Dear Circle of Giving members:

Year after year, your generosity and passion have driven incredible innovation in the field of women's health. Your $2.3 million investment has spurred new knowledge and promising pathways to improve women's health – from breast cancer to Alzheimer's, and from cardiovascular disease to prenatal care.

**Some highlights:**

- Richard Stouffer, Ph.D. (2007), has received $20 million in new funding for ongoing work stemming from your investment.
- Shoukhrat Mitalipov, Ph.D. (2010), continues to receive international recognition for his work based on your investment.
- Martha Goetsch, M.D., M.P.H. (2011), gave talks at the National Consortium of Breast Cancer Centers and launched a new study to build on her results.
- Pepper Schedin, Ph.D. (2015), found the first evidence of liver growth during pregnancy.

You can read more about these results and others in the pages that follow.

I want to thank you for your ongoing support of this important work. The Circle of Giving is a crucial part of how the Center for Women’s Health can continue to deliver on its mission to realize the full potential of women’s health and well-being.

I am also grateful to our presenting sponsor, McGee Wealth Management, whose generous support enables us to offset operational expenses so that all membership donations go directly to funding research.

I am excited to accomplish even more together in the years to come. 2018 was a year of growth, as six new members joined the Circle and you chose to fund a second proposal for the second year in a row. My hope is that this growth continues, allowing you to invest in two projects every year.

Together, we are changing the health outcomes – and the lives – of women, in Oregon and beyond. Thank you!

Sincerely,

Michelle Berlin, M.D., M.P.H.
Director, Center for Women’s Health
THANK YOU

Circle of Giving members

for making women’s health research possible at OHSU.

Thanks to presenting sponsor McGee Wealth Management, 100 percent of members’ donations go directly towards grants.
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*2007 Founding Member
Grant summaries

2018

Julie Saugstad, Ph.D., and Ursula Sandau, Ph.D.

New role for ApoE4 in female predisposition to Alzheimer’s disease

Drs. Saugstad and Sandau will test the hypothesis that sex-specific differences in brain-derived micro-RNA play an important role in exacerbating Alzheimer’s disease in women. Their work could provide new insight into the value of the ITSN1 gene as a therapeutic target for Alzheimer’s treatment in women. It will also help define how exosome-derived micro-RNA may make women more prone to Alzheimer’s disease.

2017

Wei Huang, Ph.D.

Faster, safer, and low-cost MRI for accurate diagnosis of breast cancer

Dr. Huang is working to develop a safer, faster and lower-cost MRI exam that can detect breast cancer with high accuracy and can be used following positive mammographic findings to improve diagnostic accuracy and reduce unnecessary biopsies. He has optimized a nine-minute MRI exam that does not require contrast injections, and has enrolled 26 patients in the study to date. The preliminary results show that the exam is fast, safe, and low-cost.

Jim Korkola, Ph.D. and Kimberly Beatty, Ph.D.

Identifying molecular interactions that confer drug resistance in breast cancer

Dr. Korkola and Dr. Beatty are using new technologies to investigate drug resistance mechanisms in HER2+ breast cancers. For example, they are using small protein labels, called VIP tags, to track the locations and interactions of breast cancer receptors in cancer cells. This research could reveal new information about why patient response to treatment varies and identify new opportunities for treating drug-resistant, HER2+ breast cancers.
2016

**Philip Copenhaver, Ph.D.**

*A novel estrogen receptor modulator for the treatment of Alzheimer’s Disease*

Dr. Copenhaver and his collaborators are investigating the potential of STX, a novel selective estrogen receptor modulator, to protect brain neurons against toxic proteins linked with Alzheimer’s disease. Their preliminary data shows that STX may protect against neurodegeneration in a mouse model. The team recently received funding from the Veterans Administration for a new project based on the results.

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 with postpartum breast cancer are at increased risk for metastatic cancer in the liver. Her data showed that liver size in most women increases during pregnancy, and is investigating why this happens and whether a lack of liver growth in some women negatively impacts maternal and fetal health. Preliminary data suggests that the liver shrinks after weaning, and Dr. Schedin is studying whether this creates an environment for cancer to metastasize. Results have led to almost $750,000 in additional funding.
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 breast cancer cells that may have escaped surgery, chemotherapy and radiation, only to metastasize later in a woman who was believed to be cancer free. Dr. Spellman secured additional funding to continue the project, and recently submitted a paper on his team’s findings to the journal Genome Medicine.

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 to better understand triple-negative breast cancer. The team selected a panel of antibodies, and worked out the staining protocol to simultaneously label 20 antibodies on a single slide, something not previously possible. Dr. Gibbs is preparing to publish a paper on the new technique, and has received funding from the NIH based on the results.

2013

Rena Bahjat, Ph.D.

