Dear Circle of Giving Members:

What an amazing year it's been! As we enter into our second year as co-directors of the Center for Women's Health, we are so glad to be partnering with you as we continue to grow and to deliver on our mission: To realize the full potential of women's health and well-being by offering collaborative medical care; providing reliable, accessible health information; and promoting research relevant to every aspect of women's health. In 2014, you, our generous Circle of Giving members, were able to award two Circle of Giving $125,000 research awards on granting day in May:

Stephen Yun-Chi Chui, M.D. and Paul T. Spellman, Ph.D., are working on developing a system they hope will detect lingering cancer cells following standard treatment so that doctors can accurately determine when a woman's breast-cancer treatment can be stopped. They plan to test patients’ blood to verify that even tiny amounts of cancer cells that are currently undetectable are truly eradicated.

Summer L. Gibbs, Ph.D. was the winner of the second grant, given in support of the OHSU Knight Cancer Challenge. She is studying high-resolution 20-color immunofluorescence imaging technology to better understand the complex makeup of breast cancer. The Knight Cancer Challenge is a $1 billion effort to end cancer as we know it – by transforming early detection and treatment of cancer. To date, more than $400 million has been raised of the $500 million needed to trigger an additional $500 million gift from Nike co-founder Phil Knight and his wife, Penny.

All across OHSU, committed researchers are studying how to improve the science and practice of healthcare. Circle of Giving grants help take women's health research to the next level: Empowering researchers to think innovatively, and inspiring ground-breaking research. With your help and support of this critical research, we will continue to do amazing things.

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 research possible at OHSU.

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*2007 Founding Member
Grant Summaries

2014
Stephen Yun-Chi Chui, M.D. and Paul T. Spellman, Ph.D.
Development of a blood-based system to detect residual disease after curative therapy in breast cancer
Dr. Chui and Dr. Spellman seek to develop a system to detect remaining cancer cells after therapy in triple-negative (and eventually all) breast cancers. They hope 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 researchers hope that their new technique will help identify tiny amounts of cancer cells that are currently undetectable.

2014
Knight Cancer Challenge Grant recipient
Summer L. Gibbs, Ph.D.
Predicting breast cancer therapy outcome with 20-color immunofluorescence imaging
Dr. Gibbs will work on innovative research involving triple-negative breast cancer. Working with Dr. Lisa Coussens, she will use high-resolution 20-color immunofluorescence imaging technology to better understand the complex immunologic makeup of breast cancer and develop targeted treatment. Dr. Gibbs received this grant because Circle members contributed $125,000 to support the OHSU Knight Cancer Challenge.

2013
Rena Bahjat, Ph.D.
Modeling stroke in female nonhuman primates to evaluate gender differences
Dr. Bahjat is studying the effect of loss of hormones on stroke outcome in aged female monkeys as well as the effect of estrogen replacement given early or late after menopause. She has discovered so far that aged females have more severe strokes than younger female monkeys. Through this work, Dr. Bahjat has also forged a collaboration with researchers at the Portland VA Medical Center, to examine unique factors related to sleep disorders caused by stroke. Additionally, she is collaborating with a PVAMC intensivist specializing in care of critically ill patients who will soon become organ donors, to evaluate 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 researches 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 exhibit worse learning and memory following estradiol loss, the cellular mechanisms responsible for learning and memory impairment depends on the duration of estradiol loss. Dr. Wu has initiated a series of behavioral experiments to evaluate the therapeutic potential of using NimotopTM, an FDA-approved drug specific to the affected Ca2+ channels, to restore cognitive functions in animals. In April she gave a webinar at the FDA, demonstrating how short-term and long-term estradiol loss affects cognitive performance at the cellular and behavioral levels.

2011
Martha Goetsch, M.D., M.P.H.
Therapy to Prevent Sexual Pain in Menopausal Survivors of Breast Cancer
Dr. Goetsch studied a solution for women who experience sexual pain after surviving breast cancer. She completed her study in August 2013, finding that women can prevent their own pain with the application of topical liquid lidocaine. In April 2014, she presented the results of home use of liquid lidocaine at the Annual Clinical Meeting of the American College of Obstetricians and Gynecologists (ACOG) and won first prize for the best abstract of 600 submissions. A related paper, “Locating Pain in Breast Cancer Survivors Experiencing Dyspareunia: A Randomized Controlled Trial,” was published in the June 2014 issue of Obstetrics and Gynecology.
Grant Summaries

**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. Recently, their team has developed a method for preventing certain inherited diseases—the first to be successfully tested in humans, a breakthrough published in the journal Nature. 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. This study is continuing as a clinical trial with support from the Leducq Foundation and other OHSU funds. The advances have led to launching the new Center for Embryonic Cell and Gene Therapy at OHSU to translate basic science discoveries to clinical testing.

**2009**
**Philippe Thuillier, Ph.D., Tanya Pejovic M.D., Ph.D. and Nupur Pande, Ph.D.**
*Defining molecular cell biology of ovarian cancer stem cells*

This team hopes to define the molecular cell biology of ovarian cancer stem cells. Recent research has located a promising orally administered dietary treatment that may prevent the mechanisms that contribute to the development of ovarian cancer, reducing tumor growth by more than 50%. These findings were published in the Journal of Cancer Therapy in May 2013.

**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 is investigating a comprehensive approach to tumor testing that includes 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*

The first recipients of the Circle of Giving grant investigated the many ways menopause affects women’s bodies. They are continuing to evaluate the chronic effects of elevated androgen levels and Western-style diet on reproduction and metabolism in young adult females (monkeys and women) as related to the infertility syndrome of polycystic ovarian disease. Strong preliminary data enabled the researchers to secure a new infertility (SCCPiR) center application, which has been funded from 2013-2018, with a five-year award of $9,319,224. In 2014, Dr. Stouffer gave the D.C. Johnson Endowed Lecture in Reproduction, titled “The Primate Ovary as a Model for Understanding and Treating Infertility,” at the University of Kansas Medical Center. He was also an invited speaker at the Northwest Reproductive Sciences Symposium, presenting “Hyperandrogenemia, Diet and Female Reproductive Health: A Primate Model for Polycystic Ovarian Disease?”

Save the Date
**Granting Day | May 13, 2015**
Additional grants
privately funded by Circle of Giving members

2013
Melissa Wong, Ph.D.
End-stage breast cancer research project
Funded by Julie Dixon, Jull Inskipe, 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
A generous donation by the Silver Foundation allowed this project, initially funded by March of Dimes, to be completed 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
Tanya Pejovic, M.D.
Pursuit of novel strategies to prevent ovarian cancer
Funded by Deanne Rubinstein
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. As described in a paper published in July 2014, Dr. Pejovic’s team identified novel candidate CAF-specific biomarkers for ovarian cancer including a marker expressed in the stroma of 60% primary ovarian cancer tissues but not in the stroma of normal ovaries, and was also elevated in the blood of 50% of women with ovarian cancer. These 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 the epoxycosatradionoid 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. Dr. Rinkevich is currently writing the protocol and hypothesis for IRB approval and hopes to launch the study in early 2015.