

MAGEE

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MAGEE-WOMENS RESEARCH
INSTITUTE & FOUNDATION

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2021 Magee Prize

**Winning Team Leads
Research Set to
Transform the Future
of Women's Health**

STRONGER TOGETHER

Diverse Partnerships
Key to Research Expansion
at MWRI in Erie

SLOWING THE SADNESS OF INFERTILITY

Groundbreaking Research,
Advocacy, and Patient-Centered
Care Can Mean New Hope for
Future Mothers

WOMEN'S HEALTH = HUMAN HEALTH

The 2021 Magee-Womens
Summit Explored Women's
Health Across the Lifespan



MAGEE

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THIS ISSUE HIGHLIGHTS

06

STRONGER TOGETHER

Diverse Partnerships Key to Research
Expansion at MWRI in Erie

08

SLOWING THE SADNESS OF INFERTILITY

Groundbreaking Research, Advocacy,
and Patient-Centered Care Can Mean
New Hope for Future Mothers

14

WOMEN'S HEALTH = HUMAN HEALTH

The 2021 Magee-Womens
Summit Explored Women's Health
Across the Lifespan

19

2021 MAGEE PRIZE

Winning Team Leads Research
Set to Transform the
Future of Women's Health

2022

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Fueled by Science

I hope this issue of MAGEE magazine finds you well and enjoying your summer. We're a little over halfway into 2022, and I'm excited to reflect on our accomplishments from the last several months while looking forward to what lies ahead.

First and foremost, this issue celebrates the Magee-Womens Summit held last November and the research team that took home the \$1 Million Magee Prize. The Summit convened scientific and clinical innovators to transform women's health and reproductive biology in the 21st century. As a premier meeting in women's health, the Summit harnessed cross-disciplinary innovations and began a conversation that is paving the way for a new generation of visionary research. It began with an afternoon dedicated to advocacy: addressing health disparities and tackling tough issues with communities to build a better future together. The Summit then pivoted to two full days of research, featuring clinically-focused keynote talks and panel discussions. In addition, the second Magee Prize was awarded to an international research team that includes MWRI investigators, Dr. Pamela Moalli and Dr. Kyle Orwig, as well as Dr. Caroline Gargett from Monash University in Australia. Their work exploring stem cell technologies for use in biofabrication has the potential to improve millions of women's lives around the world.

On the heels of our Summit, we had the honor of hosting the Oncofertility Consortium Conference. Dedicated to addressing the complex health care and quality-of-life issues faced by young cancer patients whose fertility may be threatened by their disease and related treatments, the Consortium represents a nationwide, interdisciplinary network of medical specialists, scientists, and scholars exploring relationships between health, disease, survivorship, and fertility.

The strength of laboratory and clinical research on display at both conferences was incredibly inspiring and together, show just how much MWRI's research has developed over the last several years.

Our science fuels everything we do, and as it has grown, so has our foundation and its fundraising events. Women Who Rock, our signature fundraiser and partner, held its first benefit concert in Los Angeles, spreading awareness of our mission from Pittsburgh to the West Coast. It was an incredible evening, with headliner Aimee Mann and performances by Flor de Toloache and Emily Wolfe generating a buzz that introduced our research to a new audience while celebrating the future of women in music and health research. Our annual Women's Health Symposium also generated characteristic enthusiasm from attendees in Naples, Florida, who had the opportunity to discuss the latest in women's health with our researchers.

This event continues to grow each year, exposing fresh members of the Naples community to the advancements in women's health care and research done at MWRIF.

All these accomplishments are possible because we are building on a foundation laid by researchers, clinicians, and leaders committed to innovation and excellence.

This year has been nonstop, and we wouldn't have it any other way. Please check out our Happenings section for our upcoming calendar of events — we would love to see you at any of our outings. As our supporters, you make up the heart and soul of our community, and we wouldn't be where we are without you.

Thank you.

Michael J. Annichine
CEO



From the Heart

Celebrating Above & Beyond Frontline Heroes

A PING ON DONNA MAGGIO'S INBOX signaled a new email arrival. This message was different from the others, as it contained a personalized video tribute from nearly a dozen colleagues saying how much they appreciated her.

One by one, clips of familiar faces filled the screen, expressing their gratitude for Donna's astounding work ethic, vast know-how, and friendly attitude as the Ultrasound Coordinator in the Diagnostic Imaging department at UPMC Magee-Womens Hospital.

The responses affirmed her status as the department MVP, with the staff members rattling off the many critical tasks — often including extra ones — Donna takes care of each day. The recording goes on for over eight minutes:

"You are the glue that holds this department together. You are always so willing to help us out. I come to you almost daily for help with something."

"I could probably talk for about an hour about how much you mean to this department. You do so much, you have your hand in everything. This department would not be the same without you — you just really take care of everybody."

"I could not function without you here. You're amazing."

Donna, who has worked at UPMC for 26 years, said that watching the video

was a touching experience. "I even teared up when I saw it," she added.

But Donna was not alone in getting such a tribute. During the 2022 Employee Appreciation week, over 70 employees from the Diagnostic Imaging department received celebrations from coworkers, lauding their positive qualities exhibited in the workplace each day.

For Lori Moore, Director of Diagnostic Imaging and the creator of the video card employee appreciation project, it was moving to record messages for her team. "It was rewarding, taking time to appreciate and reflect on each person individually," she said. "It reminds you of what you're doing here."

Lori said that leaders must demonstrate authentic appreciation of employees' efforts, in part because it benefits all involved by building better relationships. "When people feel valued, truly appreciated, deeper down, they have a stronger commitment to you and your team. If you're not personally involved and make that connection, it's a lost opportunity," Lori said.

