

Center for Women's Health Research



UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

QUARTERLY HIGHLIGHTS | SUMMER 2017

Hello, everyone!

Summer 2017 was another eventful and exciting time for the Center for Women's Health Research. Below are some highlights and accomplishments I would like to share.

In keeping with our tradition of supporting young scientists in the early stages of their research careers, the CWHR awarded six new seed grants to scientists studying topics related to women's health and sex differences. Topics ranged from the effects of sleep deprivation on the risk of obesity and diabetes to the mechanisms underlying the development of kidney disease in type 1 diabetes.



The Center also participated in numerous community programs. We hosted the Denver Health Scholars program for high school and college students interested in careers in medicine, as well as our third annual Girls' Career Day, an interactive learning opportunity for high school girls interested in exploring healthcare and science careers. We participated in the Center for African American Health's Destination Health event, and gave community lectures to employees of Arrow Electronics.

We received renewed funding through the National Institutes of Health's BIRCWH grant (Building Interdisciplinary Research Careers in Women's Health). The goal of this grant is to increase the researcher workforce in women's health and sex differences research by supporting some of the best and brightest young faculty at our institution. The five-year, \$2.5 million grant provides financial resources for the salaries of junior faculty (called BIRCWH Scholars) and research needs. BIRCWH Scholars have been very successful in obtaining subsequent independent funding.

Finally, we concluded our search for a Deputy Director with the hiring of Jennifer Broderick Engleby! Jennifer brings more than 25 years of experience to the CWHR as a business and finance leader in both the corporate and non-profit sectors. She comes to the team with a host of bright ideas for the Center's future. We are very excited to have her on our team.

As we look forward to an event-filled fall, we want to thank you for your continued support of the Center for Women's Health Research.

Sincerely,

A handwritten signature in black ink that reads 'Judy Regensteiner'.

Judy Regensteiner, Director

Deputy Director

Welcome, Jennifer Broderick Engleby!



Hello! I'm Jennifer Broderick Engleby, the new Deputy Director of the CWHR. My role here at the Center is to work alongside our Director, Judy Regensteiner, and the entire CWHR team of advisors, researchers, faculty, and staff to deliver on our promises and achieve our vision. Since joining the Center's staff in July, I have learned a great deal. I come from a financial background, and thus I have spent a lot of time learning about our sources of funding and how our precious dollars are spent. I also know that there remains a large gap in knowledge about women's health and that much more research is needed to understand health issues of both women and men (as well as girls and boys). However, I am glad that the CWHR is at the forefront of research on women's health issues and is well positioned to be a force to transform women's health and the health of families. While much has been done since the Center began in 2004, we still have a lot of work to do. It is great to be on the CWHR team.

This year, my husband and I celebrate our 23rd wedding anniversary as well as the 11th birthday of our daughter and the 7th birthday of our twin sons. Being parents has provided us with the thrill of learning new things, relearning old lessons and watching our children experience many firsts.

The joy of learning is something my parents (both educators) instilled in me and something we hope to model in our everyday actions. This curiosity and desire to learn—specifically about women's health—is what drew me to the CWHR. Every day I have a front-row seat to groundbreaking research, and through our efforts, we can make a difference in women's health.

If you are reading this newsletter then it is safe to assume you are interested in women's health and you support our mission here at the Center for Women's Health Research. I want to personally thank you for your support and encourage you to continue following our progress. Your support has been and continues to be critical to advancing our mission. I look forward to working with you to close the gaps in women's health research so that we can better predict, prevent, diagnose, and treat disease in both men and women across the lifespan.

Please do not hesitate to contact me if there is anything I can do for you.

In learning,

A handwritten signature in black ink that reads "Jennifer Engleby".

Jennifer Broderick Engleby, Deputy Director
jennifer.engageby@ucdenver.edu

External Funding

BIRCWH Grant Renewed

Congratulations to Judy Regensteiner, PhD, Director of the Center for Women's Health Research and Professor of Medicine, and Nanette Santoro, MD, Chair of the Department of Obstetrics and Gynecology and Professor of Medicine, who received a renewal of the Building Interdisciplinary Research Careers in Women's Health (BIRCWH) grant through the National Institutes of Health.

This five-year, \$2.5 million grant (also supported by the School of Medicine) provides funding for junior faculty salaries and research needs. Fourteen CWHR scientists have been funded by the BIRCWH to date. Female and male faculty members with MDs and/or PhDs are eligible to apply for funding if their work focuses on one of several topics in women's health or sex differences research, including pregnancy, lactation and developmental programming of health and disease, immunology/precision medicine, and adult health issues, including obesity, menopause, aging, diabetes, and cardiovascular disease.



Top row, left to right: three CWHR scientists who previously received BIRCWH funding—Sarah Perman, MD; Michael Rudolph, PhD; and Jacinda Nicklas, MD.

Bottom row, left to right: Judy Regensteiner, PhD and Nanette Santoro, MD.

