

CENTER FOR WOMEN'S HEALTH

# Circle of Giving Impact Report

DRIVING INNOVATION IN WOMEN'S HEALTH | 2017





## Dear Circle of Giving members:

As the second decade of the Circle of Giving begins, we couldn't be more excited for the future! The important investments you made over the past decade continue to reap results. Your generosity and passion have driven incredible innovation in the field of women's health.

On granting day in May, you chose two grants to fund. Wei Huang, Ph.D., impressed Circle members with his proposal to develop a safer, more accurate MRI for breast cancer screening in order to reduce unnecessary biopsies. And Jim Korkola, Ph.D., and Kimberly Beatty, Ph.D., received a grant for their use of new molecular technology to investigate drug resistance mechanisms in HER2+ breast cancers.

Shoukhrat Mitalipov, Ph.D., whose research on treatments for inherited gene mutations you funded in 2010, continues to make exciting progress. He and his collaborators received a five-year grant from the Burroughs Wellcome Fund to continue their work. In August, Dr. Mitalipov and his team received international attention after their ground-breaking discovery was reported in Nature – the successful removal of a lethal genetic defect in human embryos. We are thrilled that this incredible outcome began with you.

These are just a few of the 18 investments you, through the Circle of Giving, have made in women's health research. You can read more about our amazing progress in the pages that follow. Thank you for your ongoing support of this important work. 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 excited and ready to accomplish even more together in the next decade. We are committed to increasing our membership, allowing us to fund more grants each year. Many thanks to our first-ever presenting sponsor, McGee Wealth Management, whose generous support enables us to offset operational expenses so that all membership donations go directly to funding research.

Together, with your support, we are changing the health outcomes – and the lives – of women in our care, in Oregon and beyond. 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 making women's health research possible at OHSU.



Thanks to presenting sponsor  
**McGee Wealth Management**,  
 100 percent of member donations  
 go directly towards grants.

## CURRENT MEMBERSHIP

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\*2007 Founding Member

# Grant summaries

## 2017

**Wei Huang, Ph.D.**

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

Dr. Huang proposes 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. His goal is that the MRI exam will be about ten minutes and will not require the need for contrast injections, which currently make MRIs more expensive and unsafe for some women.

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

*Identifying molecular interactions that confer drug resistance in breast cancer*

Dr. Korkola and Dr. Beatty intend to use new molecular technology to investigate drug resistance mechanisms in HER2+ breast cancers. The technology will allow them to tag and track the locations and interactions of breast cancer receptors in cancer cells. This research could reveal new information about why patient responses 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. Ultimately, their research will be used to see whether STX can be used as an alternative to estrogen in preventing dementia.

## 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 preliminary data show that liver size in humans increases during pregnancy. Dr. Schedin will now determine whether the liver shrinks after weaning, creating an environment for cancer to metastasize.



## Granting Day 2017

From left: Teri Oelrich, Wei Huang, Ph.D., Jim Korkola, Ph.D., Kimberly Beatty, Ph.D., Patti Warner, Renee Edwards, M.D., M.B.A.

## 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. The study has enrolled 60 patients to participate, and Dr. Spellman has secured additional funding to continue the project.

**Summer L. Gibbs, Ph.D. – Knight Cancer Challenge Grant recipient**

*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 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 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 is also shedding 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 non-hormonal therapy for women with a history of breast cancer who have pain with sexual intimacy. She found that self-applied topical numbing liquid prevented pain in 95% of patients. Findings were published in national journals and in an ACOG Committee Report on pain in estrogen-positive breast cancer survivors. Dr. Goetsch secured funding for a follow-up study called “Treating where it Hurts” which will assess use of local estrogen cream more frequently and to a new location in women with sexual pain but no history of breast cancer. She will be trying to answer whether the cause of this postmenopausal pain problem should be reframed.

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.



Save the Date – Granting Day

Wednesday, May 16, 2018

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.

2007

**Richard Stouffer, Ph.D., and Judy Cameron, Ph.D.**

*Menopause and metabolic syndrome: androgen’s role in creating cardiovascular harm and ovarian cancer*

Dr. Stouffer and Dr. Cameron 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 as related to polycystic ovarian disease. Strong preliminary data helped secure a five-year award of \$9 million in 2013. In May 2017, Dr. Stouffer and his collaborators gave 11 presentations at the National Institutes of Health, and five landmark papers are in press or nearing completion.

# Additional grants

FUNDED 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.

### Join us!

***We shape the future of women's health***

The Circle of Giving has invested over \$2 million in 18 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 to amplify your impact.**

Join us online at [ohsuwomenshealth.com/circle](http://ohsuwomenshealth.com/circle) or call Julie Mikulic at 503-220-8324.

## 2013

**Melissa Wong, Ph.D.**

**End-stage breast cancer research project**

*Funded by Julie Dixon, Jill Inskip, 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 two small NIH and Department of Defense funded grants to continue the study, and has given several talks, both at OHSU and nationally.

## 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. This work has served as the basis for subsequent grant submissions.

## 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 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 epoxyeicosatrienoic 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 if EETs are different in these three groups and if they are a marker of cardiac disease risk and prognosis. This area has not been studied, and may hold powerful implications if a marker for early detection of heart disease in women is found.



### 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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