She credits her leadership team for their willingness to go on video and out of their comfort zones to record messages for the team as well. When she asked, several Magee leaders quickly agreed to film employee appreciation messages, including Dr. Richard Beigi, President; Maribeth McLaughlin, Vice

President of Operations; Dr. Gabriella Gosman, Vice President of Medical Affairs; and Chris Vitsas, Senior Director of Hospitality and Operations.

Like Lori, Chris says that employee appreciation goes beyond the themed days (or pie-in-the-face events!) one week out of the year. "It's more than feeding people — it's those personalized things that make an impact," he said.

"UPMC has made a \$350 million investment in our people, of which things like the 2021 end-of-year \$500 bonus were a part."

— CHRIS VITSAS



In April 2022, the Diagnostic Imaging Department at UPMC Magee-Womens Hospital visited Painting with a Twist in South Side Flats.

Over the past year, Magee and the larger UPMC organization have continued and enhanced employee engagement work that's been ongoing for years, with a focus on showing gratitude and appreciation for everyone who makes life-changing work happen in the hospital and beyond. Leaders engage with their teams through "rounding" and one-on-one conversations as well as handwritten thank-you cards for staff who may have gone above and beyond. The hospital offers resources like respite rooms when an employee needs a moment. And new programs have created career growth opportunities and flexibility.

In November, all UPMC employees received a \$500 bonus across the board, a gesture that grabbed headlines at the height of what media across the nation had begun to call the "great resignation," but it was just one part of a larger and more sustained effort to show staff how valued they truly are.

"UPMC has made a \$350 million investment in our people, of which things like the 2021 end-of-year \$500 bonus were a part," he said.

Chris added that these employee appreciation efforts aren't optional, but in fact critical to successfully delivering the highest quality care. In fact, a *Health Affairs* report that surveyed more than 20,000 health care workers indicated that hospitals with better work environments for nurses have

higher HCAHPS scores, which correlate with levels of patient satisfaction.

"We are nothing without our frontline staff. They provide direct care and really make an impact with each patient individually, and it's not just doctors and nurses," he said. "Everyone who smiles at you, says hi, takes your vitals, or gives you a plate of food really has the chance to make that difference, for our patients and for our co-workers."

Showing solidarity with Magee frontline staff throughout the challenges of the pandemic has also been top of mind for Janice Devine, Vice President of Development at Magee-Womens Research Institute & Foundation (MWRIF). During the last year, MWRIF launched a giving campaign for comfort items to support hospital workers. "We knew that the frontline staff was going above and beyond, basically becoming part of a patient's family as they went through tough things alone," Janice said. "We wanted to ease their burden, show we care, and let them know that we are all part of the same team, the same Magee family."

In addition to the giving campaign, MWRIF hosted events at Magee featuring hot pretzels from Axel's Pretzels, covering three shifts to ensure all employees had access. Another popular event featured Wu's Shaved Ice, a hard-to-find treat during the lockdown.

Denise Wickline, Events Manager at MWRIF, said that the events and giveaways during the height of the pandemic, such as free oil changes for hospital workers from Glenshaw Auto, were done to brighten employees' days. This energy proved especially palpable in the rare opportunities to mingle outside while socially distanced. "Everyone was pretty isolated to their units at that point, and you couldn't sit in the cafeteria," she said. "The shaved ice event got people out into the courtyard and talking, saying things to each other like, 'Oh my gosh, how are you? I haven't seen you in forever!' It was like a reunion."

For employees like Donna, the appreciation efforts are in fact, appreciated. "It gave me an extra boost," she said. "I'm the type of person to strive for everything to be done correctly, so it feels good to know that you're important to your team."

Fast forward to 2022, when a new normal is emerging for Magee employees, despite the lingering and ongoing effects of the pandemic.

With the lessons gleaned through this collective hardship, team members and leaders across Magee might appreciate taking that extra moment to step back from the daily grind, acknowledge the humanity in one another, and show a little bit of gratitude that can go a long way.



STRONGER **TOGETHER**

Diverse Partnerships
Key to Research
Expansion at
MWRI in Erie

FOR DECADES, PREGNANT WOMEN have been excluded from clinical trial research. This exclusion has led to inequities in health care during pregnancy. At MWRI in Erie, a new study was designed that could identify markers for preeclampsia — a condition marked by extremely high blood pressure and high levels of protein in urine that may indicate kidney damage. The study has the potential to increase understanding of the condition and related adverse pregnancy outcomes.

Affecting thousands of women in the U.S. each year, preeclampsia usually begins after 20 weeks of pregnancy in women whose blood pressure had previously been in the standard range. Left untreated, preeclampsia can lead to serious, and sometimes fatal, complications for both the mother and baby. Early delivery of the baby is often recommended.

In partnership with Mirvie, an organization pioneering ways to predict unexpected pregnancy complications, MWRI in Erie is participating in a national study collecting a one-time blood sample from pregnant women around their 20th week of pregnancy to see if they can correlate markers in the blood with pregnancy outcomes.

“At MWRI, we’ve developed the Steve N. Caritis MOMI Database and Biobank. It gives us the ability and infrastructure to collect samples from all types of pregnancies — including complicated ones. The beauty of the Mirvie study is the fact it’s a one-time blood draw, so it’s an easy thing for pregnant women to do while contributing to our understanding of preeclampsia,” said Arun Jeyabalan, MD, a clinician-researcher with MWRI and associate professor with the Department of Obstetrics,

Gynecology and Reproductive Sciences with the University of Pittsburgh School of Medicine.

