

Director's Message



Drs. Drapkin (left) and Morgan (right) are working closely together to create laboratory and clinical resources that will drive the development of new methods for early detection of ovarian cancer and novel therapies to tackle recurrent disease.

This is an exciting time for Penn Medicine's Ovarian Cancer Research Center (OCRC), and we are eager to share several updates and new initiatives with you. Thanks to our strong community of supporters, we are making great strides to advance research that will improve patient care and enhance treatment options. We hope you will share in our excitement as you read through the pages of this newsletter. We also hope that you will choose to partner with us as we endeavor to advance the field and provide better choices for our patients.

Collaboration is key to success and the OCRC has been working across disciplines at Penn Medicine's Abramson Cancer Center and with peer institutions across the country. Through these efforts, we are bringing new drug combinations to the clinic, developing unique immunotherapies, and partnering with bioengineers to advance novel imaging and genomic methods for early detection. Our goal is to give our patients better options and bring hope to women facing gynecologic cancers.

In this issue of the OCRC Newsletter, we are pleased to announce the launch of our inaugural matching gift campaign! You will also read an exclusive interview with Lainie Martin, MD, a new member of our Penn clinical team who focuses on gynecologic cancers, along with updates on promising findings for immunotherapy targets in ovarian cancer, and the nVision study.

We look forward to sharing our advancements and successes with you.

Ronny Drapkin, MD, PhD

Franklin Payne Associate Professor of Pathology in Obstetrics & Gynecology
Director, Penn Ovarian Cancer Research Center

Inaugural OCRC Matching Gift Campaign

Double your impact today and help us continue translating research into cures!

We are excited to announce the launch of the **Inaugural Matching Gift Campaign** for **Penn Medicine's Ovarian Cancer Research Center (OCRC)**! April 1st marks the beginning of this six week campaign to help raise critical funds for the OCRC. Philanthropic support is key to our success and allows us to continue to drive progress for ovarian cancer research.

While there is much progress to celebrate, we know that there is still work to be done. With our strong community of advocates and supporters, we are coming together to make a difference. Thanks to two generous supporters, all gifts to the OCRC that are made between **April 1st and May 15th**, will be matched up to **\$20,000**.

Donations may be made by mail or online at giving.apps.upenn.edu (select the Penn Ovarian Cancer Research Center Fund). To make a donation via phone, or for questions, please contact Maddie Dickinson at madd@upenn.edu or **215-898-9174**.



An Interview with Dr. Lainie Martin

How would you explain the broader significance of your research?

I use clinical trials as a tool to discover and develop novel treatments for women with gynecologic cancers. As a clinician and researcher, it is important to optimize the treatments we already have by making them less toxic and more effective, while also uncovering new and better treatment options for women with ovarian cancer.

We collaborate with pharmaceutical companies, national organizations, and colleagues across Penn Medicine to identify the most pressing questions and design trials to uncover answers. We do this all with one goal in mind: to help women live longer and have the best possible quality of life throughout the course of their cancer care. One day, we hope to find a cure.

What does your average day as a physician-scientist look like?

Every day is different! Most importantly, I spend my time in the clinic seeing patients and taking care of women with cancer. On the days when I'm not in clinic, I meet with my colleagues and collaborators to discuss their research, and the implications their findings may have for novel treatments. I also spend my time working with our fellows and teaching the next generation of cancer doctors.

What led you to gynecologic oncology?

I am continuously inspired by the leaders in our field and my patients themselves. Early in my career, I was fortunate to train at an institution with a focus on ovarian cancer research. During my first year of training, I had the opportunity to work in a clinic, caring for women with ovarian cancer. The senior attending physicians and scientists in my program had made it their mission to improve the lives of women with this disease. I felt compelled to care for the women in the clinic, and became fascinated by the disease itself. Some women did exquisitely well with standard treatments, and some women had tumors that were very resistant. I felt empowered that we had the means to potentially answer these questions and unmet needs. I have dedicated my career to helping women who are doing well have an even better quality of life, and discovering new options for women whose diseases are not responding to treatment.

