

MAGEE

FALL 2017

A PUBLICATION OF MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION



**FIGHTING
CANCER
SIDE BY SIDE**



PRECISION MEDICINE:

Fighting Breast Cancer on the Molecular Level.

OVARIAN CANCER:

Latest Research to Fight a Silent Killer.

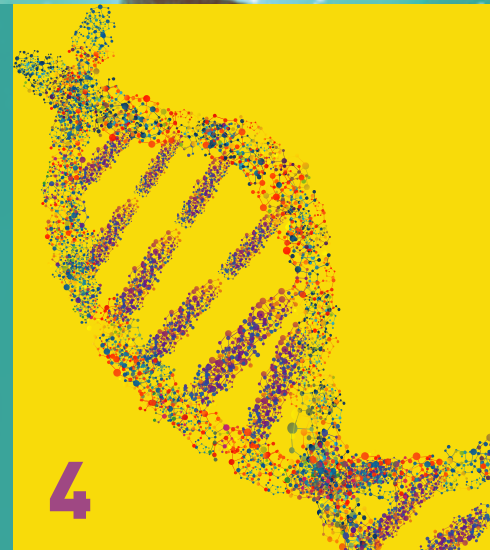
CARING FOR CANCER PATIENTS:

The Unique Rewards and Challenges of an Oncology Nurse.

MAGEE

VOLUME 14 | FALL 2017

MAGEE print edition is published two times a year for supporters of Magee-Womens Research Institute & Foundation.



EDITOR

Jane Rudov, Director of Communications, Magee-Womens Research Institute & Foundation

CONTRIBUTING EDITORS

Michael J. Annichine, CEO, Magee-Womens Research Institute & Foundation
Robert Edwards, MD, Professor and Chairman, Department of Obstetrics, Gynecology & Reproductive Sciences, University of Pittsburgh
Yoel Sadovsky, MD, Executive Director, Magee-Womens Research Institute & Foundation

CONTRIBUTING WRITERS

Michael Giunta
Sarah Pile

DESIGN & PRODUCTION

Garrison Hughes

VISIT OUR WEBSITE

www.mageewomens.org

FOLLOW US



SUBSCRIBE

To receive free issues of *MAGEE* at home or to request additional copies, please email rudovjj@mwri.magee.edu with your full name, address, and phone number. We welcome your feedback on the publication. For the latest women's health updates, giveaway contests, and upcoming events, visit our website and subscribe to our enewsletter.

Please email rudovjj@mwri.magee.edu if you no longer wish to receive fundraising materials designed to support Magee-Womens Research Institute and Magee-Womens Hospital of UPMC.

THANK YOU FOR YOUR CONTINUED SUPPORT OF
MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION.

FEATURED ON COVER

Left to right: Roseanne Berube, Rebecca Graf, Chris Binger, Katie Werling, Paula Svidron



MAGEE-WOMENS
RESEARCH
INSTITUTE



12



20

4 **PRECISION MEDICINE: FIGHTING BREAST CANCER ON THE MOLECULAR LEVEL**

11 **DISTINGUISHED SERVICE AWARD FOR JAMES ROBERTS**

12 **OVARIAN CANCER: LATEST RESEARCH TO FIGHT A SILENT KILLER**

17 **FOSTERING THE NEXT GENERATION OF SCIENTISTS**

18 Navigating Life after Cancer: Magee's Survivorship Program

20 Caring for Cancer Patients: The Unique Rewards and Challenges of an Oncology Nurse

22 What's New in 9-90™?

24 Observations from our Chief Executive Officer

25 Dr. Ronald Buckanovich: A Research Leader and His Innovative Lab Join MWRI

27 Noteworthy

28 Generosity in Action

30 Morsels

PRECISION MEDICINE:

FIGHTING BREAST CANCER ON THE MOLECULAR LEVEL



Adrian Lee, PhD and Steffi Oesterreich, PhD

“The concept is, with our ability to more comprehensively understand the genetic basis of the disease, we can more precisely understand the disease, and then treat the disease and/or predict risk.”

-Adrian Lee, PhD

When most of us think of breast cancer, we envision a malignant lump. It might be large. It might be small. But it's all the same. It's cancer.

The reality is a lot more complicated.

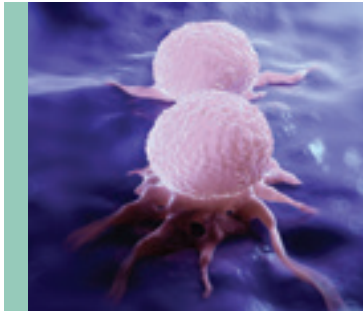
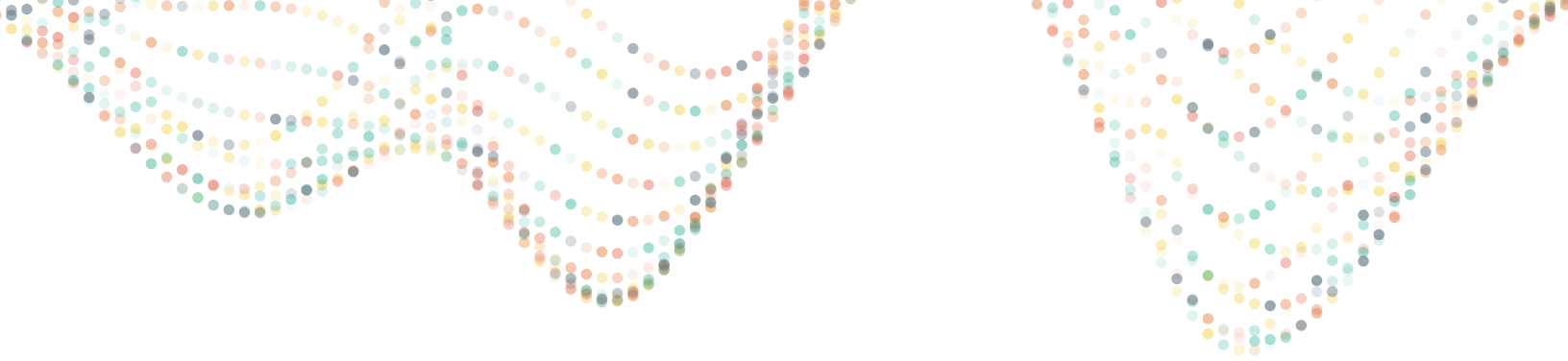
“We know now that no two cancers are alike,” says Dr. Adrian Lee, Professor of Pharmacology, Chemical Biology and Human Genetics at the University of Pittsburgh, Director for the Women's Cancer Research Center at Magee-Womens Research Institute, Director of the Institute for Precision Medicine, and member of UPMC Hillman Cancer Center. “Unfortunately, it's like your fingerprint. In breast cancer, we've been good at finding groups of tumors that share the same properties. But when we look deeper within those groups, there are many different subtypes that show different responses to hormone therapy. The goal is to make the treatment and risk stratification personalized yet practical.”

There are three main groups of breast cancer: Estrogen Receptor Positive (ERP), HER2 Positive, and Triple Negative. Researchers at Magee-Womens Research Institute are studying the DNA and RNA of these cancers to learn their different characteristics, create tests that can determine a prognosis, and develop novel therapies that are more targeted and less toxic.

“The concept is, with our ability to more comprehensively understand the genetic basis of the disease, we can more precisely understand the disease, and then treat the disease and/or predict risk,” says Dr. Lee, whose research focuses exclusively on women who have advanced, metastatic breast cancer. “That's ultimately the disease that women with breast cancer are going to die of, and we know very little about it. Most research is focused on early detection and prevention, yet the problem of mortality is with the advanced cancer.”

Dr. Lee and other researchers at Magee are trying to find predictors as to why some cancers metastasize and others do not. They are also studying why some metastasize to a specific organ. The good news is they are making major headway.

“By sequencing the DNA and the RNA in metastatic tissues from patients who've suffered a relapse in the bone, brain, ovary or gastrointestinal (GI) tract, we are finding the unique features that determine why the breast cancer went to those specific sites. If we can understand why it goes to a certain organ, we can hopefully prevent it from going there in the first place,” states Lee.



Looking for answers in genes

Researchers at Magee-Womens Research Institute are making progress in unraveling the molecular mysteries of metastatic breast cancer.

Dr. Lee and his team are working to understand how we can improve therapies through blocking pathways that are critical for a tumor to grow. Their second major research area is sequencing breast cancers to try to understand the genetics of breast cancer and breast cancer progression.

“We did something pretty unique,” Dr. Lee says. “Few groups in the country could do this. We took a series of patients with primary breast cancer that had relapsed to the brain. Both breast cancers were surgically removed, so we had these paired patient match samples where we could look at what’s different in the brain metastasis than in the primary breast cancer. We found that in about 20% of those cases, the cancers had gained the HER2 oncogene. HER2 is one of the main therapeutic targets in breast cancer, so this is very exciting. It would suggest that in those cases, we could give them anti-HER2 therapy.”