According to Dr. Jeyabalan, pregnant women tend to be very enthusiastic about contributing to research, particularly when the studies pose minimal risk. “While this test might not help women who are currently pregnant, it will advance our long-term understanding of the causes behind preeclampsia that could allow us to tailor a woman’s care and improve her birth outcome,” she said.

A key highlight of the study is its availability in community hospitals as well as academic medical centers. “The partnership between MOMI, industry, and community hospitals for this study is really powerful,” said Dr. Jeyabalan. “Working together strengthens our research and means healthier moms and babies.”

“At MWRI, we’ve developed the Steve N. Caritis MOMI Database & Biobank. It gives us the ability and infrastructure to collect samples from all types of pregnancies — including complicated ones.”

— DR. ARUN JEYABALAN

Slowing the Sadness of Infertility



GROUNDBREAKING
RESEARCH, ADVOCACY,
AND PATIENT-CENTERED
CARE CAN MEAN
NEW HOPE FOR
FUTURE MOTHERS



FEATURE STORY

By Niki Kapsambelis and
Courtney McCrimmon

MORE THAN FOUR DECADES AFTER THE

birth of the first test-tube baby, Louise Brown, which put assisted reproduction technology into the spotlight, the field is ready to move forward with new innovation. And through its Division of Reproductive Endocrinology and Infertility (REI), UPMC Magee-Womens Hospital and Magee-Womens Research Institute are poised to help lead the way.

Julie (Sroga) Rios, MD, assumed the role as the division's new chief in the summer of 2021. She was drawn by the opportunity to conduct research that would help advance the field to meet the challenges presented by growing rates of infertility worldwide.

"It's a big and flourishing REI division," Dr. Rios said. "The ability to do clinical as well as translational research is there."

She was especially drawn to the Center for Reproduction and Transplantation, led by Kyle Orwig, PhD, a longtime colleague. Dr. Rios plans to collaborate with the center clinically, and both she and Dr. Orwig participated in the Oncofertility Consortium Annual Conference in Pittsburgh in May.

In vitro fertilization (IVF), the technique that was pioneered in the conception of Louise Brown prior to her birth in 1978, results in high success rates for many patients, Dr. Rios noted. But she is interested in understanding how to optimize fertility treatments for conditions such as endometriosis and ovarian insufficiency. And she hopes research will shed light on the underlying conditions that lead to infertility, such as polycystic ovary syndrome or men whose sperm quality is low — neither of which is well understood.



Team members of the Magee Division of Reproductive Endocrinology & Infertility.

“I’d like to know what the causes are on a molecular, genetic, and environmental level,” Dr. Rios said. “Those are the pieces lacking in our field, and we need better studies.”

Genetic testing and possible nutritional or environmental changes may help address some of these conditions, she noted.

She also hopes to create specialty clinics, such as a survivorship session with patients who are finally finished with chemotherapy after oncology treatment and want to know their fertility potential.

Infertility is a growing problem, owing to a variety of factors. With better treatments and wider insurance coverage available for some patients, more people are seeking treatment now than in the past. In addition, couples are delaying family planning, which can lead to age-related drops in conception rates, and the national obesity epidemic is another factor: patients with obesity have lower rates of pregnancy and higher rates of miscarriage.

Dr. Rios plans for additional faculty growth in the division. In addition, the division offers a robust fellowship training program where fellows are gaining hands-on experience with

embryo transfers, which is not universally done at all REI fellowships. “Our program is state of the art in that we really involve our fellows in patient care,” she said.

A new team-based approach that uses the same physician, nurse, advanced practice providers, and physician assistant to support patients as they move through their infertility care is winning rave reviews from patients who appreciate the continuity. Dr. Rios hopes to increase patient access through expansion, using telemedicine and additional faculty to reach people further toward central Pennsylvania.

And because consultations are so dense with information, the division would like to provide better educational materials that use multiple forms of media such as videos and podcasts.

Finally, Dr. Rios is interested in advocating for patients by seeking expanded financial coverage for infertility regardless of a person’s socioeconomic status, sexual identity, gender identity, or partner status. “I have patients saying, ‘Infertility is a disease. I didn’t choose this. Why should I have to pay for coverage?’” she said. “I want to be involved and improve access to infertility care for all patients.”



“I’d like to know what the causes are on a molecular, genetic, and environmental level. Those are the pieces lacking in our field, and we need better studies.”

— DR. JULIE RIOS



Investing in Impact

A Son's Gift to Fund Ovarian Cancer Research Realizes Tenfold Return

EVERYONE NEEDS A FRIEND LIKE ROBBIE Lacritz Deitch. She loved to bring people together, whether it was a girls' weekend with eight of her closest friends, a service project at her son's school, or a business partnership where she saw potential for opportunity. Nobody knew how to connect people or celebrate life better than Robbie.

So, it seems a fitting legacy that she inspired a gift to Magee-Womens Research Institute which, in less than a year's time, was magnified tenfold to fund groundbreaking research in ovarian cancer, the disease that ultimately claimed her life. The example she set could wind up spar-

ing other women from the same trajectory. To her friends and family, that was exactly what she would have wanted: to be the catalyst that changes history.

One Woman's Story Impacts Every Womans' Health

When Robbie was diagnosed with Stage 4 ovarian cancer, those who were lucky enough to be part of her inner circle were stunned. "I thought, 'This is impossible. This is a woman who has more life and more energy than anyone I've ever known,'" recalls Carrie Coghill, one of Robbie's best friends and former board chair of



The Deitch family.

