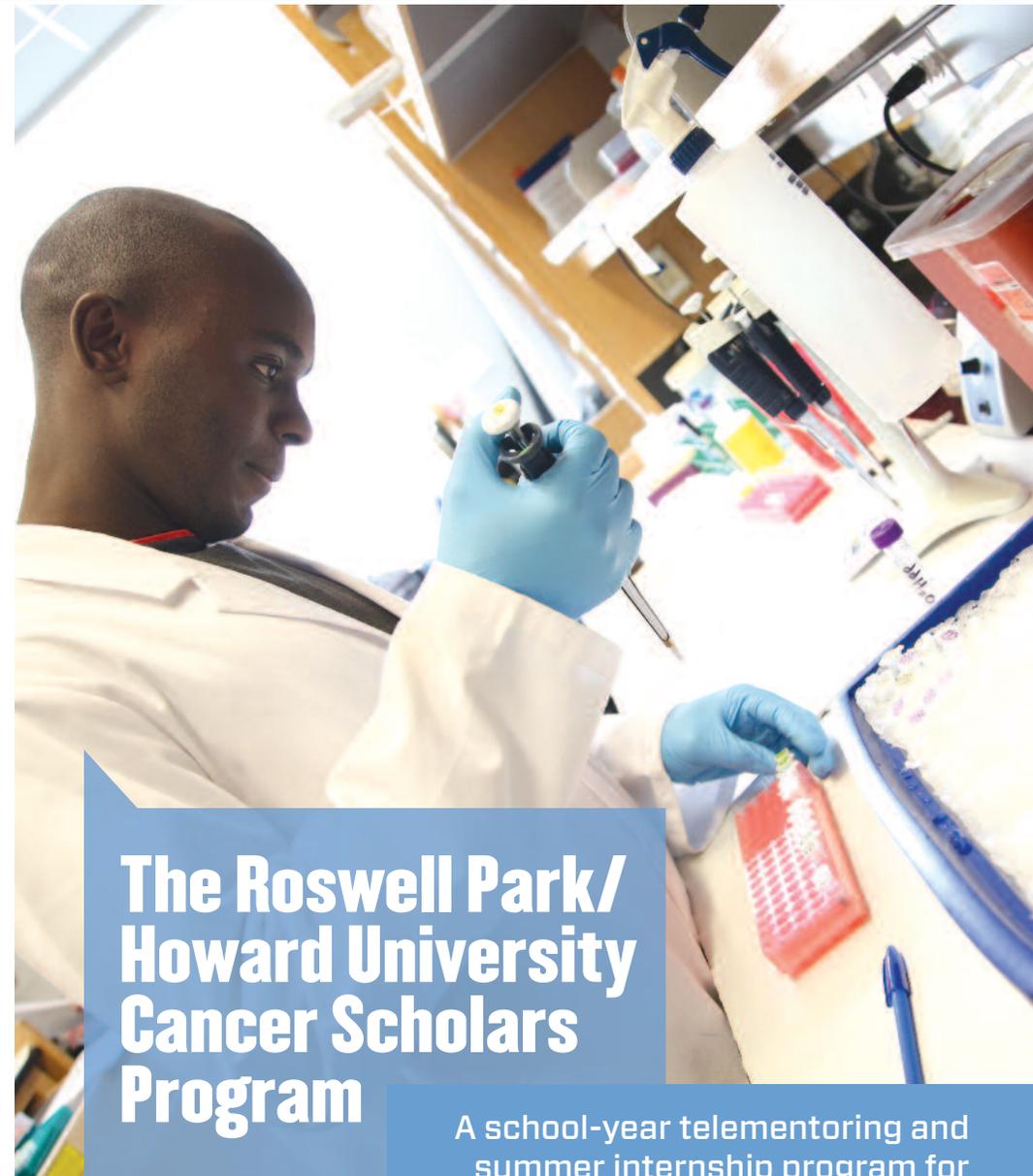




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A National Cancer Institute-Designated Comprehensive Cancer Center
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A Blue Distinction Center for Complex and Rare Cancers®
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The Roswell Park/ Howard University Cancer Scholars Program

A school-year telementoring and
summer internship program for
Howard University honors students