Lee explains that anti-HER2 therapy is one of the oldest therapies in breast cancer. While it’s been approved for twenty years, its use in the last few years has changed dramatically. “Now many groups similar to ours have shown that these therapeutic targets occur only in the metastasis. That’s now changing the paradigm.”

His ultimate goal? “We’re trying to find features in the primary breast cancer that say these will likely be metastatic, so we can give more therapy,” Lee said.

Another investigation at Magee is studying the differences between Invasive Ductal Breast Cancer (IDC) and Invasive Lobular Breast Cancer (ILC). The less common ILC makes up 10-15% of all breast cancers. Although it’s molecularly different, right now the treatment for the two kinds of cancer is the same. “We want to be more precise,” states Dr. Steffi Oesterreich, Professor and Vice Chair in the Department of Pharmacology and Chemical Biology at the University of Pittsburgh, Director of Education in the Women’s Cancer Research Center at Magee-Womens Research Institute, and member of UPMC Hillman Cancer Center. “We want to understand how this tumor is not the same as IDC, and personalize treatment.”

One of the biggest challenges with ILC tumors is that they grow in single lines in the breast, not forming a lump like IDC tumors. “They’re much harder to see by mammography,” says Oesterreich. “They’re picked up later, because there’s not a lump of dense tissue. It’s more like a spider web.” The way they behave is tricky, too. When pathologists study ILC tumors, they look more “friendly.” They present favorable prognostic markers like high levels of estrogen receptors, which can be targeted by hormonal therapy. They also grow slowly, and that can be misleading. “In the first few years, we have very few recurrences,” Oesterreich says. “But after five to six years, unfortunately a substantial amount of patients suffer from recurrence. The cancer cells seem to hang out somewhere in the body in dormancy. They hide and years later start growing. Suddenly you have metastasis. The sites of metastasis are also different. The IDCs often go to the lung, liver, brain, or bone. But with ILCs, we also see unusual sites like the ovaries and the GI tract, in addition to bone, and other sites.”

“There are mutations in the estrogen receptors in approximately 30% of patients with hormone receptor positive metastatic disease. Basically the tumors become resistant to anti-estrogen therapy because the estrogen receptors change. Suddenly the drugs become much less effective.”

-Steffi Oesterreich, PhD

Oesterreich and her lab have published pre-clinical research data suggesting that ILC tumors might respond differently to different endocrine therapies. They are now working with clinicians at Magee, including Dr. Rachel Jankowitz, in a trial studying clinical specimens of patients with ILC. Before surgery, they take a biopsy and then treat the patient with one of three different endocrine therapies. After surgery, they take another biopsy to compare which of the three therapies changes biomarkers in the ILC tissue. “We have a piece of tissue before and after three different endocrine therapies, then we use gene sequencing to see which affected growth of the tissue the most,” says Oesterreich. “We are the main site for this trial, but it’s also open to other institutions like the University of Alabama, University of North Carolina, Mayo Clinic and others. We are the lead center. It’s a three to four year trial, and the goal is to look at 150 women.”

Meanwhile, to increase awareness and education about ILC, Oesterreich and colleagues organized the first ILC Symposium, held here in Pittsburgh in September 2016. Leaders, researchers, and patients attended the meeting on lobular tumors and, as a result, patients formed a national advocacy group called the Lobular Breast Cancer Alliance. The group’s goal is to educate other patients, researchers, and physicians about the need to better understand ILC as a unique breast cancer disease with unique features.

Oesterreich is working on another project to understand endocrine-resistant metastasis—tumors that stop responding to therapies which target the estrogen receptor. “Estrogen receptors are the target of endocrine therapy,” she explains. “There are mutations in the estrogen receptors in approximately 30% of patients with hormone receptor positive metastatic disease. Basically the tumors become resistant to anti-estrogen therapy because the estrogen receptors change. Suddenly the drugs become much less effective.” Oesterreich and her team perform modeling in the lab to try to understand why these mutations cause resistance and how they behave. “Do they grow faster or move faster? We work very closely with clinicians at Magee to obtain clinical specimens from patients with metastasis, then we look for estrogen receptor mutations.”

One of the recent innovations is that they can use liquid biopsies. “We can look at blood from patients without a biopsy of the metastatic site. We can identify these estrogen receptor mutations in the blood. We think we can see it before the metastasis is actually visible by other means such as imaging. It’s very sensitive technology,” she adds. “We can look for these mutations in the DNA, determine if they’ve developed resistance, and say there’s a need for change in therapy.” Oesterreich hopes one day to have a blood test that can find the mutation and predict metastasis. “Once we detect resistant tumors, we can say the therapy doesn’t work any longer. Then the question becomes what do we switch to? What is the better therapy? This is leading the way to personalized, precision medicine.”

Magee’s unique bio-bank moves the needle

For the last three to four years, the big movement in breast cancer research has been matching DNA with therapies. Now that DNA sequencing is faster and more available, research has really taken off. And Magee-Womens Research Institute is at the forefront.

One reason for that is Magee’s large tissue bank.

“Our research is dependent on human tissue,” says Dr. Lee. “The majority of advances we’ve made in the treatment of breast cancer have come from basic research that’s been done on tissues and cell lines. Getting that tissue is key to making significant findings. One of the reasons I came here was this large clinical program and their ability to bank clinical tissue. Our bio-banking program has national accreditation. It’s state-of-the-art.”



Adam Brufsky, MD

“We’re involved in a National Cancer Institute match trial looking at DNA sequencing and various therapies, and we are number four in the country in recruitment for that study.”

—Adam Brufsky, MD

Dr. Oesterreich adds, “Magee has a great reputation for treating breast cancer patients. There are 1,300 new patients with breast cancer seen every year. That large volume gives us a large base for tumor collection and clinical trials. Plus many people in Pittsburgh don’t move away, because it’s so beautiful here. So if the tumor recurs, we have access to the primary and metastatic tissue. That’s highly valuable tumor material because we can compare what’s different, what has changed.”

The tissue bank has allowed Magee to participate in a number of important efforts around the world. “We’re involved in a National Cancer Institute match trial looking at DNA sequencing and various therapies, and we are number four in the country in recruitment for that study,” says Dr. Adam Brufsky, Professor of Medicine, medical oncologist at Magee-Womens Hospital of UPMC Womens Cancer Center, and Associate Director for Clinical Investigations, UPMC Hillman Cancer Center. He also points out that Magee took part in The Cancer Genome Atlas Project, an international effort by the National Institutes of Health to perform DNA sequencing on more than 1,000 breast tumors. “Of those cancers, 144 came from Magee because our pathology and tissue bank was so good. We are extremely grateful to our patients for donating their tissue.” In fact, Magee was the number one contributor to the study.

Magee’s collaborative approach is another feature that puts it at the forefront of breast cancer research. “What we do here is very trans-disciplinary,” says Oesterreich. “We work with medical oncologists. We interact with people who are experts in biostatistics and bio informatics. We’ve started to work with immunologists because there’s a hope that a subset of breast cancer patients will respond to immunotherapy, and we work with surgeons to get access to fresh tissue. We also interact critically with pathologists. These are our most critical partners.”

And they’re all right across the street from each other.

Dr. Brufsky points out that collaboration is better when everyone and everything is only a few floors apart. “Magee is one of the top ten breast cancer programs in the country, and it’s all in one place. That allows us to communicate effectively and closely. This makes Magee stand apart. It allows things to be done more quickly and in a more patient-centered way. It’s easier for women who are participating, as well as for the physicians and scientists.”

Magee’s patient population also offers exceptional data for understanding specific patterns of patients and tumors and associating them with outcomes. “The disease in advanced breast cancer is different than in primary,” states Dr. Lee. “Its features change. Having longitudinal data is key, and what we have here is very unique when you look at other programs. People who come to Magee are people from the surrounding region. Most of the large competitive cancer centers are mainly referral sites, so they don’t have the longitudinal data.”

Because Magee is first and foremost a women’s hospital, women deliver their babies here and remember Magee when it comes time to do their breast cancer screening. “We do about 150,000-200,000 mammograms per year,” Brufsky states. “We then filter those patients to surgeons who are dedicated breast surgeons, who refer to dedicated breast medical oncologists and dedicated breast pathologists and dedicated breast radiation therapists. Most of the therapies for breast

cancer that we've developed in some way, shape or form, started at the University of Pittsburgh with Dr. Bernie Fisher. He was the founder of the breast cancer program at Magee in the late 50's. He pioneered the use of lumpectomies at a time when debilitating mastectomies were the treatment standard. We have that important historical perspective."

Keeping up the good work

When it comes to finding cures for cancer, there is no shortage of passion in the researchers and clinicians at Magee. But maintaining the momentum does take funding.