Community Outreach

CWHR Hosts Exciting Summer Events

- ◆ CWHR researcher Sarah Perman, MD spoke to employees at Arrow Electronics in June about sex differences in cardiac arrest outcomes. Dr. Perman's research has found that women are less likely than men to survive hospital discharge, and that women are more likely to receive "do not attempt resuscitation" orders and withdrawal of life-sustaining treatment while hospitalized. Dr. Perman is exploring possible explanations for these differences.
- ◆ Jane Reusch, MD, Associate Director of the CWHR and President-elect of the American Diabetes Association, also spoke to employees at Arrow Electronics in August about methods for preventing type 2 and gestational diabetes. She stressed that 30 minutes of intentional exercise per day, coupled with a diet of whole grains, fruits, and vegetables, can help prevent type 2 and gestational diabetes.
- ◆ The CWHR hosted the Denver Health Scholars program for high school and college students interested in healthcare careers. Drs. Judy Regensteiner, Amy Huebschmann, and Shanta Zimmer spoke to the students about their career paths and their passion for medicine and research.
- ◆ The CWHR participated in the Center for African American Health's Destination Health event at City Park in July by providing information about cardiovascular health and diabetes to attendees.

If you are interested in having a CWHR researcher speak at your community event, please contact the CWHR at 303.724.0305.



Left and below: Jane Reusch, MD speaks to employees of Arrow Electronics about ways to prevent type 2 and gestational diabetes.



Third Annual Girls' Career Day

This summer, the Center for Women's Health Research (CWHR) and UHealth partnered to host the third annual "Exploring Healthcare Careers for High School-Aged Girls," an interactive learning opportunity for high school girls interested in exploring healthcare and science careers. The day-long program offered 60 young women the chance to visit the CU Anschutz Medical Campus, attend lectures and Q&A sessions, and participate in hands-on learning experiences to gain insight into the working lives of scientists and healthcare professionals.

The event included visits to CU Anschutz's Gates Biomanufacturing Facility, Center for Surgical Innovation, Cardiac and Vascular Center, and Sports Medicine Department at Children's Hospital Colorado, as well as an insightful lecture by Dr. Anne Libby, senior faculty member of the CWHR and Vice Chair for Academic Affairs in Emergency Medicine, who discussed the indicators of talent that can lead to thoughtful, satisfying career choices.

"In choosing a career path," Dr. Libby told participants, "don't ask yourselves what you want to be. Ask yourselves who you are, and how you can become more *you*."

One participant, reiterating Dr. Libby's message, came to the following conclusion: "The best part about the day was realizing that there is no ideal way to get anywhere—you just have to be yourself and follow your heart and it will lead you to where you need to be."

The CWHR looks forward to hosting the event again next year.



Left: Participants perform experiments at the Gates Biomanufacturing Center.



Right: Participants practice suturing techniques at the Center for Surgical Innovation.

Accolades



Petter Bjornstad, MD, a Pediatric Endocrinology Fellow at Children's Hospital Colorado, received a CWHR seed grant to study sex-specific metabolic and hemodynamic mechanisms underlying the development of diabetic kidney disease in type 1 diabetes.



Josiane Broussard, PhD, an Assistant Research Professor in the Department of Integrative Physiology at CU Boulder, received a CWHR seed grant to examine insulin sensitivity in muscle and fat tissue before and after insufficient sleep in both men and women, to better understand the role of sex differences during insufficient sleep and to define therapeutic targets to reduce the risk of obesity and diabetes when sleep loss is unavoidable.



Melanie Cree Green, MD, PhD, an Assistant Professor in the Department of Pediatrics' Division of Endocrinology, continues to provide successful mentorship. Danielle Xie, an undergraduate mentee, will present at the Obesity Society's annual ObesityWeek in November. Beza Jobi, a medical student mentee, will present at the Androgen Excess & PCOS Society's annual meeting in October. Anne-Marie Carreau, a post-doc mentee, recently won a Canadian Diabetes Association Fellowship.



Tanya Halliday, PhD, RD, a Postdoctoral Research Fellow in the Department of Medicine's Division of Endocrinology, received a CWHR seed grant to examine the sex-based differences of how physical activity type (aerobic vs. resistance exercise) influences food intake and hormone production.



Anne Libby, PhD, Professor and Vice Chair for Academic Affairs in the Department of Emergency Medicine, was named a senior faculty member of the CWHR. Dr. Libby, whose expertise includes education and patient-oriented outcomes research, co-founded the Education, Training, and Career Development Core of the Colorado Clinical Translational Sciences Institute. She has trained hundreds of faculty and fellows at CU Anschutz in research and leadership over more than 15 years.

Accolades



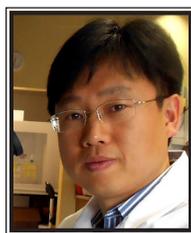
Natalie Nokoff, MD, a Pediatric Endocrinology Fellow and Instructor at Children's Hospital Colorado, received a CWHR seed grant to study the effects of pubertal blockade and testosterone therapy on insulin sensitivity and vascular health in female-to-male transgender adolescents.



