD

10:00-10:30 BREAK

10:30-11:00 BRCA deficiency and therapy response
Sharon Cantor, PhD

11:00-11:30 Illuminating the molecular functions of BRCA2
Ryan Jensen, PhD

11:30-12:00 Alternative DNA repair vulnerabilities in BRCA mutant cancers
Roger Greenberg, MD, PhD

12:00-1:15 LUNCH
### Afternoon Session

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>1:15-1:45</td>
<td>Genome damages and mutations arising from persistent ribonucleotides in DNA</td>
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<td><em>Hannah Klein, PhD</em></td>
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<td>1:45-2:15</td>
<td>Structural basis for PARP-1 trapping</td>
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<td><em>Ben Black, PhD</em></td>
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<td>2:15-2:45</td>
<td>Discovery and characterization of new synthetic lethal interactions with BRCA deficiency</td>
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<td><em>Daniel Durocher, PhD</em></td>
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<td>2:45-3:15</td>
<td><strong>BREAK</strong></td>
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<td>3:15-4:30</td>
<td>Global Prize Presentation and Keynote</td>
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<td><em>BRCA2 and the maintenance of genomic integrity</em></td>
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<td><em>Maria Jasin, PhD</em></td>
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<td>4:30-5:30</td>
<td>Poster Session and Reception</td>
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<td>5:30-6:30</td>
<td>Breakthroughs and Discoveries Panel moderated by Susan Domchek and featuring Katherine L.</td>
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<td>Nathanson, Ranjit Manchanda, and Gareth Evans. *This lay session is open to the public and</td>
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<td>will begin promptly at 5:15.*</td>
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7TH ANNUAL SCIENTIFIC SYMPOSIUM AGENDA

WEDNESDAY, MAY 8, 2019

Smilow Center for Translational Research | Auditorium/Commons

7:30-8:15 Registration
8:15-8:30 Welcome

Morning Session

8:30-9:00 Risk and management of BRCA1/2 carriers in the Manchester region of the UK
Gareth Evans, MD, FCRP

9:00-9:30 Population testing for precision prevention
Ranjit Manchanda, MD, MRCOG, PhD

9:30-10:00 New strategies to screen populations for cancer susceptibility
Kenneth Offit, MD, MPH

10:00-10:30 BREAK

10:30-11:00 Are we ready for broad panel testing in all cancer patients?
Mark Robson, MD

11:00-11:30 Strategies for incorporating germline testing into routine clinical care
Susan Domchek, MD, and Dana Farengo Clark, LCGC
Modeling early detection and prevention of BRCA1-related breast cancer
Hui Zong, PhD

12:00-1:15 LUNCH
Afternoon Session

1:15-1:45  Historical perspectives on cancer risk
          Robert Aronowitz, MD

1:45-2:15  Navigating the landscape of insurance and BRCA
          Anya Prince, PhD

2:15-2:45  No knowledge about us without us
          Andrea Downing

2:45-3:45  Panel Discussion: Cancer Genetics Case Review
          Moderated by Susan Domchek, MD and featuring Amanda
          Brandt Ganzak, Mark Robson, and Gareth Evans

3:45-4:00  Wrap up and Evaluations
Registration Information

This conference is FREE but we strongly recommend registration, as space is limited.

ACCREDITATION AND DESIGNATION OF CREDIT
In support of improving patient care, Penn Medicine is jointly accredited by the Accreditation Council of Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the health care team.

Physicians
Penn Medicine designates this live activity for a maximum of 11.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses
The program awards 11.75 contact hours.

Genetic Counselors
The National Society of Genetic Counselors (NSGC) has authorized the Basser Center for BRCA to offer up to 1.1 CEUs or 11 Category 1 contact hours for the activity Basser Center for BRCA 7th Annual Scientific Symposium, BRCA1, BRCA2, and Beyond: An Update on Hereditary Cancer. The American Board of Genetic Counseling (ABGC) will accept CEUs earned at this program for the purposes of genetic counselor certification and recertification.

DISCLOSURES
Penn Medicine, Office of Continuing Medical and Interprofessional Education, adheres to the ACCME Standards for Commercial Support. Faculty and Planner’s disclosure information will be made available at the conference. Faculty members are also expected to disclose to participants any discussion of off-label and/or investigational use of pharmaceutical products or devices within their presentations.

Cancellation Policy
The University reserves the right to cancel or postpone any activity due to unforeseen circumstances. In the event of cancellation or postponement, the University will not be responsible for related costs or expenses to participants, including cancellation fees assessed by hotels, airlines, or travel agencies.

SERVICES FOR THE DISABLED
If special arrangements are required for an individual with a disability to attend this meeting, please contact basserinfo@uphs.upenn.edu by April 12, 2019.

SPECIAL REQUESTS
If special requests for food or other logistics are required, contact basserinfo@uphs.upenn.edu by April 12, 2019.

NONDISCRIMINATION STATEMENT
The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, sex, sexual orientation, gender identity, religion, color, national or ethnic origin, age, disability, or status as a Vietnam Era Veteran or disabled veteran in the administration of educational policies, programs or activities; admissions policies; scholarship and loan awards; athletic, or other University administered programs or employment. Questions or complaints regarding this policy should be directed to: Executive Director, Office of Affirmative Action and Equal Opportunity Programs, 3600 Chestnut Street, Sansom Place East, Suite 228, Philadelphia, PA 19104-6106 or 215.898.6993 (Voice) or 215.898.7803 (TDD).
Visiting Information

HOTEL
A block of rooms has been reserved at the Sheraton Philadelphia University City Hotel at a special group rate of $194 per night.

Rooms must be reserved by Monday, April 15, 2019 to take advantage of the group rate.

For more information, contact Bassernfo@uphs.upenn.edu or call 215.662.4348
Visiting Information

PARKING
Parking will not be available on the medical campus, but public self-pay parking lots available in the University City vicinity can be found at:

- Drexel University Parking Lot – 34th and Market Streets
- University of Pennsylvania Parking Lot – 34th and Chestnut Streets
- University of Pennsylvania Parking Lot - 38th and Walnut Streets

For more information, visit [http://cms.business-services.upenn.edu/parking/](http://cms.business-services.upenn.edu/parking/)

PUBLIC TRANSPORTATION
The SEPTA University City train station is within walking distance of the medical campus. For more information, visit [www.septa.org](http://www.septa.org).

For more information, contact Basserinfo@uphs.upenn.edu or call 215.662.4348
The Basser Center for BRCA is the first comprehensive center for the research, treatment and prevention of BRCA-related cancers. Devoted to advancing care for people affected by BRCA mutations, the Basser Center’s unique model provides funding for collaborative research, education and outreach programs around the world.

WE TAKE CANCER PERSONALLY.