"To do good clinical research that's safe, with all the paperwork filled out properly, you need a lot of people. It's very labor intensive," according to Dr. Brufsky. "The cures will never happen unless you fund the administrative work, as well. We're doing better and better at breast cancer. Now women live an average of five years or more with metastatic breast cancer. Ten to fifteen years ago, it was maybe half that. We're learning more about the disease, and we're coming up with better therapies. But to do that, we need to be able to support all those research nurses, data managers, and regulatory specialists. Funding the human element of research is always going to be the limiting factor. We all have great ideas and want to try new things, but my role is to get those new and innovative things out of animal models and to the bedside helping people. For that, we need to fund the infrastructure."

More argument for funding comes from the fact that breast cancer is, as Dr. Lee puts it, "the poster child for precision medicine." It was the first disease to establish biomarkers and have targeted therapy with tamoxifen. "Breast cancer has shown the personalization of surgery, the personalization of radiotherapy, the personalization of chemotherapy and targeted therapy," says Lee. "That has resulted in incredible improvements in outcomes. But still too many women die of breast cancer. We have over 200,000 new cases a year and 40,000 deaths. We should be able to improve that. It's donor money that funds things like the tissue bank. Philanthropy has become a key component for those types of operations, stimulating new science, doing high risk, high reward work."

The end game

"Breast cancer isn't suddenly going to be cured," says Brufsky. "What happens is that women start living longer. Today, 80-90% of the people who walk in the door with early stage breast cancer are cured. If women develop a relapse of breast cancer elsewhere in the body, they're generally going to live at least 4-5 years, if not longer, for the most common forms. That's how the cure for breast cancer happens. We find that people who would have died in a year or two are coming back to our clinic 3-5 years later. Through a group effort, people are living longer. That's what the cure for cancer looks like. That's happening now. It's a cool time to be involved."



A SPECIAL THANK-YOU FROM THE RESEARCHERS

Drs. Brufsky, Lee and Oesterreich would like to recognize the support their programs have received from generous individuals, as well as foundations such as the following:

Breast Cancer Research Foundation

Fashion Footwear of New York

Glimmer of Hope

Magee-Womens Foundation

Mario Lemieux Foundation

Metastatic Breast Cancer Network

Nicole Meloche Funds

Penguins Alumni Foundation

Penguins Foundation

Shear Family Foundation

Susan G. Komen

To join these organizations with your own personal gift of any amount to fund our breast cancer research, visit mageewomens.org/donate.

A GREAT GIFT FROM THE WOMEN IN THE GIFT SHOP

Why is the tissue bank at Magee so excellent? Dr. Adam Brusky credits the women in Magee-Womens Hospital of UPMC's gift shop. Eight to ten years ago, the volunteers that run the shop donated \$250,000 to help build the tissue bank. "As a direct result, we were able to donate the most specimens to one of the most important breast cancer genetics projects of the last twenty years," says Brufsky, referring to The Cancer Genome Atlas Project. "We couldn't have done it without them."

Distinguished Service Award for a Distinguished Investigator



James Roberts, MD
Investigator, Magee-Womens Research Institute, Professor, Department of Obstetrics, Gynecology & Reproductive Sciences and Epidemiology, University of Pittsburgh and Clinical and Translational Research

Well-deserved recognition for one of our leading researchers and mentors, James Roberts.

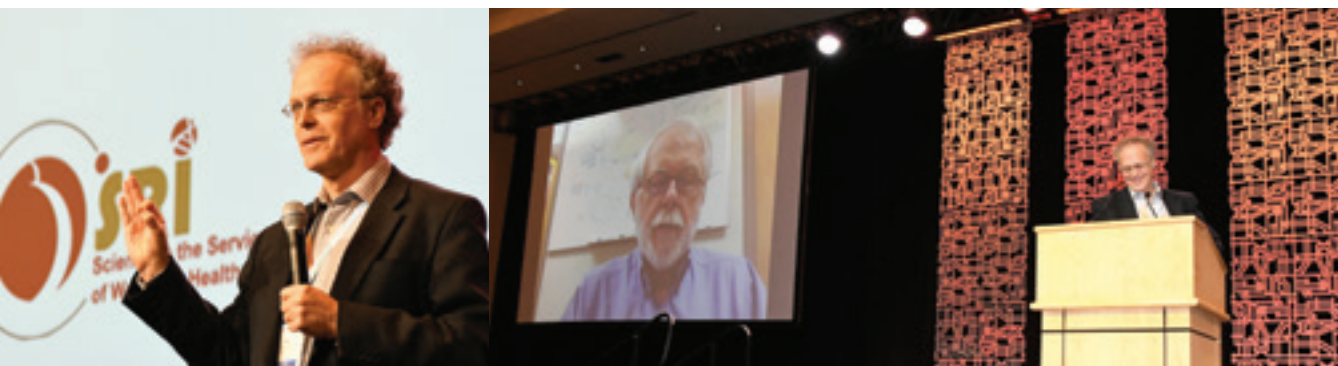
The Society for Reproductive Investigation is the largest Reproductive Sciences / OBGYN research society worldwide. During their annual meeting this past March in Orlando, Dr. Jim Roberts was selected to receive the Lifetime Distinguished Service Award. This special recognition is intended to recognize an individual who has made outstanding contributions to the Society for Reproductive Investigation, and significant contributions to the field of reproductive medicine and women's health.

Dr. Roberts has been a researcher for more than 40 years and was the founding director of the Magee-Womens Research Institute in 1993.

"I had the opportunity to start the Institute with about six investigators and we had about 100 when I stepped down as director," Roberts said. "One of the things I'm most proud of is how I've mentored people throughout my career. I think I've trained 60 or 70 people. About 80% of them are still in academic careers and making great contributions to research."

He currently is involved in global health research and is a member of the Management Committee of the Bill and Melinda Gates funded, Pre-eclampsia and Eclampsia monitoring prevention and treatment (PRE-EMPT) study. He also heads the Global Pregnancy Collaboration, a consortium of 34 centers world wide that facilitates collaborative research.

"While SRI has a number of senior members who qualify for this prestigious award, it is hard for me to think of anybody who can match Jim in his outstanding contributions to the field of reproductive biology, unwavering dedication to mentoring of current and future scholars, and an overall true commitment to academics," said Yoel Sadovsky, MD, Executive Director, Magee-Womens Research Institute. "All of us at MWRI have been most fortunate to be Jim's colleagues and friends, and to be inspired by everything that he represents."





OVARIAN

The Latest Research to Fight a Silent Killer.

CANCER

“We can put most patients that have ovarian cancer into complete remission. We can get more than 80% of patients to the point where they clinically have no measurable disease. That’s with standard chemotherapy and surgery. The problem is, these cancers come back.”

-Dr. Robert Edwards




Robert Edwards, MD

Ovarian cancer is stealthy. In the early stages, it has few symptoms, and the ones that do occur are vague and easily overlooked. Routine pelvic exams, ultrasounds and blood tests are powerless to detect it, and Pap tests aren't designed to find it. As a result, only about 20% of ovarian cancers are detected early, when treatment is most effective.

That's a major reason why ovarian cancer accounts for more deaths than any other cancer of the female reproductive system, according to the American Cancer Society. In 2017, about 22,440 women will be newly diagnosed with ovarian cancer. About 14,080 of these women will die of the disease.

Dr. Robert Edwards, Chair of Obstetrics and Gynecology Reproductive Services at Magee-Womens Hospital of UPMC and primary investigator at Magee-Womens Research Institute, compares the disease's rapid spread to shaking a snow globe. Cancer cells cascade over nearby organs and attach to them, setting the stage for aggressive treatment. "We can put most patients that have ovarian cancer into complete remission," he says. "We can get more than 80% of patients to the point where they clinically have no measurable disease. That's with standard chemotherapy and surgery. The problem is, these cancers



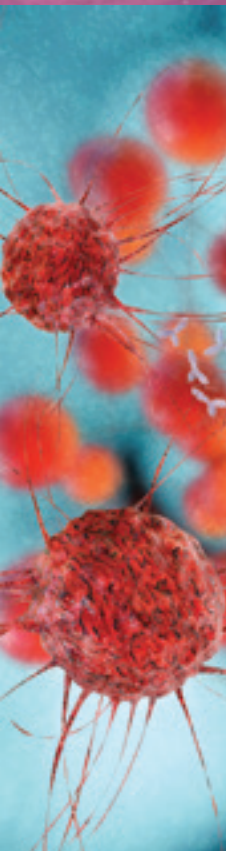
“Depending on the biology of the patient or the cancer itself, [the seeds left by the cancer reactivate] one to four years later. Now we’re looking at developing specific immune and targeted treatments that completely eliminate those seeds.”

-Dr. Robert Edwards

come back.” Edwards says that most patients, once they develop ovarian cancer, spend over 50% of the rest of their lives in treatment. “Then they end up dying of the disease, but not before the therapies themselves cause a lot of morbidity and affect their quality of life.”