Magee-Womens Research Institute. “She had such a vibrancy about how she lived her life. She embraced everyone; she embraced everything. There is no one I have been with who had more life than she did.”

It was Robbie’s diagnosis that led Coghill, president and CEO of Coghill Investment Strategies in Pittsburgh, to become involved with Magee. As the largest research institute in the U.S. dedicated to women’s health and reproductive biology, it is home to some of the most promising research in ovarian cancer, one of the most insidious and lethal women’s cancers.

When Robbie saw a problem, it was in her nature to search for a solution. She shared that quality with a doctor she would never meet, but whose research she benefited exponentially.

When Dr. Ronald Buckanovich talks about ovarian cancer, he often uses what he calls the dandelion analogy: if you mow a lawn full of dandelions, it looks at first as though the weeds are all gone. But before long, they’re back with a vengeance.

Treating ovarian cancer with chemotherapy is like mowing the lawn. While it kills 90 to 99 percent of cancer cells, it leaves behind the roots — what Dr. Buckanovich calls “stem-like cells,” which can cause the cancer to recur.

Put another way, only 11 residual stem-like cancer cells can result in a malignant tumor; but 50,000 non-stem-like cancer cells, or the equivalent of the stem and leaves, won’t grow a tumor.

Based on this premise, Dr. Buckanovich’s lab at Magee has developed a drug that targets the stem-like cells, selectively killing them in a way that may increase the ability of the immune system to recognize the cancer. Furthermore, this drug directly acts on the immune cells to increase the number of cancer-killing immune cells. Known as an ALDH inhibitor, the as-yet-unnamed drug will hopefully also boost the effectiveness of immunotherapies in ovarian cancer. “We think it’s a twofold win for the immune system,” says Dr. Buckanovich, director of the Ovarian Cancer Center of Excellence at Magee.

After Robbie was diagnosed, “she embraced it like it was her mission to be an example and fight for as long as she possibly could. She became a real advocate for cancer patients,” recalls Coghill.

She also never lost her flair for bringing people together. When she went for her chemotherapy appointments, she invited friends and threw chemo parties. She established a cancer support center near her hometown of Boston. “It was never about Robbie, ever, even when she had cancer,” says Coghill. “She cared about everyone else. Even when she was going through the worst times, it was always about everyone else. I know it was a really tough road, but every step of the road, it was always about today: living life today.”

The Thursday before Thanksgiving in 2006, Robbie — who was by then on a feeding tube — called her friend. “Carrie, I need you to get on a plane and come to Boston now, because we

“We will take that money and it will have an impact. Donations make a bigger difference in a smaller, more facile institution.”

— DR. RONALD BUCKANOVICH

need to have a slumber party — now,” she said. “I just got back from the doctor’s, and they told me they can’t feed me anymore.”

So one final time, all her closest friends gathered. Robbie, too weak to walk, sat in a lounge chair, and together they raised glasses of wine. “It was profound to experience that with someone, and there wasn’t an ounce of feeling sorry for herself,” Coghill remembers. “It was the last time I saw her.”

A Lasting Legacy

Matt Deitch was a 20-year-old college student when his mother died. Robbie was, characteristically, an involved parent; she tried to lead by example, donating to shelters and giving away clothing to people in need. She cared deeply about promoting women’s rights.

When she died, Matt was determined to honor her memory by giving to causes she championed, taking up her torch of philanthropy. A finance professional, he looked at potential beneficiaries with an analytical eye: where could he create the most impact?

It was Carrie Coghill who first introduced him to Magee, where he met Dr. Buckanovich. And she understood intuitively, on both a personal and a professional level, both his vision for giving and his desire to honor his mother’s legacy.

Buckanovich explained his approach and why he thought it could be a turning point in outcomes for ovarian cancer patients. “We will take

that money and it will have an impact,” he said. “Donations make a bigger difference in a smaller, more facile institution.”

Matt was impressed. “I’m very metric-driven,” he says. “I want to understand the results that I’m driving, just like if I were running a company.”

His donation of \$250,000 in March 2019 functioned as a seed grant for Dr. Buckanovich, who was able to then apply for a \$2.5 million R01 grant from the National Institutes of Health. In December 2019, one year after Deitch’s gift created the seed money, the NIH announced that the grant was approved. “We literally found out on Christmas Eve that it was awarded,” Dr. Buckanovich says. “So basically, it’s a tenfold return on investment.”

For his part, Matt was excited to learn about the gift’s impact. “This is the goal, and we’re trying to push forward the things we can be most optimistic about. It’s very cool to see,” he said.

Coghill was also pleased: “That’s what happens when you have great scientists,” she says. “Ron knew that he was onto something really good.”

But she also credits Deitch for his efforts to pick up where his mother’s work left off.


“He wasn’t afraid,” she says. “He is such an amazing young man; she would be so proud of him ... Yes, we lost an amazing friend, but we are saving so many other people’s lives. That’s what Robbie would have wanted.”

COVER STORY

By Courtney McCrimmon



Women's Health= Human Health



From pregnancy to birth, adolescence to menopause, the 2021 Magee-Womens Summit explored women's health across the lifespan

In November 2021, scientific and clinical innovators convened, virtually and in person, to transform women's health and reproductive biology in the 21st century. As the premier meeting in women's health, the Magee-Womens Summit harnesses cross-disciplinary innovations and paves the way for a new generation of visionary research.


