Circle of Giving Impact Report

CELEBRATING 10 YEARS OF DRIVING INNOVATION IN WOMEN’S HEALTH
Dear Circle of Giving members:

2016 is a very special year. The Circle of Giving is ten years old, and we are so excited to celebrate the important investments you have made over the past decade. This milestone is the perfect time to reflect on how a small group of amazing and committed people can have an indelible impact. Your generosity and passion have truly made possible leading-edge research in the field of women’s health.

It all began ten years ago with your decision to invest in research by Richard Stouffer, Ph.D. and Judy Cameron, Ph.D. investigating the many ways menopause affects women’s bodies. Your initial investment resulted in strong preliminary data, allowing Drs. Stouffer and Cameron to secure a five-year award of more than $9 million for new work in androgens and infertility. We are thrilled that this incredible outcome began with you.

Since then, the Circle of Giving has supported researchers to define the molecular cell biology of ovarian cancer stem cells, solve sexual pain in breast cancer survivors, and discover how and why postpartum women with breast cancer are at increased risk for metastatic cancer, just to name a few.

On granting day in May, Circle of Giving members chose the most recent grant recipient. Philip Copenhaver, Ph.D. and his collaborators were awarded $125,000 for their work to prevent dementia and Alzheimer’s disease in women. The team is investigating whether STX, a novel selective estrogen receptor modulator, can be used as an alternative to estrogen in preventing these diseases.

These investments are examples of your decade-long commitment to supporting women’s health. Year after year, the Circle of Giving invests in innovative and promising research, and the outcomes continue to amaze us. We’re humbled by your support—it’s how we can continue to deliver on our mission to realize the full potential of women’s health and well-being.

We are so happy to celebrate these incredible successes, and cannot wait to see what we accomplish together in our next ten years of partnership. We also look forward to bringing more women into the fold, allowing the Circle of Giving to accomplish even more. With your help, we are changing the health outcomes and the lives of women in our care. Thank you.

Sincerely,

Michelle Berlin, M.D., M.P.H.
Co-Director, Center for Women’s Health

S. Renee Edwards, M.D., M.B.A.
Co-Director, Center for Women’s Health
THANK YOU

Circle of Giving members

For driving innovation in women’s health at OHSU.

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<th>Current Membership</th>
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<td>Portland Adams</td>
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<td>JoAnn Albers*</td>
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<td>Jean Auel</td>
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<td>Julietta Bauman</td>
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<td>Jane (Missy) Bechen*</td>
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<td>Evie Brim*</td>
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<td>Martina Ford</td>
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<td>Carol (Kiki) Hillman</td>
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<td>Jeanne Marks*</td>
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<td>Cathy Rudd*</td>
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<td>Patti Warner</td>
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*2007 Founding Member
Grant Summaries

2016
Philip Copenhaver, Ph.D.

A novel estrogen receptor modulator for the treatment of Alzheimer’s disease
Dr. Copenhaver and his collaborators will investigate the potential of STX, a novel selective estrogen receptor modulator, to have long-term protective effects on neurons in the brain. Ultimately, his research will be used to see whether STX can be used as an alternative to estrogen use in preventing dementia and Alzheimer’s disease.

2015
Pepper Schedin, Ph.D.

Unprecedented postpartum liver biology in rodents suggests a novel mechanism of breast cancer metastasis – a liver imaging study in pregnant women to establish human relevance
Dr. Schedin is investigating why young women suffering from postpartum breast cancer are at increased risk for developing metastatic cancer, specifically in the liver. Preliminary data suggest that liver size in humans does increase during pregnancy. As her study continues, Dr. Schedin will determine whether postpartum liver involution (shrinkage) occurs in women and if cancer cells that escape the breast during the postpartum period are more likely to survive in the changing liver, resulting in an increased risk for developing deadly metastatic cancer.

2014
Paul T. Spellman, Ph.D. and Stephen Yun-Chi Chui, M.D.

Development of a blood-based system to detect residual disease after curative therapy in breast cancer
Dr. Spellman seeks to develop a system to detect remaining cancer cells after therapy in triple-negative (and eventually all) breast cancers. The study looks to detect any tumor cells that might have escaped surgery, chemotherapy and radiation, only to metastasize later in a woman who was believed to be cancer free. The study has enrolled 60 patients to participate in the research protocol, and Dr. Spellman has secured additional funding to continue the project.