Magee is a leader in using chemotherapy infused directly into the abdomen to boost 5-year survival rates as high as 60% for even the most advanced ovarian cancers. But eventually the cancer adapts to chemotherapy. “What we can’t do right now is cure women,” says Edwards.

But a cure could be just over the horizon.



Dr. Edwards and his fellow researchers are working hard to find a more effective way to completely eliminate the possibility of ovarian cancer returning. “We think it has to do with the small seeds left behind after you prune the cancer back through chemotherapy,” he explains. “Depending on the biology of the patient or the cancer itself, they reactivate one to four years later. Now we’re looking at developing specific immune and targeted treatments that completely eliminate those seeds.” There are many conditions that may lead to ovarian cancer—genetics, family history, proliferative ovarian cysts, and uterine tubal precancerous conditions. However, one in particular that Dr. Edwards is studying is endometriosis. “Endometriosis is an extremely common and largely benign condition,” he states. “The majority of women who have endometriosis don’t develop ovarian cancer, but there’s a small percentage that do. We believe what promotes the progression into a cancer state is driven by the nature of the immune system’s inflammatory response and how the host responds to the inflammation.”


While we think of our immune systems as helping us fight disease, Dr. Edwards points out that it isn’t always the case. “Sometimes it actually promotes it,” he says. As the cancer cells develop, the surrounding stroma and inflammation may actually lead to cancer in some individuals. “Some cancers have an inflammatory response that’s a precondition in developing cancer,” Edwards said.

One prestigious grant. Two promising clinical trials.

Dr. Edwards oversees a renowned Specialized Programs of Research Excellence (SPORE) grant from the National Institutes of Health to develop methods to prevent, treat, and cure ovarian cancer with promising immunotherapies. Shared with Roswell Park Cancer Institute in Buffalo, NY, this elite award is one of only four in the country dedicated to ovarian cancer and immunotherapy.

The SPORE grant supports two on-going clinical trials examining combinations of immunotherapy and chemotherapy for advanced primary ovarian tumors and tumors that were treated but recurred.

One of the trials centers around an important advance in compounds called PARP inhibitors, short for poly ADP-ribose polymerase. PARPs are enzymes in the body that help repair DNA when it becomes damaged. Using PARP inhibitors can keep cancer cells from repairing their damaged DNA,

A vertical strip on the left side of the page shows a microscopic view of cells, likely cancer cells, with various shapes and sizes, some appearing to be dividing or interacting. The background is a dark, textured blue with a vertical teal stripe on the right side.

causing them to die. “For a tumor to metastasize, it has to mutate,” states Edwards. “That makes them vulnerable to PARP inhibitors. They make the gene system go haywire and that makes the cancer cells die. It’s an exciting new type of therapy, and it is delivered through pills so patients don’t have to come in for infusions like chemotherapy. They’re very specific, so they don’t cause the same kind of side effects.”

Immune therapies are the second area of Dr. Edward’s research. “These therapies take advantage of the known inflammation around the cancer,” begins Edwards. “They activate the immune system to turn it against the cancer that’s developed.” Highlighted on the cover of the *Journal of Science* as the advancement of the year in 2013, immune therapies have been well adopted for melanoma, lung and bladder cancer, but they’ve just recently been thoroughly evaluated in women’s cancers.

“There are new and exciting results coming out,” states Edwards. “Our group has been at the center of that for the last five years, including Dr. Anda Vlad, a researcher in our lab who has developed a mouse model to look at the best way to give these immunotherapies. We then give trials to humans based on the data from the mouse models, adapting the clinical trials for the best possible schedule and dose for patients. We’ve been working as a team on this for the last several years.”

Edwards and his team are pioneering how to use immune therapies in combination with other agents, like chemotherapies. “We’re infusing the chemotherapy and immunotherapy directly into the ovarian cancer,” he says. “That’s very novel.”

They’re also looking at combining these therapies with a family of drugs called checkpoint inhibitors. Edwards explains, “If the immune system gets too excited by either cancer or an infection, it can become so active that it causes disease itself. So the immune system, like other systems in the body, has checks and balances. When the cancer develops, the immune system is activated and can play a role in the development of the cancer. When inflammation goes on for too long, checkpoint molecules become dominant. They subdue the inflammatory response thinking it’s hurting the body. We found that by using checkpoint inhibitors in certain cancers, we can turn the checkpoint process off and get clearance of the cancers. It’s like turning a breaker switch back on.” While checkpoint inhibitors have been used for years, Magee-Womens Research Institute has one of the few labs that is looking at them specifically in combination with intraperitoneal therapy, where the therapy is given directly into the cancer.

A rare program at a rare institution

With ten faculty members, Magee has the fourth largest gynecologic oncology program in the country. Recognized for cutting-edge therapies and approaches, it is also known for having specialists who work at other hospitals under the Magee-Womens Hospital of UPMC name to increase the positive outcomes in women's cancer throughout western and central Pennsylvania. "The Magee brand for women's cancer is a brand of excellence throughout Pennsylvania," states Edwards.

"We feel that without the contributions we're making in ovarian cancer, it's entirely possible that ovarian cancer would be bypassed by the advances seen in other cancers like melanoma and lung cancer," he adds. "Since we have such a strong program with strong translational, preclinical data clearly demonstrating that these new agents have a role in these cancers, it allows us to attract new funding for our patients with gynecologic cancer."

Dr. Edwards, along with Dr. Anda Vlad and Dr. Xin Huang, are developing innovative models and methods to study how the immune system responds to ovarian cancer, show how tumors spread throughout the body, explain why some cancers resist chemotherapy, identify biomarkers for earlier diagnosis, and test new therapies that may become more effective, personalized treatments.

Most of all, they hope and are uniquely positioned to find a cure for ovarian cancer.

To support cutting-edge research that can help more women with ovarian cancer, visit mageewomens.org/donate.



Anda Vlad, MD, PhD and Xin Huang, PhD

Fostering the Next Generation of Scientists



Mellissa Mann, PhD in her lab with interns

How did you spend your summer vacation? For a group of college and high school students, they had the opportunity to spend their summer in the labs at Magee-Womens Research Institute (MWRI) where they had hands on experience researching HIV prevention tools, reducing rates of infectious diseases, identifying causes of infertility, and examining other women's health issues.

Since 1995, the summer internship programs at MWRI have involved more than 400 students from more than 100 different institutions. The college program runs eight weeks and the high school program runs four weeks each summer. A student is paired with an MWRI investigator and welcomed into their labs. Amanda Micklo, a student at Ohio State University, participated in the 2017 college program and researched a common drug used to treat sexually transmitted disease. "I loved working in such an innovative and collaborative environment. Each day I was learning something new from not only the specific lab I was assigned to, but from faculty throughout the entire institute," Amanda said.

The students' research projects are designed to complement ongoing studies and they perform experiments under close supervision by a mentor. To prepare, they complete courses in Blood-Borne Pathogens, Chemical Hygiene and Lab Safety, and Radiation Safety Training depending upon their area of research. Four to eight weeks isn't long in the research world, but the students still made an impact. Dana Fiola, another MWRI college intern, commented, "The part of the job I found most satisfying was when I was working on different aspects of my project and saw the results after weeks of collecting samples. I felt extremely accomplished and happy that I knew this data could help the lab in some way."

As the field of biotechnology grows as an industry, so does the demand for biomedical scientists. The goal of the internship program is to promote interest in biomedical research and ensure that future researchers will make an even greater impact on the health of women and infants. Mellissa Mann, PhD, primary investigator at MWRI and internship mentor, emphasized the importance of fostering future scientists, "It was very rewarding for me to work with such bright young students. This generation's enthusiasm for basic research, women's health, and reproductive biology is critical to the future contribution to scientific discovery."

Students who have participated in the MWRI internship program have moved on to distinguished careers. Responses from feedback surveys show that many students expand their interest in science after their internship. College participants have gone on to present their research at national scientific meetings while others have co-authored manuscripts in peer-reviewed scientific journals. "This has been a once in a lifetime opportunity. This internship solidified my goal of going to medical school with a research background. I now value how important it is for doctors to have strong knowledge of research to be able to give the best care possible to their patients," Dana said.

This transformative program is supported by the researchers within MWRI and donors who recognize the need to support these impressive scholars. Recently, FedEx made a donation to support the 2018 internship program. Other past sponsors include the medical staff of Magee-Womens Hospital of UPMC, Ruth M. Casey, Mr. and Mrs. R. Michael Harter, and Sarah J. McCarthy.

If you would like to learn more about the MWRI internship programs, please visit www.mageewomens.org/education. If you would like to donate to the program, please contact the Magee-Womens Foundation office at 412-641-8949.



Participants of the MWRI 2017 Summer Internship Program

Navigating Life after Cancer: Magee's Survivorship Program

“Magee is in such a strong position to be on the forefront of issues pertaining to survivorship partially because of advances in breast cancer treatment.”