The 2021 Summit themes were: Healthy Beginnings, Shaping Metabolism, and Healthy Mind Through Transitions. The three-day conference began with an afternoon dedicated to advocacy, then moved to two full days of research and clinically-focused keynote talks and panel discussions.

"Our Summit brought people who are deeply engaged in women's health research together with thought leaders from outside the field, to

take our thinking to a higher level and predict health and wellness for humankind," said Yoel Sadovsky, MD, Executive Director of Magee-Womens Research Institute.

Women's health issues present some of the most intriguing — and impactful — scientific and clinical challenges of our time. Pregnancy and women's health significantly influence population health. Though historically understudied, the field has made tremendous strides in recent years, and the Magee-Womens Summit is designed to apply the latest in research and technological breakthroughs to these topics, inspiring knowledge creation as well as better clinical outcomes.

"By convening exceptional, diverse speakers on a wide variety of expertise to bear on women's health, we intend to continue elevating this crucial research to a place where it will have the greatest impact," continued Dr. Sadovsky. "The Summit is predicated on the principle that women's health is human health, and by harnessing thought leaders from a wide spectrum of disciplines, we will forge new pathways to knowledge creation which, in turn, will elevate the human condition for future generations."



All of the topics discussed at the 2021 Summit were viewed through the lens of diversity, equity, and inclusion. Topics included:

01 Healthy Beginnings:

Including maternal health, the link between congenital heart defects and the placenta and new paradigms in pregnancy, and long-term health, among others.

02 Shaping Metabolism:

Including metabolic underpinnings of obesity, aging, and reproductive disorders.

03 Healthy Mind Through Transitions:

Including issues impacting cognitive health and wellness such as stress, sleep and memory, as well as discussions on preparing for the next pandemic.

04 Transforming Clinical Outcomes:

Designed to give practical, actionable information to health care providers. Topics included preventive genomics, telehealth and digital engagement, menopause and sexual health, and health equity as a cornerstone of future health and wellness.

The Magee-Womens Summit introduced an Advocacy Session to launch the conference, with the goal of engaging communities to

advance health equity throughout the region. The session, “Advancing Health Equity Through Community-Based Solutions,” expanded the conversation about disparities and racial inequities in women’s health care. National and local thought leaders, subject matter experts, community-based organizations, women’s health advocates, and policymakers, including U.S. Senator Bob Casey and Pittsburgh Mayor Ed Gainey came together to bring to light the importance of addressing structural barriers in achieving health equity.

“True progress in women’s health cannot be made until we address the disparities and racial inequalities in health care,” said Robert Edwards, MD, chair, Department of Obstetrics, Gynecology & Reproductive Sciences, UPMC Magee-Womens Hospital. “Women in racially or socially economically disadvantaged populations often face a lack of resources, stigma, and fear of financial burden. Without healthy women, you don’t have healthy families and it’s vital we address these issues in ways that will engage all women in maintaining their health and well-being.”

Leslie Davis, president and chief executive officer of UPMC, gave opening remarks. Additional speakers included Deirdre Cooper-Owens, PhD, University of Nebraska-Lincoln; Benjamin S. Danielson, MD, University of Washington School of Medicine; Father Paul Abernathy, Neighborhood Resilience Project, Pittsburgh, and Diane Holder, president and chief executive officer, UPMC Health Plan.

One of the centerpieces of the Summit was the Magee Prize Dinner, which featured the awarding of the \$1 million Magee Prize, honoring innovative and collaborative research focused on women’s health and reproductive sciences from a wide variety of disciplines. Conference attendees voted on the winning entry. The prize, funded by the Richard King Mellon Foundation,



During the 2021 Magee-Womens Summit, scientific and clinical innovators gathered virtually and in person to transform women's health and reproductive biology. The Magee-Womens Summit harnessed cross-disciplinary innovations and paved the way for a new generation of visionary research.

is designed to propel discovery in women's health, and by extension, the health of humankind. The Magee Prize Dinner was keynoted by Laura Helmuth, editor-in-chief of *Scientific American*.

"Science, health care, and evidence-driven policies have never been more important, and this is a transformative time for research and innovation. The pandemic exacerbated long-standing and systemic problems, especially for women's health, and it emphasized the importance of science and smart policies supporting health and saving lives," said Helmuth.

The 2021 Magee Prize was awarded to a research team working to develop new biomaterials to repair tissue loss in women with compromised vaginal structure and function. The winning team included Pamela Moalli, MD, an MWRI researcher and professor with the Department of Obstetrics, Gynecology & Reconstructive Pelvic Surgery with the University of Pittsburgh School of Medicine, Kyle Orwig, PhD, also a MWRI researcher and professor with the Department of Obstetrics, Gynecology & Reproductive Biology with the University of Pittsburgh School of Medicine, and Caroline Gargett, PhD, with the Hudson Institute of Medical Technology in Australia.

The Magee Prize is generously funded by the Richard King Mellon Foundation, and you can read more about the 2021 winning team on the pages that follow.

“True progress in women’s health cannot be made until we address the disparities and racial inequalities in health care.”

— DR. ROBERT EDWARDS

For information about the next Magee-Womens Summit in 2024, visit MageeSummit.org

2021 Magee Prize

WINNING RESEARCH
COULD TRANSFORM
THOUSANDS OF LIVES

THE VAGINA IS CENTRAL TO FEMALE sexuality, sexual health, body image, and sense of well-being, but every year one in 5,000 girls are born without one. Additionally, vaginal health is severely compromised in tens of thousands of women around the world due to rigorous cancer treatments and complications from menopause. The 2021 Magee Prize went to an international research team committed to solving this problem.