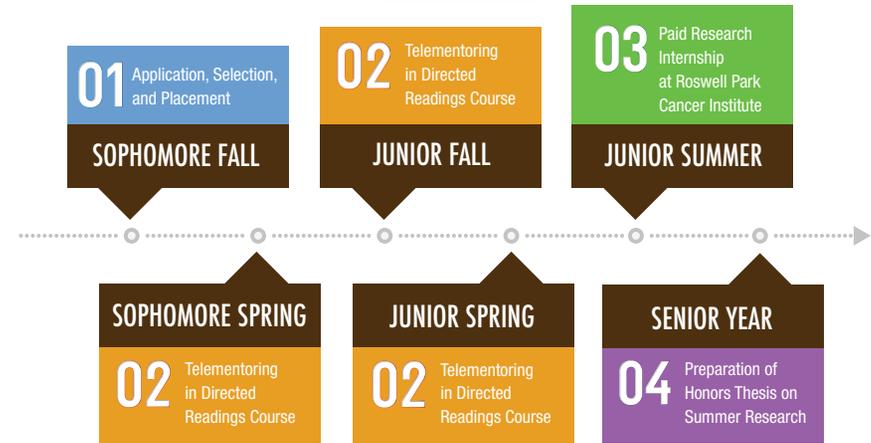
Roswell Park Cancer Institute in Buffalo, N.Y. is America's first cancer center and a National Cancer Institute-designated Comprehensive Cancer Center conducting clinical care, research, education, and community outreach. The mission of Roswell Park Cancer Institute is to "understand, prevent, and cure cancer."



Students accepted into the Roswell Park/Howard University Cancer Scholars Program will:

- deeply explore their interest in cancer under the direction of active researchers at a leading Comprehensive Cancer Center, while meeting the requirements of the honors program's Directed Readings courses and Honors Thesis;
- prepare for graduate education in the cancer sciences by reading cutting-edge scientific literature, participating in an intensive hands-on research experience, developing scientific communication skills, and experiencing the "bench-to bedside" continuum of modern translational research;
- understand and become empowered to address issues of cancer health disparity in African-American and other underserved communities; and
- learn about the variety of career pathways and research areas within the cancer team, such as prevention, epidemiology, cancer biology, therapeutics development and clinical research.

PROGRAM TIMELINE



- 1. SOPHOMORE FALL:** Students newly admitted into the Honors Program can apply to the Cancer Scholars Program online at: www.RoswellPark.edu/education/summer-programs/cancer-scholars-application. Applicants identify which available Roswell Park mentors match their interests. Roswell Park and Howard University faculty will select five Cancer Scholars and match them to mentors.
- 2. SOPHOMORE SPRING, JUNIOR FALL, AND JUNIOR SPRING:** Students will satisfy the requirement for the Directed Readings I, II, and III courses under the telementorship of Roswell Park research faculty. Cancer Scholars will read scientific literature relevant to the Roswell Park investigator's field of study, including publications from their laboratory. Students will discuss these readings weekly for one hour via or video chat with the Roswell Park faculty or graduate students and postdoctoral fellows in their labs.
- 3. JUNIOR SUMMER:** Upon satisfactory completion of the Directed Readings courses, Cancer Scholars will be admitted into Roswell Park's paid 10-week summer research internship program, where they will conduct their honors research project in the laboratory of their mentor.
- 4. SENIOR YEAR:** Cancer Scholars will write and present an Honors Thesis based on their Roswell Park research.

Available mentors and their research profiles: The following Roswell Park Cancer Institute researchers have volunteered to serve as mentors for Howard University honors students accepted into the Roswell Park/Howard University Cancer Scholars Program. Applicants to the Cancer Scholars Program should review this list and identify the faculty whose areas of research they are most interested in studying in the on-line application.

CANCER PREVENTION AND CONTROL



**Song Yao, PhD, Assistant Member,
Assistant Professor of Oncology
Department of Cancer Prevention and Control**

Research Interests: We are interested in unraveling the biological factors and related genetic variations in breast cancer etiology. In particular, we focus on racial disparities in breast cancer between African American and European American women with an emphasis on discovery and validation of genetic biomarkers in breast cancer prognosis and prediction of treatment outcomes.

PHARMACOLOGY AND CANCER THERAPEUTICS



**Moray Campbell, PhD, Associate Professor of Oncology
Department of Pharmacology and Therapeutics
Associate Dean for Graduate Curriculum**

Research Interests: My research is focused on prostate cancer and is centered around understanding epigenetic mechanisms that distort mRNA and micro-RNA transcription, and using network analyses to translate this understanding in diagnostic and therapeutic contexts. I am also a lead on the international CanSys MS program that trains students in cancer and systems biology approaches.



**Pamela Hershberger, PhD, Associate Professor of Oncology
Department of Pharmacology and Therapeutics**

Research Interests: Our laboratory focuses on the use of vitamin D and vitamin D-based combinations in the prevention and treatment of lung cancer. Our laboratory also studies molecular mechanisms that underlie resistance to vitamin D and is working to identify molecular markers that can be used to select lung cancer patients for specific vitamin D-based therapies.