2014
Knight Cancer Challenge Grant recipient—Summer L. Gibbs, Ph.D.

Predicting breast cancer therapy outcome with 20-color immunofluorescence imaging
Dr. Gibbs and her team are using high-resolution 20-color immunofluorescence imaging technology to better understand triple-negative breast cancer. The team has selected a panel of antibodies, and has worked out the staining protocol to simultaneously label 20 antibodies on a single slide, a process not previously possible. Dr. Gibbs is preparing to publish a paper on the new technique, and will be imaging the desired breast tumor samples.

2013
Rena Bahjat, Ph.D.

Modeling stroke in female nonhuman primates to evaluate gender differences
Dr. Bahjat studied the effect of hormone loss on stroke outcomes in aged female monkeys as well as the effect of estrogen replacement given early or late after menopause. Her work suggests that estrogen replacement could play a protective role in the context of stroke in some patients. Gaining further understanding of this mechanism may promote safer use of estrogen replacement therapy. Her collaborative work is also shedding light on unique factors related to sleep disorders caused by stroke, and the role of brain injury in the viability of organs retrieved from brain-injured animals.

2012
Wendy Wu, Ph.D.

Using Nimodipine to maintain brain cell functions and cognitive performance after menopause
Dr. Wu researched biomolecules responsible for cognitive changes induced by estrogen loss, aiming to target these biomolecules directly as treatment strategies to maintain cognitive performance after menopause. Her latest research, using the rodent model she developed, shows that brain cells continue to change in the absence of ovarian hormones; though the animals learning and memory capabilities worsened following estradiol loss, the cellular mechanisms responsible for learning and memory impairment depends on the duration of estradiol loss.
2011
Martha Goetsch, M.D., M.P.H.
Therapy to prevent sexual pain in menopausal survivors of breast cancer
Dr. Goetsch's study highlighted a new therapy for women with a history of breast cancer who have pain with intimacy. Self-applied topical numbing liquid prevented the pain in 95% of patients and allowed normal sensation. This research was published in national journals. Subsequently, she has secured additional funding for a follow-up study called “Treating Where It Hurts” which will assess the safety of estrogen cream, look at whether it works best when applied to the zone of tenderness, and determine if it needs to be used more frequently for pain than for dryness.

2010
Shoukhrat Mitalipov, Ph.D., and Paula Amato, M.D.
Correcting mitochondrial gene mutations in human oocytes
Dr. Mitalipov and Dr. Amato studied how mutations in mitochondrial DNA, inherited from a mother's eggs, can cause serious disease. The project could not have happened without support from the Circle of Giving, due to federal funding restrictions on human embryo and stem cell research. Over the last year, Drs. Mitalipov and Amato have given several invited lectures and published articles related to this advancing work, including a publication in the July 2015 issue of Nature detailing Dr. Mitalipov's successes in developing stem cell-based treatments for mitochondrial disease.

2009
Philippe Thuillier, Ph.D., Tanja Pejovic M.D., Ph.D., and Nupur Pande, Ph.D.
Defining molecular cell biology of ovarian cancer stem cells
After receiving this grant to define the molecular cell biology of ovarian cancer stem cells, the work was expanded to include crossing immune markers with DNA repair markers of ovarian cancer cells. The team has studied tumor and bodily fluid samples from patients with ovarian cancer, and findings suggest that the PDL-2 gene plays a large role in regulating the tumor microenvironment. Further research needs to be done to characterize the gene's role and whether it is a potential target for future therapies.

2008
SuEllen Pommier, Ph.D.
Assessing breast cancer stem cells as predictors of treatment failure in recurrence of breast cancer
This grant helped Dr. Pommier's team find clues as to why drugs that target mutations in breast tumors aren't effective in all patients. Their most recent studies evaluate the changes in cancer stem cell frequencies and associated genetic abnormalities that are present in residual disease after neo-adjuvant chemotherapy. The team investigated a comprehensive approach to tumor testing that included cancer stem cell diagnostics to provide improved prognostic information and new directions for systemic and targeted therapies.