- Judith Herstine

After months of surgeries and treatments, most oncology patients are relieved when they hear the words, “You’re cancer-free.” But their journey doesn’t end there. “The transition from treatment to follow-up is stressful for almost everyone,” says Beverly Barkon, PhD, a two-time cancer survivor, patient in the Magee-Womens Cancer Program, and professor at Carlow University. “You lose the security of ongoing treatment, the relationship with your doctors and nurses becomes less intense, and you’re gearing up to re-enter the life space that you had before. There are a lot of issues that arise.”

Better research leads to more survivors

As research and clinical outcomes advance, more cancer patients are surviving the disease and adjusting to life after cancer. In response, Magee-Womens Hospital of UPMC created a program for women’s cancer survivors that is not found at many other institutions. “Magee is in such a strong position to be on the forefront of issues pertaining to survivorship partially because of advances in breast cancer treatment,” says Judith Herstine, program administrator of the Magee-Womens Cancer Program. “Because we can focus on breast and gynecological survivorship issues, we’re able to develop a level of expertise that’s rare.”

“Many metastatic breast cancer and recurring ovarian cancer patients are living long, long lives,” Herstine continues. “Are they survivors, or patients? They’re both. We need to continue to get better at addressing their needs.”

LiveWell Survivorship Program

Founded in 2010, the LiveWell Survivorship Program of Magee-Womens Cancer Program of UPMC Hillman Cancer Center is a multi-pronged initiative that helps women survivors of gynecological and breast cancers. At the close of treatment, all patients discuss a Survivorship Care Plan with their physician. This plan is a summary of treatment going forward including what tests to take, healthy lifestyle recommendations, and contacts for particular scenarios like mental health issues.

“For many survivors,” says Dr. G. van Londen, medical oncologist and director of the Center, “the biggest struggles are with aches and pains, sexual dysfunction, and mood problems. If we help them with those, we help them stay the course with regard to medication they may be taking.”



“Patients often feel misunderstood. People around them think ‘Hey, you’re done with treatment; pull yourself together. Move. But it’s like a tornado spit them out and they’re sitting on the floor with their eyes spinning thinking ‘what did I just go through?’”

- Dr. G. van Londen

Through the Program, survivors can access physical therapists, nutritionists, peer support groups, a dedicated patient navigator, social workers to help with financial and logistical issues, and psychological help through a highly-regarded psycho-oncology program.

“Patients often feel misunderstood,” says Dr. van Londen. “People around them think ‘Hey, you’re done with treatment; pull yourself together. Move.’ But it’s like a tornado spit them out and they’re sitting on the floor with their eyes spinning thinking ‘what did I just go through?’”

Emotional support brings hope

Jennifer Wilburn survived an advanced stage of triple negative breast cancer and has been cancer-free for almost 12 years. But it hasn’t always been easy. “Life after cancer can be difficult,” says Jennifer, “I still deal with neuropathic pain from my surgery that feels like the worst sunburn of your life and I also have lymphedema concerns.”

Jennifer has been a longtime member of a cancer survivor group and regularly attends Magee’s survivorship events. “The biggest thing the groups provide is hope. You never really get over the fear that the cancer could come back. But meeting women who have gone through cancer multiple times and are still here today, that really can be reassuring,” says Jennifer. Another benefit are the experts who present at the events. “Knowledge is power. I’ve learned a lot from speakers who talk about lymphedema, pain management, and other survivorship issues.”

Keeping the momentum going

As important as it is to educate the patients, it is also important to educate the physicians and providers about survivorship as well. “Magee is ahead of the curve in terms of having care providers who understand survivorship and really advocate for survivors within the institution,” says Dr. van Londen. “I think we’re leading the field, but we need to keep this momentum going.”

Magee is also well-positioned for survivorship research. “We’re doing a randomized study that looks at the benefit of personal training sessions,” says Dr. van Londen. “We know that re-engaging in exercise can help patients feel more in control, but often they’re wary.”

The best part of the survivorship groups for Jennifer? Her friendships and giving back to other survivors. “I’ve made some wonderful friends,” says Jennifer, “When someone new joins our group, I try to share my story with them. And I tell them that we are really lucky to live in a city that has all of these resources for us.”

Many of the services provided to survivors are funded by private donations. If you would like to support survivorship initiatives at Magee-Womens Hospital of UPMC, please visit mageewomens.org/donate.



CARING FOR CANCER PATIENTS: THE UNIQUE REWARDS AND CHALLENGES OF AN ONCOLOGY NURSE

“Isn’t your job depressing?” Paula Svidron hears that question all the time. But Paula, senior professional staff nurse in patient oncology at Magee-Womens Hospital of UPMC, says that isn’t true at all. “I get that question a lot and my answer is always no. My job is extremely rewarding.”

Paula knew that she wanted to be a nurse since she was a little girl. “I get my fix in life from helping other people. It’s just something I’ve always loved,” she says. She has worked as a nurse for 39 years and has spent her entire career at Magee. When she first started, she moved to different departments, but she really found her niche when she moved to the oncology floor. “You meet amazing people and it’s a privilege to know the patients. It is a sad situation but because of the people you meet, the good outweighs the bad,” Paula explains. She has worked as an oncology nurse for more than 25 years taking care of patients with breast, ovarian, cervical, endometrial, and other gynecologic cancers.

A typical 12 hour shift for Paula starts at 7a.m. She usually is assigned five to six patients and is responsible for getting them to testing, treatments, and appointments. Many of her patients are post-surgery and Paula walks them through eating and moving slowly, and preventing post-op complications like blood clots. “I focus on making sure the patients are comfortable and have the medications they need. I’m trying to get them home and discharged as soon as they are healthy enough,” she says.

Despite Paula’s positive attitude, she admits that some days can be tough. “The hardest times are during a new diagnosis and at the end-stage diagnosis. When someone first finds out they have cancer, it can be difficult to face the road ahead. And then when we have to explain that treatment isn’t working anymore and knowing it may be their final days, it’s always tough for the patient and their family. It’s also hard for the nurses because you really bond with the patients.”

That’s why being an oncology nurse isn’t for everyone. Paula explains, “All nurses have compassion. In oncology, I think you need to have the ability to deal with constant difficult news. You need to be able to react and communicate non-favorable results. And that is easier for some people than others. We do have some nurses who quickly find out it is not right for them. They see a 28 year old woman who is in the end stages of breast cancer and they, understandably, can’t deal with it. I don’t necessarily think there are specific qualities of an oncology nurse. It’s just something that is within you.”

So how does Paula deal with the hardships associated with her job? Her faith and her fellow nurses. “I believe things happen for a reason. I’ve seen things happen over the years and you really can’t explain anything else than it was the way it was supposed to be. I just pray that families and patients get the strength they need to cope,” she says. Paula also credits the support system within her unit. “I work in the 5800 unit and what we have is very special. We have created an atmosphere where we work together and are a team. Knowing that I have back-up and others who understand what I go through, that psychologically helps me get through. We look out for each other.” This support system not only helps the nurses, but comforts the patients as well. “The coolest thing I notice is the patients and families actually feel our teamwork. It creates a positive environment for them.”

Paula is currently working on a project to learn more about 'compassion fatigue', a common issue oncology nurses deal with. She explains, "You literally become exhausted from giving compassion to others and taking care of them. I'm working on a survey to see how we can address this issue." To help combat compassion fatigue, the hospital offers counseling and employee assistance programs. But the main support is through the other nurses and staff. "Some patient cases are more overwhelming than others. You may not be able to handle the same patient two days in a row. So the nurses look out for that and step in and say, 'take a few minutes' or we assign them to a different patient."

Paula says the small moments are the best parts of her job. "Just knowing that you make somebody feel better at that difficult moment in their life makes it all worth it. It's as simple as fluffing a pillow, giving a bath, or managing their pain. Seeing them feel better for just a moment is the best part." Paula also is inspired from watching her patients overcome their illnesses. "I had one patient who had complications and we didn't know if she would make it, but she was so positive and has recovered and continues to visit our unit. Patients like her are an absolute inspiration."

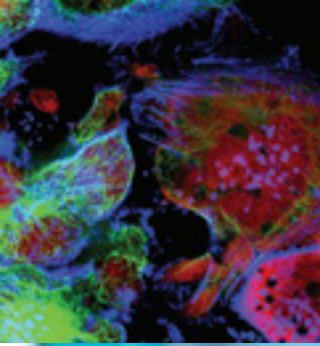
Paula credits her patients with changing her outlook on life. "This job puts my life in perspective. You need to appreciate what you have. I could be upset about some silly thing and then I talk to my patients and see what they've endured. When you're fighting to stay alive, it doesn't matter if you have the bigger house or material thing. You realize how tiny your issues are. This job and my patients have changed my outlook on life and make me appreciate everything more."

If you would like to honor a nurse like Paula who has impacted you or your family's lives, please contact Colleen Gaughan at 412-641-8978 or info@mageewomens.org.