“It was incredibly meaningful to win the Magee Prize. Even on the day of the announcement, we had no idea who would win. The application process occurred over a year, so the suspense was high. The other two teams had such strong proposals and did really well in their presentations,” said Pamela Moalli, MD, PhD, a researcher with Magee-Womens Research Institute and professor with the Department of Obstetrics, Gynecology & Reconstructive Pelvic Surgery with the University of Pittsburgh School of Medicine. “This project involves researchers throughout UPMC Magee-Womens Hospital and Magee-Womens Research Institute (MWRI), as well as international collaboration, so winning meant a lot to me personally as well as to our research community.”





The winning team included Pamela Moalli, MD, an MWRI researcher and professor with the Department of Obstetrics, Gynecology & Reconstructive Pelvic Surgery with the University of Pittsburgh School of Medicine; Kyle Orwig, PhD, also a MWRI researcher and professor with the Department of Obstetrics, Gynecology & Reproductive Biology with the University of Pittsburgh School of Medicine, and Caroline Gargett, PhD, with the Hudson Institute of Medical Technology in Australia.

Established in 2018 and funded by the Richard King Mellon Foundation, the Magee Prize is designed to stimulate collaborative research between a scientist within MWRI and additional researchers from around the world. Its goal is to encourage researchers to collaborate on innovative, creative women's health research that cannot be supported by traditional funding mechanisms. The Magee Prize Dinner is one of the highlights of the Magee-Womens Summit, the premier meeting in women's health and reproductive biology that brings scientific and clinical innovators together with the goal of harnessing cross-disciplinary innovations to pave the way for a new generation of research.

Dr. Moalli's research team is working to develop new biomaterials to repair tissue loss in women with compromised vaginal structure and function. The winning team also includes Kyle Orwig, PhD, a researcher with MWRI and professor with the Department of Obstetrics, Gynecology & Reproductive Sciences, and Caroline Gargett, PhD, with the Hudson Institute of Medical Technology in Australia. "Thousands of girls are born each year with a congenital absence of the vagina, and tens of thousands of women have theirs removed or repaired after surgery for pelvic cancers or following chemotherapy and radiation. Currently a satisfactory solution for these girls and women doesn't exist — I hope our research is able to change that," said Dr. Moalli.

As the team's principal investigator, Dr. Moalli will oversee the day-to-day project operations. As a

clinician, she will also handle obtaining patient biopsies. From there, members of her team will isolate stem cells and clone them in tissue cultures in her laboratory. "There are very specific cells that allow stem cells to graft — which is what we need to rebuild a vagina from the bottom up. Once we are able to do this, we will be able to provide solutions to girls and women around the world dealing with the physical loss of the vagina," said Dr. Moalli.

As a stem cell scientist, Dr. Orwig's research focuses on developing stem cell technologies to treat human disease. His role on the team is to help focus on new technologies that could treat vaginal dysfunction, and translate those into clinical practice. "Pam Moalli has been a longtime friend and colleague. She's a wonderful physician-scientist, but most important to me is the empathy she has for the patients she treats. I get to see her patients through her eyes. There is a serious lack of knowledge about the importance of vaginal dysfunction and the impact it has on quality of life. If we can improve treatments, we can improve lives," said Dr. Orwig.

According to Dr. Orwig, this project embraces a holistic approach that will look at not only how stem cells look and function in the vagina, but also how the environment supports that function and how vaginal tissue changes in response to diseases, medical treatments, age or other circumstances.



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— DR. PAM MOALLI

Dr. Gargett brings her expertise in designing multiparameter flow cytometry protocols to help purify the stem cell populations so they can be studied and then put into tissue engineering constructs. “Stem cells work with niche cells in the tissue. Niche cells sense changes in the environment and then they instruct neighboring stem cells what to do. The stem cells then decide whether to self-renew and increase their numbers or differentiate,” explained Dr. Gargett. “The opportunity to identify and characterize adult stem cells in the vagina is exciting and challenging.”

In addition to the winning team, two additional teams were finalists for the prize. The first team, led by Diana J. Laird, PhD, with the University of California San Francisco, aimed to better understand factors that influence reproductive longevity in the ovaries. Taking advantage of differences between species with highly divergent reproductive lifespans, the researchers proposed to identify some of the pathways that are deeply conserved in evolution that contribute to reproductive longevity, with the goal of laying the groundwork for future drug targets in humans. Dr. Laird’s collaborators included Miguel Brieno-Enriquez, MD, PhD, MWRI and Melissa Holmes, PhD, University of Toronto, Canada.

The second team, led by Soumen Paul, PhD, with the University of Kansas Medical Center, planned to understand epigenetic factors — marks that influence gene expression without changing the DNA sequence — that lead to recurrent pregnancy loss. The team planned to establish stem cell

lines from placentas involved in lost pregnancies to see if epigenetic regulators are associated with recurrent pregnancy losses, with the hope the new knowledge would lead to novel therapeutics and new types of preventive care. Dr. Paul’s collaborators included Mellissa Mann, PhD, MWRI and William Pastor, PhD, with McGill University, Canada.