2007
Richard Stouffer, Ph.D., and Judy Cameron, Ph.D.
Menopause and metabolic syndrome: androgen’s role in creating cardiovascular harm and ovarian cancer
Drs. Stouffer and Cameron, the first recipients of the Circle of Giving grant, investigated the many ways menopause affects women's bodies. They continue to evaluate the chronic effects of elevated androgen levels and Western-style diet on reproduction and metabolism in young adult females (monkeys and humans) as related to the infertility syndrome of polycystic ovarian disease. Strong preliminary data enabled the researchers to secure a new infertility (NCTRI) center application, which has been funded from 2013-2018, with a five-year award of $9 million. In 2016, among numerous lectures and presentations, Dr. Stouffer was an invited speaker on the topic of “Androgen action in females: control of follicular development,” at the annual meeting of the Androgen Excess-Polycystic Ovary Syndrome Society, in Melbourne, Australia.
Additional Grants

FUNDING BY CIRCLE OF GIVING MEMBERS

2015
Tanja Pejovic, M.D., Ph.D.
Targeting FANCD2 as a Novel Strategy for Ovarian Cancer Treatment
Funded by Julietta Bauman, Missy Bechen, Julie Drinkward, Jeanne Marks, Barbara Silver, Arlene Schnitzer, and Patti Warner
Dr. Pejovic's work seeks to utilize knowledge of the Fanconi anemia gene to better predict chemotherapy outcomes and design new therapeutic targets for women with ovarian cancer. The successful first phase of the work demonstrated how this gene is transported within an ovarian cancer cell. The second phase will use this finding to find new treatments.

2013
Melissa Wong, Ph.D.
End-stage breast cancer research project
Funded by Julie Dixon, Jill Inskeep, Sharon Miller, Deanne Rubinstein, Arlene Schnitzer, Dori Schnitzer, and Patti Warner
Dr. Wong is studying how cancer cells gain metastatic potential and lead to the most deadly phase of breast cancer. The study is ongoing. In 2014, Dr. Wong received an NCI R21 grant for $275,000 to continue her research. She also gave several talks, both at OHSU and nationally, including an invited lecture at the Bone Marrow Transplant Tandem Meetings in Dallas, Texas.

2011
Leo Pereira, M.D.
Identification of cervical-vaginal biomarkers of recurrent preterm birth by proteomic analysis
Funded by Barbara Silver (the Silver Foundation)
This project, initially funded by March of Dimes, was completed with Silver Foundation funds in 2013. It was presented at the National Society for Maternal Fetal Medicine meeting as an oral abstract. The primary findings identified a group of cervico-vaginal fluid proteins that were associated with preterm birth in patients at high risk of preterm birth—before any preterm labor began. The primary manuscript was published in 2014 in the Journal of Maternal-Fetal & Neonatal Medicine. This work has served as the basis for subsequent grant submissions to the March of Dimes and NIH.

2008
Tanja Pejovic, M.D., Ph.D.
Pursuit of novel strategies to prevent ovarian cancer
Funded by Deanne Rubinstein
Funding for this project had a decisive impact by supporting the construction of TMA (tissue microarrays) from ovarian cancer cells. This is a powerful tool that has been used for multiple projects and resulted in several collaborations. Results from Dr. Pejovic’s project suggest that normal ovarian fibroblasts and mesenchymal stem cells cultured in the presence of ovarian cancer cells acquire a CAF-like (cancer-associated fibroblasts) phenotype, and promote cancer cell migration. Data suggest that the tumor stroma is a novel source of biomarkers that may eventually help in the detection of ovarian cancer.

2007
Diana Rinkevich, M.D.
Elucidating the role of microvascular dysfunction in women’s cardiac disease
Funded by Missy Bechen
Using the published results from the original project, Dr. Rinkevich and her team are beginning a new study into epoxyeicosatrienoid acids (EETs) and their metabolites in pre-menopausal, peri-menopausal and post-menopausal women with and without risk factors of cardiac disease. She hopes to determine whether these eicosanoids are different in these three groups and if they can be used as a marker of cardiac disease risk and prognosis. This area has not yet been studied, and may hold substantial and powerful implications if a marker for early detection of heart disease in women can be unmasked.
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