“JUST KNOWING THAT YOU MAKE SOMEBODY FEEL BETTER AT THAT DIFFICULT MOMENT IN THEIR LIFE MAKES IT ALL WORTH IT.”

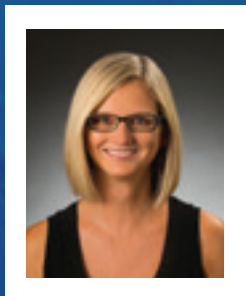
-PAULA SVIDRON



WHAT'S NEW IN 9-90™?

9-90™ is a groundbreaking study that looks at how pregnancy impacts our lifelong health—from 9 months to 90+ years. The program creates an infrastructure for bringing together researchers from different disciplines, from geneticists, biologists, and epidemiologists, to people who study decisions. In each issue of Magee Magazine, we will look at some current questions the investigators are tackling.

nine months
9-90
ninety years



Mellissa Mann, PhD
Primary Investigator
at Magee-Womens
Research Institute,
and Associate
Professor of Obstetrics,
Gynecology &
Reproductive Sciences
at the University of
Pittsburgh

How is your research related to the 9-90 study?

In my research, we're looking at assisted reproduction using a mouse model to determine whether any of the procedures to treat infertility lead to any changes in epigenetic information in the early embryo. Epigenetics is information on top of the DNA that controls gene expression at all stages of human development. There are three prominent syndromes that we are investigating to determine their links to assisted reproductive treatments. They are: Beckwith-Wiedemann Syndrome, an overgrowth disorder, Silver-Russell Syndrome, an undergrowth disorder, and Angelman Syndrome, a neurological disorder. Although assisted pregnancy therapies are generally considered safe, evidence suggests these three syndromes occur at somewhat higher rates during assisted reproduction.

What are the goals of your research?

We want to determine if particular procedures are giving rise to these syndromes. If we identify what increases the susceptibility to these syndromes, we can investigate how to get around that risk. We are also trying to identify why particular procedures or techniques are leading to higher risks. My work fits right into the 9-90 initiative since we are looking at the long-term effects of exposures during embryonic development. This idea has been around for a little while, but the research to look at how this is happening has been very limited. So this initiative is really on the cutting edge on how exposure during the first nine months—and in my research the first week of life—can shed light on longer-term health issues.

What are the recent developments in your work?

We are embarking on a new area of research. The major cause of infertility that assisted reproduction helps with is advanced maternal age. In the last 20 years, the age at which women are attempting pregnancy has gone up. The rates of infertility have increased now to about 10 -15% in the U.S. population. Compared to 1984, when it was about 5% of the population. Some of this can be attributed to advanced maternal age, among other factors. We're trying to build a natural mouse model of aging to see if advanced maternal aging itself can lead to changes in epigenetics information that can cause these diseases. People may not realize this, but from a biological perspective, the optimum age for pregnancy is between 20 to 30 years old. A woman in her 40's trying to conceive will have much greater difficulties because egg quality and pregnancy rates are much lower. Our research will determine whether advanced maternal age leads to changes in epigenetic information that affect these outcomes.

Why is Magee an ideal place to conduct your research?

Magee has a specialty in reproductive biology from both the male and female perspective. There are so many great researchers working in this field right here. It's a fantastic environment to trouble shoot ideas or just engage in conversations about our work. Magee is a national leader in reproductive biology research and our donor network is amazing. Reproductive biology sometimes falls behind in research dollars compared to research to fight diseases like cancer or neurological diseases. But what should be considered is that the embryonic period we are investigating has a connection to health later in life, impacting conditions like obesity, cardiovascular diseases, hypertension, and cancer.

For more information on how you can make a donation to continue this kind of groundbreaking research, visit mageewomens.org/donate.



“CANCER IS NOT A VAGUE NOTION – IT’S A REAL AND DEVASTATING DISEASE THAT STRIKES YOUNG AND OLD ALIKE. AND NO ONE IS IMMUNE TO ITS EFFECTS. HAVING LOST TWO OF MY CLOSEST FRIENDS TO CANCER, I AM STILL FEELING IMMENSE HOPE FOR THE FUTURE.

-MICHAEL ANNICHINE, CEO, MAGEE-WOMENS RESEARCH INSTITUTE & FOUNDATION

CEO UPDATE

Cancer is not a vague notion — it’s a real and devastating disease that strikes young and old alike. And no one is immune to its effects. Having lost two of my closest friends to cancer, I am still feeling immense hope for the future.

As the leader in women’s health research, it is Magee-Womens Research Institute’s mission to pioneer discovery in unexplored and unanswered areas affecting women and infants. We must continually seek out collaborations that help us advance our science and discoveries, be they economic, scientific, political or cultural. One leader in the fight against cancer is located right here in Pittsburgh where a special collaborative group of researchers is working to reduce the incidence and death from women’s cancers.

The Women’s Cancer Research Center (WCRC) is a joint venture between MWRI and UPMC Hillman Cancer Center, the only National Cancer Institute (NCI)-designated comprehensive cancer center in western Pennsylvania. The WCRC has already made great strides in precision medicine for breast cancer and understanding why certain cancers metastasize. And now, we are embarking on a visionary mission to prevent and improve survival rates for ovarian cancer.

Ovarian biology is one of those largely unknown areas of research. When a woman is diagnosed with ovarian cancer, it is often at a late stage and, almost always fatal. We continually ask ourselves, “How can we detect this disease earlier?” “What if we could make ovarian cancer less deadly?” Admittedly, the disease is elusive, but we are making progress. Our work for the past 20 years in immunotherapy as a response to this disease is unique. MWRI researchers have already been working toward biomarker identification for earlier and more efficient diagnosis, as well as a personalized ovarian cancer vaccine based on antigens from individual patients’ own tumors. Our researchers study the genetic underpinnings of ovarian dysfunction and abnormalities which lead to accelerated aging, as well as the connections between endometriosis and ovarian cancer.

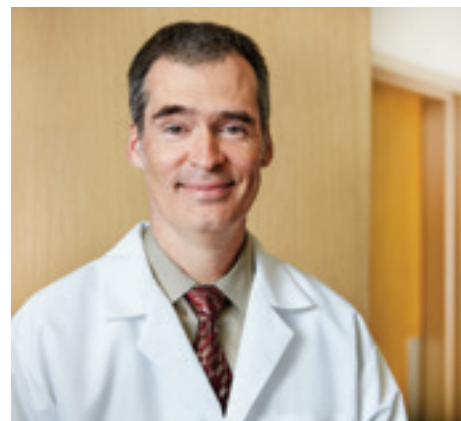
Recognized by the NCI for our innovation in this area, we received one of only four prestigious Specialized Program of Research Excellence grants in the United States. In addition to this grant, the generosity and forward-thinking leaders of the Eden Hall Foundation will help establish The Comprehensive Ovarian Biology Research Center. This center will harness the power of big data, genetics, and targeted research to develop novel strategies for early diagnosis, treatment and prevention of ovarian cancer. The addition of world-renowned ovarian cancer researcher Dr. Ronald Buckanovich complements the superior talents of the existing MWRI faculty, and brings us closer to understanding how ovarian cancer develops.

Taking a 360-degree view of ovarian cancer, and of women’s health in general, will propel discovery and help more women survive. The generous support of our donors and innovative leaders gives our researchers the opportunity to unravel more mysteries about ovarian cancer and come another step closer to improving the lives of cancer patients and survivors.

A Research Leader And His Innovative Lab Join Magee-Womens Research Institute

Magee-Womens Research Institute is pleased to welcome Dr. Ronald J. Buckanovich to Pittsburgh.

He joins us from the University of Michigan Health System where he was a principal investigator developing novel diagnostic tests and therapeutic agents for women's cancer. Dr Buckanovich graduated from Cornell University in 1990 with a B.S. in Genetics and Biochemistry. He then completed the Medical Scientist Training Program receiving his Ph.D. in 1996 from the Rockefeller University and his M.D. in 1998 from Cornell University. He has 55 publications and numerous research awards including a Clinical Investigator Award from the Damon Runyon Cancer Research Foundation, and a New Innovator-Directors Award from National Institutes of Health. His work was also recognized by the Society of Gynecologic Oncology with the Best Basic Science Award and Gynecologic Cancer Foundation's Carol Cause Award. Dr. Buckanovich was elected to American Society of Clinical Investigators, and holds multiple NIH R01 Awards. His lab work has directly resulted in four clinical trials including a national trial and a trial he will be bringing to Magee.



Ronald J. Buckanovich, MD, PhD

While he was busy moving his family and laboratory supplies to Pittsburgh to open his lab on September 1st, Dr. Buckanovich spoke to us about his work and his plans for advancing his research at Magee.

What is the primary focus of the research you'll be doing at Magee?

