THE GLOBAL CONSORTIUM FOR REPRODUCTIVE LONGEVITY AND EQUALITY ANNOUNCES NEW SCIENTIFIC BREAKTHROUGHS AND CHALLENGES THE INDUSTRY TO RETHINK REPRODUCTIVE HEALTH

June 2, 2022 - SAN DIEGO, CA - Today the Global Consortium for Reproductive Longevity and Equality (GCRLE), announced several new scientific breakthroughs funded by the organization. Along with these advancements, GCRLE is challenging the industry to rethink women’s reproductive health and longevity at a time when antiquated practices are being debated by our country’s elected officials and judicial system.

“We are in a moment when the conversation about women’s reproductive health needs to advance and leverage scientific breakthroughs to deepen our understanding and develop options for women around the world,” said Nicole Shanahan, president, Bia-Echo Foundation. “I am proud to support the research that we have funded through the Bia-Echo Foundation and look forward to a day when all women have access to modern reproductive health and rights.”

Today’s announcements include:

**A first-ever study of ovarian aging in humans.** Infertility results from an age-related decline of the ovaries, but scientists have not understood the molecular mechanisms that lead to this decline. Now, scientists from Columbia University have discovered, in unprecedented molecular detail, how ovaries age in humans. In this landmark study they used cutting edge multi-omic analyses of single cells from young and reproductively old human ovaries to gain mechanistic insight into how ovaries age. They identify new therapeutic targets which may be used to delay reproductive aging and pinpoint genes which govern age at natural menopause.

*From GCRLE Senior Scholar Yousin Suh, PhD and GCRLE Postdoctoral Scholar Seungsoo Kim, PhD (Columbia University). Preprint manuscript (not yet peer reviewed) here: [https://www.biorxiv.org/content/10.1101/2022.05.18.492547v1.full.pdf](https://www.biorxiv.org/content/10.1101/2022.05.18.492547v1.full.pdf)*

**The discovery of a new pathway by which steroid hormones impact reproductive function and aging.** Female sex hormones like estrogen and progesterone signal to the ovaries and uterus to coordinate reproductive function. A completely novel, unconventional molecular pathway by which these hormones regulate inflammation in the ovary and maintain uterine contractility has been discovered by scientists. By modulating ovulation, this new pathway may play a role in the development of Polycystic Ovary Syndrome (PCOS).

*From GCRLE Pilot Awardee Polina Lishko, PhD (UC Berkeley and Buck Institute Center for Reproductive Longevity & Equality)*

**The ovarian environment has a profound impact on egg aging.** The tissue that directly surrounds eggs inside the ovaries represents a critical local microenvironment that can dramatically influence egg quality and survival. A new discovery has revealed that the biomechanical properties of ovaries change with age, becoming more stiff – leading to increased fibrosis, inflammation, and oxidative damage. These age-dependent changes depend on increased collagen and decreased hyaluronan and may impact follicle development and egg quality. This points to a possible target for intervention, and scientists are now testing whether interventions that reduce fibrosis and inflammation in ovaries can extend reproductive longevity, maintain hormonal signaling and improve fertility.

*From GCRLE Postdoctoral Scholar Farners Amargant and Francesca Duncan (Northwestern University and Buck Institute Center for Reproductive Longevity & Equality)*

**The launch of a first-ever international conference on Reproductive Aging** will be held next week (June 5 – 9, 2022) in Palm Springs, CA. This inaugural meeting will showcase research in the growing field of reproductive aging and stimulate collaborations across disciplines that will help define new paradigms and accelerate discovery. This unique meeting is positioned to be the catalyst for novel
collaborations, bringing together renowned professors, emerging scientists, clinicians, and industry professionals in reproductive biology, health, and aging to lay the foundations for a sustainable, global community for years to come. We think the advances that will most rapidly lead to products and therapies for women are made through collaborations between academia and industry, utilizing the distinct expertise of both.

The Reproductive Biology Hub, a GCLRE core facility, is establishing a biobank to accept discarded eggs from fertility clinics for research. This will be a major resource for scientists studying infertility and ovarian aging.

“Experts are forecasting that in the next year, more than 20 million women in the U.S. will be denied proper reproductive health access,” said Jennifer Garrison, assistant professor, Buck Institute and co-founder & director, Global Consortium for Reproductive Longevity & Equality. “It is imperative that we expand funding for research and find new ways to empower women with parity and options in their reproductive choices.”

About the GCRLE:
The GCRLE is advancing research to better understand the underlying causes of female reproductive aging. The end of fertility sets off a cascade of negative health effects in a woman’s body. As a society, every aspect of a woman’s life is influenced by the fact that reproductive capacity is limited — overall health, family planning, career decisions. Despite its profound impact on health and well-being, female reproductive aging is an understudied topic.

Through funding, collaboration, and innovation, we intend to accelerate the pace of discovery and inform the path to intervention. We believe we can profoundly alter the societal balance toward equality for women by defining what leads to menopause and developing interventions to slow or reverse it. Our goal is to build the field to understand the basic biological mechanisms that trigger female reproductive senescence, from the earliest stages through to menopause, and ultimately leverage this understanding to intervene and balance the scales.

For more information please visit https://gcrle.org/, @GCRLE1, @jenngarrison or @BuckInstitute

About the Bia-Echo Foundation:
The Bia-Echo Foundation is a private foundation, founded by Nicole Shanahan, that aims to accelerate social change in order to establish a fair and equitable society for future generations to thrive. We invest in changemakers at the forefront of innovation who are tackling some of the world’s greatest challenges within our core areas of equality-based investment: Reproductive Longevity & Equality, Criminal Justice Reform and Healthy and Livable Ecosystems. https://www.biaecho.org