The inaugural 2018 Magee Prize was awarded to an international team of scientists working toward understanding how defects in the placenta during gestation could lead to heart defects in a developing fetus. Led by Yaacov Barak, PhD, MWRI investigator and associate professor of Obstetrics, Gynecology and Reproductive sciences at the University of Pittsburgh, the winning team also included placenta expert Myriam Hemberger, PhD, of the University of Calgary and heart expert Henry Sucov, PhD, with the Medical University of South Carolina. The team is developing a diverse collection of mouse models, which they will use to solidify the placenta-heart connection and analyze its underpinnings. That information may usher in earlier detection and potentially prevention and treatment strategies. “Every three years, the Magee Prize plays an important role in encouraging impactful international collaborations focused on prioritizing women’s health — which is a goal that is long overdue,” said Yoel Sadvovsky, MD, MWRI’s executive director. “The three prize finalist projects were bold, imaginative and cutting edge — the definition of the kind of innovation that is the hallmark of the Magee Prize.”

RESEARCH TO REDUCE THE RISK

New MWRI study
explores a woman's
total number of
lifetime ovulations
and their relation to
ovarian cancer risk

INTERVENTIONS THAT REDUCE THE NUMBER

of times a woman ovulates over the course of her life may reduce her risk of developing ovarian cancer, a new study from Magee-Womens Research Institute (MWRI) finds. The study was recently published in the journal *Gynecologic Oncology*.

The study found that interventions to frequency in ovulation include having children and using oral contraception. In addition, for some women, exclusively breastfeeding may inhibit ovulation and reduce risk for the disease as well.

“Ovarian cancer can be a deadly disease — among the different gynecologic cancers, it’s the most fatal. Currently, there are limited treatments available. Understanding how ovarian cancers begin can help researchers develop prevention strategies and treatment approaches,” said Francesmary Modugno, PhD, a principal investigator with MWRI and senior author on the study.

For the study, Dr. Modugno and colleagues systematically analyzed data from 31 published studies that assessed the relationship between total number of lifetime ovulations and ovarian cancer risk. The studies encompassed a broad range of designs and included women from five continents.

“From this analysis, we now know that reducing a woman’s total number of lifetime ovulations will reduce her risk of ovarian cancer. There are a few ways women can do this. We believe that understanding the relationship between a total number of lifetime ovulations and ovarian cancer can help us better understand how ovarian cancer begins,” said Dr. Modugno.

Dr. Modugno’s research focuses on identifying lifestyle and behavioral factors associated with ovarian cancer risk so women can understand ways they can reduce their risk for the disease. Previous research of hers has shown that breastfeeding is associated with a significant



“From this analysis, we now know that reducing a woman’s total number of lifetime ovulations will reduce her risk of ovarian cancer.”

— DR. FRANCESMARY MODUGNO

decrease in ovarian cancer risk, including the most lethal type of the disease.

In her next study, her team will be examining the same questions in a large, international consortium of ovarian cancer studies, allowing the team to more precisely quantify the relationship between lifetime ovulations and ovarian cancer risk for the different subtypes of the disease, which may have different origins.

“We will also investigate whether factors such as having children, using oral contraceptives, and breastfeeding impart their protective effects solely by reducing ovulation or whether other mechanisms are at work,” she said. “Our hope is that research data may provide insight not only into how ovarian cancer begins, but ways to prevent it from occurring in the first place.”

HAPPENINGS



sept. 4

2ND ANNUAL RACE TO BEAT WOMEN'S CANCERS 5K RUN/WALK

WHERE: NORTH PARK
BOATHOUSE, PITTSBURGH, PA
PRESENTED BY: GBU LIFE AND WTAE

Don't miss our second annual 5K for a fun-filled morning in celebration of life as we honor those affected by breast, ovarian, cervical, and endometrial cancers. Whether you run or walk, your participation and fundraising efforts will play a major role in the efforts to advance women's cancer research and patient care.

► For sponsorships, details, and registration, go to www.mageewomens.org/5K or you can contact Denise Wickline at 412-641-8950 or csdemail@upmc.edu.



PRESENTED BY:



Our events are designed for you to celebrate, enjoy, learn and grow with us as we work to improve the health of women worldwide. We hope to see you at a future function where funds raised go directly to work in our labs and to ongoing patient care and research programs.

sept. 8-9

11TH ANNUAL WCRC FLY FISHING CLASSIC

WHERE: HOMEWATERS CLUB,
SPRUCE CREEK, PA

Enjoy two days of fly fishing competition on the beautiful waters at HomeWaters Club. Proceeds benefit the Women's Cancer Research Center's efforts to reduce the incidence of women's cancers.

► *For sponsorship and team opportunities, contact Denise Wickline at 412-641-8950 or csdemail@upmc.edu. For details go to www.MageeWomens.org/events.*

What's Happening **Highlight**



oct. 15

5TH ANNUAL WOMEN WHO ROCK BENEFIT CONCERT

WHERE: STAGE AE, PITTSBURGH, PA
PRESENTED BY: GIBSON GIVES

Women Who Rock connects all women through the power of music and helps to educate, support, and fund women-centric health research and music endeavors. We "Rock the Future of Women's Health" and shine a spotlight on women in music. Proceeds benefit women's health research at Magee-Womens Research Institute.

► *For sponsorship opportunities, contact Melinda Colaizzi at 412-576-7776 or melinda@pitchconsult.com. For details, go to www.womenwhorock.info.*

nov. 18

THE 25 CLUB UPMC MAGEE-WOMENS HOSPITAL FALL LUNCHEON

WHERE: DUQUESNE CLUB, PITTSBURGH, PA

This boutique-style shopping and a delightful lunch also plays host to a special keynote presentation. Proceeds support newborn medicine and neonatal research at UPMC Magee-Womens Hospital and Magee-Womens Research Institute.