Sarah Perman, MD, an assistant professor in the Department of Emergency Medicine, received a National Institutes of Health Career Development (K Series) Award for her grant entitled "Improving care after cardiac arrest by informing surrogate decision makers." The K Series Career Development Program, which includes a training component and a research plan, prepares candidates for independent research careers and helps them become competitive for major grant support.



Michael Rudolph, PhD, an Assistant Professor in the Division of Endocrinology, Metabolism & Diabetes, received a National Institutes of Health Career Development (K Series) Award for his grant entitled "Early fatty acid exposures dictate obesity predisposition." He also received a CWHR seed grant entitled "Fatty acid regulation of postnatal adipocyte progenitor potential."



Three researchers—**Emily Su, MD** (left), an Associate Professor in the Department of Obstetrics and Gynecology; **Yingchun Li, MD, PhD**, (center), an Instructor in the Department of Obstetrics and Gynecology; and **Xianzhong Meng, MD, PhD** (right), a Professor in the Department of Surgery—received a CWHR interdisciplinary grant to study and characterize endothelial progenitor cells in the placenta, and explore future options for using them to treat heart disease through formation of new blood vessels.

Meet Our Researchers

Liz Wellberg, PhD *and* Mike Rudolph, PhD

You officially hold the record for being the first pair of CWHR researcher spouses! How did you meet?

We met as graduate students. Liz was at Texas A&M and Mike was in the Molecular Biology program at CU Anschutz. Mike was part of the Mammary Gland Program Project Grant run by Dr. Peggy Neville, and Liz came to the annual retreat with her PhD mentor one year. We began collaborating in our graduate work, and life outside the lab developed after that.

What is it like to live in a home with two researchers?

Life with two junior faculty researchers is challenging, but also exciting. Because we interact with researchers within the same discipline, our science does not follow the typical work week, and often our work spills over into our home life. We actively try to make family time free from work-related stressors, but sometimes we aren't great at that. In fact, our four-year-old son has been known to walk around the house with a piece of paper declaring that he's "working on his grant!"

How do you help and support each other?

Mike's strengths are in understanding and a focusing on experimental and methodological details, while Liz is better at understanding how details fit into the bigger picture and the long-term implications of a project. These skills complement each other well, and both are necessary for a successful research career. In terms of support, we give and take as much as possible. On the professional side, we work to help each other with grants and papers. On the personal side, when one of us has a professional deadline or additional obligation, the other tries to pull more weight at home.



Finding a work-life balance is not easy, but Judy Regensteiner and the other leaders at the CWHR have been a huge support to both of us. Interactions with this group have taught us about ways to achieve the seemingly disconnected goals of building a healthy family life and a successful scientific career. Unfortunately, many programs offered to junior faculty scientists overlook this, but we have had the benefit of being CWHR-funded researchers, so we feel extremely lucky!

Meet Our Donors

Ginger Graham

You've had a fascinating career. Walk us through it.

I've had the opportunity to do lots of interesting things. I was raised on a farm in Arkansas and graduated from the University of Arkansas with a degree in Agriculture. My first job out of college was with a large agriculture chemical company where I started in sales. After five years, I went to business school, which opened doors for me to work in investment banking in New York City. From there I transitioned to pharmaceuticals, and then moved to California to run a medical device company. After almost 10 years in that field, I had the opportunity to run a biotech company in San Diego to help them launch two first-in-class medicines for people with diabetes. After leaving the corporate world, I joined the faculty at Harvard Business School and taught classes in entrepreneurship. It was all a lot of fun! And still is. I love learning and hope there are many more things to learn and do.



Is it true you're currently opening a new business?

My husband Jack and I are opening a local business in Fort Collins, Colorado in a 110-year-old feed mill that is recognized on the National Register of Historic Places. It's a well-known building in Northern Colorado and we're renovating it to open it back up to the community as a local market including house-made goods of all sorts, a bakery, a coffee shop, a teaching kitchen, event rental space and two restaurants. It's been quite a process; the building was totally run-down when we came in. You can learn more about the renovation and the building's history at our blog site, GingerAndBaker.com.

How did you learn about the CWHR, and why is its mission important to you?

Dr. Joann Lindenfeld and Dr. Judy Regensteiner both approached me over a decade ago, after Joann heard me speak at a cardiology conference. She and Judy approached me about their big idea for the Center and asked if I would be willing to help them. They explained their vision to combine research, mentoring, and community education into one mission focused on increasing our understanding of sex differences in health. It's been one long adventure since then. I've spent most of my career in pursuit of improving human health. Advances in technology have provided new tools to combat many human diseases, but we have an enormous dearth of information about how women respond to these new technologies and how to improve women's health. For years, I've been working to increase industry's participation in improving women's health and working to get women into the system for adequate evaluation and treatment. I've also tried to promote research on sex differences by including women in clinical trials and focusing research dollars on women's health. The Center is making a difference in this area and I want to see this work grow across the globe. It's extremely important to me.

Donor Honor Roll

**The CWHR received gifts from the following donors between March 31, 2017 and September 1, 2017.
We are incredibly grateful for your generous support.**

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If you are interested in learning about ways you can support the
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