As an oncologist who sits in the Division of Hematology Oncology, with a focus on gynecologic oncology, how is your role unique?

Gynecologic oncology is unique in the realm of oncology. Typically a medical oncologist manages the systemic treatment of a patient, however gynecologic oncologists have special training and can do all of the surgical as well as the systemic treatments for women with these cancers.

In recent years, the need for a more integrated approach has become clear. We are finding overlap with treatments that work well across cancers and discovering opportunities for collaboration. Medical oncologists provide a unique perspective and can help manage some of the long-term toxicities that persist across disease areas. I am proud to be the first medical oncologist, dedicated to gynecologic oncology at Penn Medicine. We are hopeful that this is the first step to deepening our collaboration and enhancing patient care across disease areas.

How does your work impact the Ovarian Cancer Research Center (OCRC)?

I work closely with scientists in the OCRC to help identify opportunities to bring their research from the lab to the clinic. Together, we develop trials that examine new approaches for treatments. These trials identify potential new forms of therapy that can be offered to patients with ovarian cancer.

Who have been your most influential mentors in your career?

I have been privileged to work with many outstanding physicians and scientists throughout my career. My fellowship mentor, Russell J. Schilder, MD, was particularly influential and helped steer me to a career in academic medicine with a focus on ovarian cancer. He and I have collaborated over the years in our work, and my hope is that I have been able to contribute positively to advancements in the field.

I continue to learn from my colleagues — at Penn and around the county — every day. I had the opportunity to train with incredible physicians who were passionate about improving the future treatment landscape for women with ovarian cancer who have inspired my life work. I feel fortunate every day to be surrounded by nurses, physicians, and scientists who share my goal of finding better options and raising the bar.

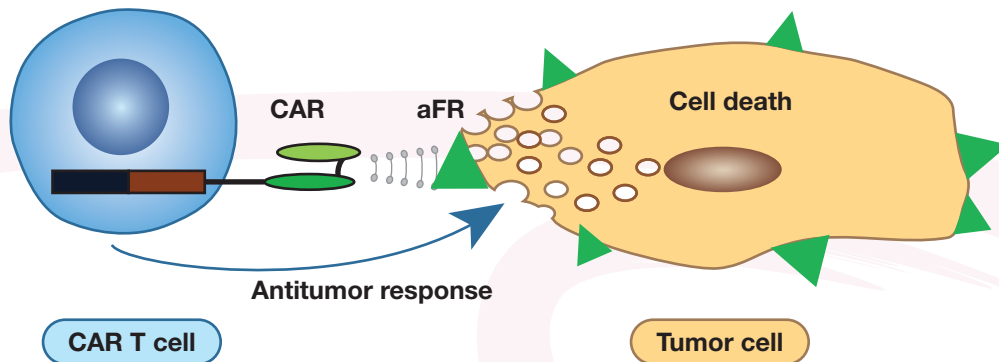
When you are not in the lab or clinic, how do you spend your time?

I love to spend my time outdoors hiking and bicycling in the summer. After becoming an attending physician, I made it a goal to get my scuba diving certification. This has allowed me to travel and experience things I otherwise could not have. There is something amazing about being under water and feeling immersed in the beauty of what is right in front of you.

Targeting Ovarian Cancer with CAR T Cell Immunotherapy

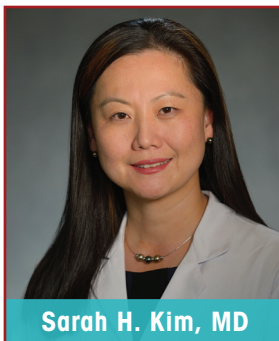
Investigators at Penn Medicine, including **Payal D. Shah, MD** and the OCRC's **Daniel J. Powell, Jr, PhD**, recently launched a phase I clinical trial that will evaluate the safety and feasibility of intra-abdominal administration of CAR T cells that target the alpha folate receptor (aFR) on the surface of ovarian cancer cells. Chimeric antigen receptors (CARs) are engineered receptors that allow a patient's own T cells to recognize and target a specific protein on cancer cells.