PHARMACOLOGY AND CANCER THERAPEUTICS



**Mukund Seshadri, DDS, PhD, Associate Professor of Oncology
Department of Pharmacology and Therapeutics**

Research Interests: My research program is focused on the use of advanced imaging techniques such as: magnetic resonance imaging (MRI), computed tomography (CT), ultrasound (US) and optical molecular imaging techniques in preclinical and clinical studies to assess tumor biology and response to traditional and novel anti-cancer treatments.



**Anna Wolozynska-Read, PhD, Assistant Professor of Oncology
Department of Pharmacology and Therapeutics**

Research Interests: Focusing on genitourinary malignancies, my work merges basic and translational research. My group's goal is to understand the genetic landscape of invasive bladder cancer in order to enhance biological knowledge of the malignancy, and to point to novel strategies for diagnostics and treatment. I also focus on cancer health disparities in prostate cancer. Specifically, I am interested in the role of DNA methylation and vitamin D deficiency in aggressiveness of prostate cancer among African-American men.

IMMUNOLOGY



**Sharon Evans, PhD, Professor of Oncology
Department of Immunology
Director of Graduate Studies, PhD Program in Immunology**

Research Interests: The major focus of our laboratory has been to define the molecular mechanisms that control the trafficking patterns of lymphocytes throughout the body, with an aim toward developing novel therapeutic strategies to enhance the effectiveness of cancer immunotherapy.

IMMUNOLOGY



Kelvin Lee, MD, Professor of Oncology and Jacobs Family Chair
Department of Immunology

Research Interests: Our laboratory is focused on 2 main areas of investigation: 1). Understanding the molecular interactions with the microenvironment that support the survival of normal plasma cells and their malignant counterparts – multiple myeloma cells and 2). The mechanisms that regulate dendritic cell (DC) differentiation in normal and cancer settings. Solving these problems is essential for development of new therapies which can treat malignancies such as multiple myeloma and several other cancers.



Brahm Segal, MD, Professor of Oncology and Chief, Infectious Disease
Department of Medicine

Research Interests: Our research focuses on three lines of study related to host defense and inflammation: (1) NADPH oxidase as a critical regulator of host defense and inflammation; (2) pathogenesis of invasive aspergillosis and (3) evaluating the role of NADPH oxidase in tumor immunology.



Eunice S. Wang, MD, Associate Professor and Staff Physician
Leukemia Service, Department of Medicine
Assistant Member, Tumor Immunology Program
Departments of Medicine and Immunology

Research Interests: Our laboratory focuses on the role of angiogenesis in promoting the growth of hematological malignancies; screening anti-angiogenic and other biological agents for effects on clinically relevant human leukemia in vivo and early stage clinical trials for acute leukemia.

MOLECULAR AND CELLULAR BIOLOGY



Irwin Gelman, PhD, Professor of Oncology and John and Santa Palisano Chair
Department of Cancer Genetics
Chair, PhD Program in Molecular and Cellular Biology

Research Interests: Our research focuses on the genetics of cancer metastasis. We have studied the role of two tyrosine kinase families, Src and FAK, as well as a kinase scaffolding protein, SSeCKS/Gravin/AKAP12, that antagonizes Src action, in regulating signaling and cytoskeletal pathways that govern metastatic behavior such as invasiveness, survival, and neovascularization in prostate and other cancers.



Jianmin Zhang, PhD, Assistant Professor of Oncology
Department of Cancer Genetics

Research Interests: Using molecular, cellular and biochemical approaches as well as the 3-D cell culture system and mouse models, my lab is intensively investigating the roles of EMT and the Hippo signaling pathway in the initiation and progression of breast cancer.

MOLECULAR AND CELLULAR BIOPHYSICS AND BIOCHEMISTRY



Eugene Kandel, PhD, Assistant Professor of Oncology
Department of Cell Stress Biology
Director of Graduate Studies, PhD Program in Molecular and Cellular Biophysics and Biochemistry

Research Interests: We are using biochemical and genetic tools to investigate the molecular mechanisms of stress resistance and sensitivity in normal and cancerous cells. We study cellular responses to hypoxia, heat shock, cancer therapy, as well as to the stress caused by activated oncogenes. Our goal is to predict and avert resistance of cancer cells to current therapeutic regimens, to develop new therapies based on the revealed vulnerabilities of cancer cells, and to protect normal cells from various types of damage, including those caused by anti-cancer therapies.