My lab is now concentrating on developing new therapies — for both treatment and hopefully prevention of ovarian cancer. We are trying to target what we believe is the root cause of ovarian cancer, cancer stem-like cells. I explain our work like this: think of ovarian cancer as a lawn full of dandelions. You can mow the lawn and it might look like you have rid yourself of the dandelions. For ovarian cancer patients, that's often what we're doing with chemotherapy. We give chemotherapy treatments and most patients appear to have a good response with no cancer on scans. But just like dandelions in your lawn, if you haven't removed the roots of the disease, the cancer can grow back. Ovarian cancer recurs in 70% of patients. We want our new therapies to target the root of the disease of ovarian cancer. Furthermore if we can develop therapies which target the initial seeds of cancer, we may also be able to prevent the cancer from starting altogether. Ultimately, as a physician scientist, I want to take what we do in the lab and directly impact patient care. And then take what we learn from patients in clinical trials and bring it back to the lab and repeat the process.

Logistically, what is involved in moving your lab from Michigan to Pittsburgh?

It's a challenge, but we're excited about the opportunity. We have cells that have to stay in liquid nitrogen during transport to Pittsburgh. So we need different freezers that can keep these samples down to negative 80 degrees Fahrenheit. The University of Pittsburgh has been great in assisting in the move and finding special movers who can ensure the safety of the tissues. We have years and years of research locked up in these freezers. If something would happen to them, hundreds of thousands of dollars and years of our life in research would be gone.

I'm also bringing four other investigators with me. Two post doctoral fellows with PhD's and two research assistants with PhD's who have been working in science for ten years at a senior level and who are critical to helping run the lab.

Why did you choose to join Magee? What makes this Institute unique?

Magee's focus on women's health research is really special. We will have an obvious synergy and work closely with the breast cancer researchers. But also at Magee, so much more interaction can take place working literally right next to people looking into numerous aspects of women's health including infertility and ovarian development. And often how the ovaries develop and how cancer develops are parallel. Being so close to people who understand development in general and epigenetics in particular can help inform our research.

How important is philanthropy to your research?

My lab and job likely doesn't exist without philanthropy. My initial grant came from the Ovarian Cancer Research Foundation. Years ago when I was first applying for jobs, it was a challenge as I didn't have funding. However I got an initial grant, via philanthropic support, from the Ovarian Cancer Research Foundation. Because of this donation I got the data, which got us a big paper, and then I became a highly sought after investigator. You've heard the expression, you can't get a job without experience, but you can't get experience without a job? The same Catch 22 often takes place having a lab and getting funding as a junior investigator. Plus, when it comes to creative, new, but high risk ideas, many funding sources, such as the NIH, are reluctant to risk their limited resources. This is where philanthropy 'seed funding' is critical. This support allows us to take risk and get the data needed to prove an idea is sound. Seed funding can really get the ball rolling for a researcher. These small grants can turn into millions of dollars down the road from other sources that will now be more willing to fund you. Every single investment is important. In fact two major projects in our lab were launched with philanthropy and ultimately has led directly to two clinical trials.

Besides your research team, is anyone else coming to Pittsburgh with you?

My wife and children will be joining me. My wife, also a physician scientist, will work at UPMC and with the Veterans Administration developing a chronic disease center. I have a nine-year-old daughter and six-year-old son both of whom have been really understanding of our desire to come to Pittsburgh.

I'm also a big hockey fan so I'm excited to cheer on the Penguins. I really love everything I know about Pittsburgh so far. The sense we have of Pittsburgh is that it is a very livable place and we're looking forward to it.



Daniel Bellissimo, PhD

Genetic Testing for Hereditary Cancer Now Available In-House

Genes referred to as BRCA1 and BRCA2 have a significant role in preventing breast and ovarian cancer. If these gene mutate, this is a harmful change that can prevent them from working properly, leading to a higher risk of hereditary cancer. Genetic testing of BRCA genes is now available in-house at the Clinical Genomics Laboratory at Magee-Womens Hospital of UPMC under the direction of Daniel Bellissimo, PhD and Alexander Yatsenko, MD, PhD of the Department of Obstetrics, Gynecology and Reproductive Sciences.

“Typically patients are referred to our genetics service for a consult due to the possibility of hereditary cancer,” Bellissimo said. “Depending on the results of the testing, we can determine if they are at an elevated risk for getting breast or ovarian cancer. The lifetime risk of getting cancer may be as high as 40-80%. If changes in the BRCA genes are not detected, other genes can be tested. The test results can help the patient and their doctor consider what additional surveillance or other procedures may be needed.”

Patients could also alert other women in their family to consider additional testing under the direction of a genetic counselor who can help them understand both a positive and negative result. Having this capability in-house enables doctors, geneticists, and counselors to work together in developing tests and helping patients.

“The collaboration between the specialized geneticists, scientific researchers and medical staff have made bringing additional genetics testing to Magee a reality,” said Patty Genday MSN, MBA, RN Executive Director, Women’s Services at Magee-Womens Hospital of UPMC. “This solidifies the comprehensive women’s cancer services Magee offers to our community.”

“The collaboration between the specialized geneticists, scientific researchers and medical staff have made bringing additional genetics testing to Magee a reality.”

-Patty Genday



Dr. Yoel Sadovsky Named Honorary Fellow of RCOG

Yoel Sadovsky, MD, Executive Director of Magee-Womens Research Institute and Associate Dean and Distinguished Professor in the School of Medicine, has been elected as a fellow ad eundem to the Royal College of Obstetricians & Gynaecologists (RCOG, United Kingdom). This honorary fellowship is awarded to exceptional individuals who are not Members or Fellows of the RCOG but who have demonstrated major contributions to obstetrics, gynecology or reproductive health via the advancement of the science or practice of obstetrics and gynecology in a substantial way. Founded in 1929, the RCOG works to improve women’s health care across the world, with partners in the UK and globally to improve standards of care, encourage scholarly study and advance the science and practice of obstetrics and gynecology.

Infectious Energy, Rock and Roll, and Medical Research Unite to Overcome Gender Inequalities

Melinda Colaizzi knows firsthand the challenges women face in the music industry. She is a musician herself and noticed a theme at local events. "In my line of work as a musician and an event planning consultant, I have attended many different fundraisers and benefits. I realized that there was not a great representation of the female talent in Pittsburgh," she shared.

And it's not just a problem in Pittsburgh. A 2015 study by Fusion found that just 26 percent of the Top 40 artists were women-only performances. Melinda commented, "Unfortunately, it's part of the music business. Females can be left on the backburner. It's so important to showcase women musicians and women-fronted bands."

In the medical and research community, there is a similar gender disparity. Funding for women's health research falls significantly behind other areas of research. Until recently, studies done on men were applied to women despite known genetic differences between the sexes. In 1993, the NIH enacted the National Institutes of Health Revitalization Act requiring women and minorities to be represented in clinical trials. In that same year, Magee-Womens Research Institute (MWRI) was born, and today is the largest independent research institute in the U.S. devoted exclusively to women's health research. MWRI is committed to bringing women's health research to the forefront of medical funding and discoveries.

Melinda first heard about Magee-Womens Research Institute at a 2016 fundraiser at the Pittsburgh Winery where Melinda performed. "I was born at Magee, so I was familiar with the hospital side of things. I was thinking of doing a female showcase and it all kind of fell into place when I heard about the research institute's mission," Melinda said.

Fast-forward to May 11, 2017: The pink carpet was rolled out at the Hard Rock Café Pittsburgh for a night of music and raising money for women's health research. The three main acts were all led by female musicians. The Hobbs Sisters, Lyndsey Smith & Soul Distribution, and Jill West & Blues Attack entertained the crowd, while radio legend Michele Michaels emceed.

A highlight of the evening was the stories shared about why women's health is so important. Elisa McMahon, a Women Who Rock committee member, shared her story during the event. "My husband and I didn't have trouble getting pregnant, but were not able to sustain two pregnancies. I saw Dr. Joe Sanfilippo at Magee who fixed a kink in my fallopian tube. Literally a month after surgery, I was back in his office listening to the heartbeat of my son," she shared. At the event, Elisa presented the inaugural Women Who Rock award to Dr. Carola Neumann, a primary investigator from Magee-Womens Research Institute. They also shared a special connection. "My mom and sister are cancer survivors, and currently my aunt is fighting triple negative breast cancer which is Carola's research specialty. Carola was so helpful answering my questions and is truly the most inspirational person," Elisa shared.

Women Who Rock was sponsored by Totally Fit Mama, Dunkin Donuts, iHeartRadio, and ShowClix. Melinda is looking forward to continuing the event because of the positive response she received. "At one point in the evening, I stood back and looked around the room. The energy was infectious. The biggest take away was being able to make a difference in women's lives and not just in Pittsburgh. Supporting research helps women all over the world. It also was a great way to support local female musicians. All while having a super fun time."



Lyndsey Smith & Soul Distribution perform at Women Who Rock



Dr. Carola Neumann accepts the Women Who Rock Award

The 2018 event is scheduled to take place in May. Check mageewomens.org/events for more updates on this event and others.