In a series of preclinical studies conducted in Dr. Powell's laboratory, investigators showed that aFR is highly expressed on the surface of most ovarian cancers, making this a potentially universal approach for treating ovarian cancer. By engineering CAR T cells that recognize aFR, they showed that they could eradicate human ovarian cancers in animal models. These exciting results led to the clinical trial that opened last fall and is currently accruing patients.



Within the patient's body, the CAR T cells identify the ovarian cancer cells with the target antigen (Folate Receptor alpha, aFR), and kill them. CAR T cells may remain in the body for some time to help prevent the cancer cells from returning.

A Novel Approach to Probe the Fallopian Tubes for Early Detection



The observation that most ovarian cancers arise from the fallopian tube rather than the ovary has been a paradigm shift in the field. This new knowledge has stimulated numerous efforts to develop better tools for the early detection of this deadly disease. **nVision Medical** is a company that focuses on developing devices to enable clinicians to assess the health of previously inaccessible parts of the female reproductive tract, in particular the fallopian tube.

The nVision MAKO 7 uses patented microcatheter technology to access and collect cells from the fallopian tube during a minimally-invasive hysteroscopic procedure. This FDA-cleared device was successful in early clinical trials and is now being used in a large multi-center national trial, called the nCYT study. **Sarah H. Kim, MD**, Director of Gynecologic Oncology at Pennsylvania Hospital, is leading the trial at Penn to evaluate how accurately cells that are collected from the fallopian tube can be categorized as benign or malignant.

This study is actively recruiting patients who are undergoing surgery to remove fallopian tubes and ovaries. A long-term goal of this technology is to deploy it in women at high-risk of developing ovarian cancer (*BRCA1/2* mutation carriers for example) and study the cells to more accurately identify early cancers. nVision Medical is working with Drs. Kim and Drapkin to develop exciting new approaches to characterize the cells retrieved from the fallopian tube.

We are hopeful this technology will improve our understanding of the development of ovarian cancer and aid in our early detection efforts. The more we understand the progression of this disease, the better equipped we are to treat it.



Save the Date

Join us and help support the OCRC and our partners.

Sandy Sprint Superhero 5K or 10K Run/Walk & Canine Sprint April 27th at 7:30am at the Philadelphia Museum of Art

Unite with a group of Penn Medicine's Gynecologic Oncologists, OCRC researchers, and more than 4,000 others for Sandy Sprint in Philadelphia! Your involvement in the Sandy Sprint will make a difference in the more than 22,000 women who will be diagnosed with ovarian cancer this year and the countless family members and friends who are also affected.

For more information, visit sandyovarian.org

2019 Together in TEAL® Run/Walk with the National Ovarian Cancer Coalition (NOCC) September 14th at 8:30am in Fairmount Park

Join us for the 2019 Together in Teal® Run/Walk! Help support the NOCC's mission by registering and forming your Run/Walk team today! Registration opening soon.

For more information, visit www.ovarian.org

2019 NED Concert September 14th at World Café Live

Join us for a concert featuring original music from the band. N.E.D. or 'No Evidence of Disease.' A unique group of six gynecologic oncologists from across the country, N.E.D. features Penn Medicine's very own Bob Burger, MD. Created as a cover band to entertain their peers at a medical conference, they saw the potential to reach women in a powerful way – through music. What was started as a novelty meant to entertain, has turned into a powerful awareness movement to give a voice to women affected by gynecologic cancers.

For more information, visit nedtheband.com



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Please consider becoming a philanthropic partner!
To support Penn's Ovarian Cancer Research Center
Please contact Maddie Dickinson at 215-898-9174 or madd@upenn.edu

givingpages.upenn.edu/OCRC

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If you wish to be removed from future fundraising appeals, call us at (215) 898-0578, write us at Penn Medicine, 3535 Market Street, Suite 750, Philadelphia, PA 19104, or reach us via email at uphsgift@upenn.edu.