► *To become a sponsor or for more details, contact co-chairs Christine Blose (cblose@kpmg.com), Cynthia Carrow (ccarrow47@icloud.com), or Faye Sampson (jfayesampson@gmail.com). For details, go to www.the25club.org.*

What's Happening **Highlight**

feb. 18

WOMEN'S HEALTH SYMPOSIUM

WHERE: RITZ CARLTON, NAPLES, FL

Don't miss this unique opportunity to interact with world-class scientists as they discuss the latest medical breakthroughs in women's health research and how they might impact you.

► *For sponsorship opportunities, contact Janice Devine at 412-641-8973 or devineja@mwri.magee.edu. For details, please visit www.MageeWomens.org/events. To RSVP, call 412-641-8950 or email csdemail@upmc.edu. Space will be limited, so please register early.*

Providing Support to Change the Way the **World Treats Women**



There are many ways to support Magee-Womens Research Institute & Foundation. The most common, and immediately impactful, is to make a gift of cash. However, planned gifts are often made with assets such as securities, real estate, artwork, retirement plan assets, donor advised funds, and insurance policies. Many of these gifts come with unique tax benefits. You can make a gift from just about any type of asset you own.

Ways to Make a Gift:

**Bequests and Beneficiaries • IRA Charitable Rollovers • Appreciated Stocks
Life Insurance • Real Estate and Other Property**

Magee-Womens Research Institute & Foundation may be designated as the beneficiary of Charitable Remainder Trusts, Charitable Lead Trusts, and Charitable Gift Annuities but will not serve as Trustee.



The following grants awarded are funding invaluable, groundbreaking work to improve women's health on a global scale. This research acts as the foundation of progress on topics that are aimed to ensure improved health, survival, and quality of life for all women, mothers, and children.



Janet Catov, PhD, and Caterina Rosano, MD, MPH,

received a 5-year, \$4.9 million grant from the National Institute on Aging titled "Preeclampsia and the Brain: Small Vessel Disease and Cognitive Function in Early Midlife."



Jocelyn Fitzgerald, MD,

received a 1-year, \$50,000 grant from the Virginia Kaufman Pain Research Challenge titled "Chronic Pelvic Pain Bundle."



Mellissa Mann, PhD, received a 5-year, \$1.95 million R01 grant from the National Institute of Child Health and Human Development titled "Identifying Molecular Signatures of Genomic Imprinting Errors."



Crissy Megli, MD, PhD, received a 2-year, \$250,000 competitive Phase 2 expansion of her National Institutes of Health K12 Reproductive Scientist Development Program grant titled "Characterization of Macrophage Response to Fetal Membranes."



Yoel Sadovsky, MD, received a 5-year, \$2.2 million R37 MERIT grant extension from the National Institute of Child Health and Human Development titled "Exosome Based Placental Maternal Communication."

GENEROSITY IN ACTION

By Gina Edwards

A Legacy of Love

NICU Nurse Honors Her Daughter's Life by Comforting Those Experiencing Loss

FOR NEARLY 39 YEARS, UPMC MAGEE-WOMENS Hospital NICU nurse, Mary Ann Wilson, cared for families grappling with the loss of their newborn children. In late 2020, she lost her youngest daughter, Katie, at just 33 years of age following a battle with an aggressive form of melanoma. Mary Ann was in shock and looking for support and direction.

"I was listening to podcasts from Grieving Parents Sharing Hope, and they talked about the importance of leaving the legacy of your child," Mary Ann said.

One of the resources from the show was Comfort Cubs, weighted therapy bears that trigger the brain to release the "cuddle hormone," which offers emotional comfort and physical relief from a distressing loss. Their creator, Marcella Johnson, designed the bears after leaving the NICU empty-handed following the loss of her infant son.

Inspired by Marcella's story, Mary Ann donated 36 Comfort Cubs to UPMC Magee-Womens Hospital in honor of Katie, who loved her family, her dog Jax, and who was fiercely devoted to her friends. Mary Ann said that the Comfort Cubs going to Magee felt like the perfect place to carry on Katie's spirit, who was always described as "a joy to be around" and someone who "brought smiles to everyone close to her."

"She was always really proud of how I helped people in my job at the NICU," Mary Ann said.



Mary Ann Wilson, with her daughter, Katie.

"It just felt right. I really feel like this is her, reaching out still to help other people through me and through this bear."

A year after completing the first fundraiser and Comfort Cubs donation and in tandem with support from MWRIF, Mary Ann then raised over \$6,300 for an additional batch of Comfort Cubs for Magee to help expand the effort to other departments, including Labor and Delivery.

Since getting involved with Comfort Cubs, Mary Ann has started making bears, too. Through a link from a Shadyside Hospital chaplain, Mary Ann and a friend began sewing memory bears for hospice. The bears are constructed from an article of clothing of a deceased loved one.

Though she does not generally get to meet the recipients of her bears, Mary Ann said that she feels the benefits of giving to others through these comfort bears.

"The biggest surprise is how much it has helped me," Mary Ann said. "It's comforting, knowing that you're doing something for someone else."

To learn more and contribute to the ongoing Comfort Cubs project, visit: [MageeWomens.org/comfortcubs](https://www.MageeWomens.org/comfortcubs)

SUNDAY, SEPTEMBER 4 | NORTH PARK

RACE TO BEAT WOMEN'S CANCERS



PRESENTED BY:



This is not just any 5K run/walk. This is your chance to support research in women's cancers and patient care at UPMC Hillman Cancer Center, UPMC Magee-Womens Hospital, and Magee-Womens Research Institute. Help us move our lifesaving work forward.

Register today at MageeWomens.org/5K.



Register today!



HOSTED BY:



MageeWomens.org/5K



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