**Diane Mitra and
Dr. John Comerci**

ERIE EVENT PLANTS THE SEEDS FOR RESEARCH EXPANSION

Diane Mitra knew something wasn't right when she experienced abnormal bleeding. Living in Erie at the time, she went to her local gynecologist who diagnosed her with endometrial cancer. The cancer had metastasized to multiple organs. Diane commented, "It was an advanced stage of cancer and I knew the prognosis wasn't very promising."

Diane needed to meet with a gynecologic oncologist. Unfortunately, at that time, there were none in the Erie area. Diane's physician highly recommended Dr. John Comerci who was located in Pittsburgh.

Diane was scared facing her cancer diagnosis. "You never think you'll get cancer yourself. As soon as you walk into an oncologist's office, you know your life is changing," she said. But she was put at ease when she first met Dr. Comerci. "He was so kind, patient, and open with me. He made me feel safe at a time when I was so terribly, terribly scared. He makes it seem like you are his only patient."

Dr. Comerci, a gynecologic oncologist at Magee-Womens Hospital of UPMC, also remembers how easy it was to work with Diane. "She's the perfect patient because she just said 'what do I need to do?' and she did it. She is a wonderful individual." Dr. Comerci tries to make all of his patients feel the way Diane did. "I keep the lines of communication open. When I'm with patients, I sit with them instead of standing with my hand on the doorknob. I also try to elicit some non-medical information about how they're feeling from an emotional standpoint," he said.

It's been eight years since Diane was diagnosed. Today, she is cancer-free and doing extremely well. Now that UPMC and Magee-Womens have expanded to the Erie area, gynecologic oncologists are a part of the medical community in Erie and Diane is able to see Dr. Comerci there for her follow-up care. "I live in the New York City area now and I'm close to institutes like Sloan Kettering. But I still fly into Erie to see Dr. Comerci. When you have the best, you stay with it," Diane said.

After Diane's positive experience, she wanted to give back to fund research and support work done specifically in the Erie community. Working with Magee-Womens Research Institute & Foundation, Boo Hagerty, Chief Development Officer at Hamot Health Foundation, Gary Maas, a prominent area event planner, Diane and Gary created the Seeds of Hope event. In May 2016, about 55 attendees gathered at the Sunset Inn in Erie for a fashion show and luncheon. Proceeds from the event will support gynecologic oncology research and the expansion of Magee-Womens Research Institute's research initiatives in the Erie area in coordination with Magee-Womens Hospital UPMC Hamot.

Dr. Comerci attended the event and commented on the importance of research support, "This event was so important and we were touched that Diane wanted to do this. It allowed us to introduce the idea to the Erie community that clinical care is important but in order to make inroads with many of these diseases, you need research."

Diane is looking forward to continuing the event and supporting research. "The world-renowned research of Magee-Womens Research Institute benefits the women of Erie as well as women the world over. I'm just one of thousands of women who depend on that research every day."

To support Magee's women's health research, please contact 412-641-8949 or visit www.mageewomens.org.



Aleksandar Rajkovic, MD, PhD, received a five-year, \$1.7 million R01 grant from NICHD, entitled "Med12 Mechanisms of Uterine Leiomyoma Formation".



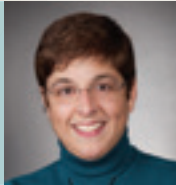
Hy Simhan, MD, MS, a team member of the NIH- UGS grant entitled "Pre-and Postnatal Exposure Periods for Child Health: Common Risks and Shared Mechanisms" (ECHO) grant, with Dr O'Connor at the University of Rochester.



Judy Yanowitz, PhD, received a two-year, \$450,000 grant from NICHD, entitled " Fluorescently Tagged C. elegans to Probe Meiotic Recombination".



Kyle Orwig, PhD, received a three-year, \$1.1 million R01 grant from NICHD, entitled "Improving Fertility Preservation in Boys with Cancer". He also received a five-year, \$1.05 million T32 training grant from NICHD, entitled "Reproductive Development from Gonads to Fetuses".



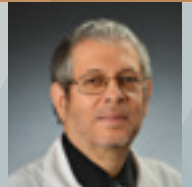
Charlene Dezzutti, PhD, received a four-year, \$1.8 million R01 grant from NICHD, entitled "Hormones, Immunity and HIV Risk".



Elizabeth Krans, MD, received a 1-year, \$50,000 grant from UPP Foundation entitled, "Using social networks to decrease drug use and high-risk behavior in pregnant women with opioid use disorder"



Gerald Schatten, PhD, has received \$364,000 competitive supplementary funding for one additional year on his NIA R25 entitled, "Frontiers in Aging and Regeneration Research (FrARR)"



Yaki Barak, PhD, received a 1-year, \$195,000 R56 grant from NIDDK entitled, "Mechanisms of adipocyte death"



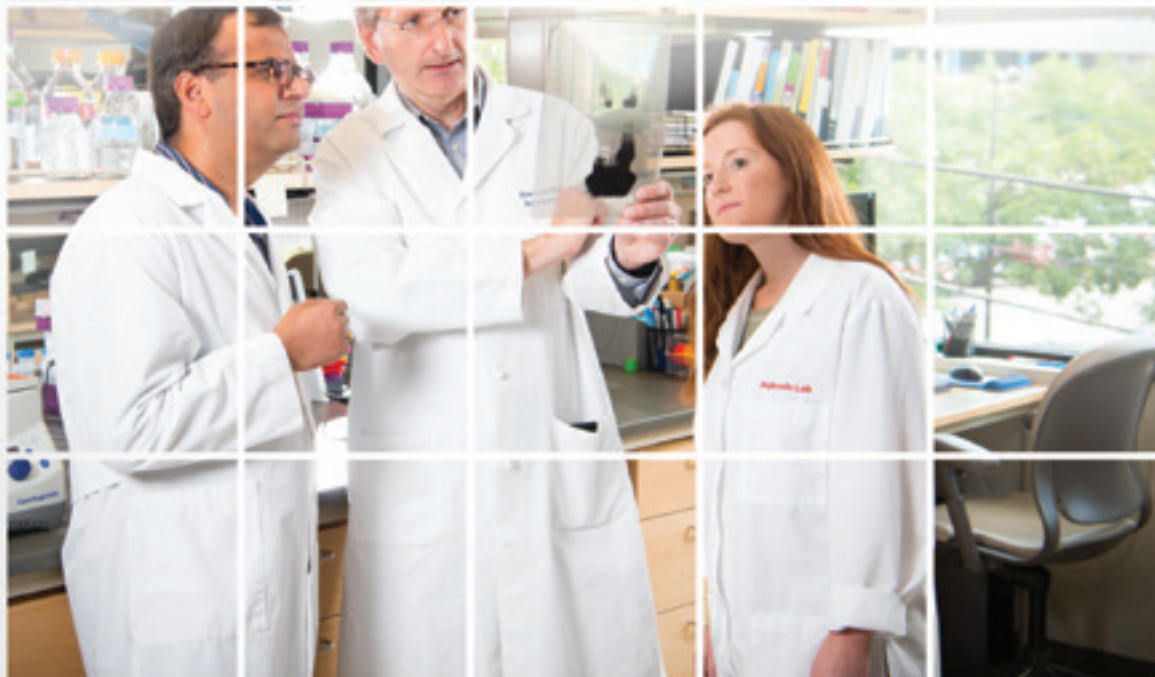
MWRI, received a 5-year, \$2.6 Million renewal of the K12-BIRCWH grant from NICHD and the Office of Research in Womens Health entitled, "Building Interdisciplinary Research Careers in Womens Health in Pittsburgh"

Annual report now available online
at www.mageewomens.org/publications



A WINDOW

INTO LIFE-CHANGING DISCOVERIES
AND TRANSFORMATIVE GENEROSITY



2017 PHILANTHROPY REPORT
JULY 1, 2016 – JUNE 30, 2017



MAGEE-WOMENS
RESEARCH INSTITUTE &
FOUNDATION



MAGEE-WOMENS
RESEARCH INSTITUTE &
FOUNDATION

3339 Ward Street
Pittsburgh, PA 15213
www.mageewomens.org
412.641.8949

NONPROFIT ORG
U.S. POSTAGE
PAID
PITTSBURGH, PA
PERMIT NO. 1212

Three ways to give. So many lives to touch.

Making a planned gift to Magee, whether for research, patient care, or education, is easy. Plus this is a gift that costs you nothing today, and creates a meaningful legacy that touches the lives of so many others in the future.

1 **Bequest** – You can remember Magee through your will.

.....

2 **IRA** – Name Magee as a beneficiary on your retirement account.

.....

3 **Charitable Remainder Trust** – Create an income stream for your life while also making a gift to Magee.



There are many other gift options to choose from including life insurance, gifts of real estate, and gifts of stock. For more information about making a meaningful gift to Magee, please contact Colleen Gaughan at cgaughan@magee.edu or 412-641-8978.