*Modeling stroke in female nonhuman primates to evaluate gender differences*

Dr. Bahjat and team 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 protect some women from stroke. Understanding why may promote safer use of estrogen replacement therapy. Her work also sheds light on sleep disorders caused by stroke, and the role of brain injury in organ viability.
2012

Wendy Wu, Ph.D.

*Using Nimodipine to maintain brain cell functions and cognitive performance after menopause*

Dr. Wu researched how to maintain cognitive performance after menopause by targeting biomolecules responsible for estrogen-loss induced cognitive changes. Her latest research shows that learning and memory capabilities worsen following estradiol loss, depending on the duration of the absence of this hormone.

2011

Martha Goetsch, M.D., M.P.H.

*Therapy to prevent sexual pain in menopausal survivors of breast cancer*

Dr. Goetsch studied a self-applied therapy for pain with sexual intimacy in women with a history of breast cancer. She found that use of numbing liquid prevented pain in 95% of patients. These findings have been cited in national journals, and Dr. Goetsch spoke this year to the National Consortium of Breast Centers and published a short article in the American Journal of ObGyn. She secured funding for a follow-up study which assesses use of local estrogen cream more frequently and “where it hurts” in women with sexual pain but no history of breast cancer.
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. An additional five-year grant was received from the Burroughs Wellcome Fund. In August 2017, Dr. Mitalipov’s team received international recognition after reporting in an article in *Nature* on the successful removal of a lethal genetic defect in human embryos.

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 defining the molecular cell biology of ovarian cancer stem cells, this work expanded to include crossing immune markers with DNA repair markers of ovarian cancer cells. The team studied tumor and 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 could determine whether the gene is a potential target for future therapies.

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**Join us!**

We shape the future of women’s health.

The Circle of Giving has invested $2.3 million in 20 projects. As a member, your donation will join contributions from other members to invest annually in studies like those included in this report. **Put your research passion to work alongside like-minded donors.**

Join us online at [ohsuwomenshealth.com/circle](http://ohsuwomenshealth.com/circle) or call Maggie Bolger at 503-552-0708.
2008

SuEllen Pommier, Ph.D.

Assessing breast cancer stem cells as predictors of treatment failure in recurrence of breast cancer

Dr. Pommier’s team found clues as to why drugs that target mutations in breast tumors aren’t effective in all patients. Their most recent studies evaluate the amount and genetic make-up of residual cancer stem cells after neo-adjuvant chemotherapy. The team investigated a comprehensive approach to tumor testing that includes cancer stem cell diagnostics to improve prognoses and offer new directions for systemic and targeted therapies. They received funding from the Solomon Foundation to continue their work.

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 investigated the many ways menopause affects women’s bodies. Dr. Stouffer continues to evaluate the chronic effects of elevated androgen levels and Western-style diet on reproduction and metabolism as related to polycystic ovarian disease. He is also studying whether these effects are reversible. Strong data has led to $20 million in additional funding, 11 presentations, and five landmark papers published.
Additional grants funded by Circle of Giving members

2018
John McConnell, Ph.D.

*Integrating addiction and maternity care: lessons from Oregon*

Dr. McConnell and his team will examine the impact of Project Nurture, a model of integrated addiction and maternity care serving pregnant women addicted to opioids. The study will identify the program’s impact on adverse outcomes, including rates of prematurity, neonatal abstinence syndrome, foster care placement in the first year of life, and complications during pregnancy and birth. Evaluating Project Nurture is an important step in developing and improving models of care for this population.

2015
Tanja Pejovic, M.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 work demonstrated how this gene is transported within an ovarian cancer cell. Results of this study led to Department of Defense funding. Dr. Pejovic’s ongoing work has found further associations between genes and ovarian cancer, as well as promising new treatment strategies.
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. Continuation of the research funded by the Circle of Giving has led to the discovery of a novel population of circulating tumor cells that can seed metastatic sites. This finding and the research funded by the Circle of Giving is now in review at a top tier journal. Dr. Wong has gone on to receive three small grants from NIH and the Department of Defense to continue the study, and has given national talks about the project.

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 was completed in 2013 and presented at the National Society for Maternal Fetal Medicine meeting. The study identified a group of cervico-vaginal fluid proteins 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.

2008
Tanja Pejovic, M.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 research 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 Circle-funded project, Dr. Rinkevich and her team are studying epoxyeicosatrienoid acids (EETs) and their metabolites in pre-, peri- and post-menopausal women with and without risk factors of cardiac disease. She hopes to determine if EETs are different in these three groups and if they are a marker of cardiac disease risk and prognosis. This new area of study may have a powerful impact if a marker for early detection of heart disease in women is found.

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**Center for Women’s Health**

**Vision:** To realize the full potential of women’s health and well-being.

**Mission:** To be a national leader in women’s health by offering collaborative medical care, providing reliable, accessible health information, and promoting research relevant to every aspect of women’s health.
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