WHRY Funds Studies on Colon Cancer, Infections in Pregnancy, and Domestic Violence

The recipients of this year’s Pilot Project Program grants seek answers to such questions as:

Can a better understanding of the colon’s digestive chemistry uncover early signs and sex-specific causes of colon cancer to aid in prevention and treatment of this disease?

Can an affordable, rapid, noninvasive, and potentially self-administered test available to pregnant women prevent the spread of viral infections and preterm births?

Can a mobile phone app featuring an interactive character-based story help break the transgenerational cycle of intimate partner violence?

“When it comes to biology and behavior, women and men are not identical,” said Dr. Carolyn M. Mazure, Director of WHRY. “For the 20th year, WHRY is sparking innovation with studies designed to develop the best practices for detecting and treating diseases and conditions that may affect women and men differently.”

Dr. Caroline Johnson is using a state-of-the-art technique called metabolomics to analyze the chemical fingerprints of the metabolic process used by bacteria in the colon and uncover clues about sex-specific causes of colon cancer.

EXPLORE THE STUDIES, STARTING ON PAGE 6

THE 20-YEAR SPRINT TO ADVANCE WOMEN’S HEALTH RESEARCH

How did we get here, and where are we going?

Women’s Health Research at Yale Director Carolyn M. Mazure, Ph.D., answered those questions and more as part of a pair of “conversations” in California held in May at the invitation of YaleWomen of Northern California and with the help of the Yale Alumni Association.

The first “conversation” was held at the headquarters of Yelp in San Francisco, at which Dr. Mazure was introduced by Carolyn Kenady of YaleWomen of Northern California and interviewed by Beth Axelrod, Vice President of Employee Experience at Airbnb and a graduate of Yale School of Management Class of ’89.

The second was held at Google’s Mountain View Campus in Silicon Valley, at which Dr. Mazure was introduced by Stephanie Rosenkranz and interviewed by Donna Dubinsky, CEO, Board Chair, and Co-founder of Numenta, Inc. and the Senior Trustee of The Yale Board of Trustees.

(LEFT TO RIGHT) BETHANY FRENCH, DR. CAROLYN M. MAZURE, DONNA DUBINSKY, AND STEPHANIE ROSENKRANZ

CONTINUED PAGE 11
WOMEN’S HEALTH RESEARCH AT YALE

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Women’s Health Research at Yale was founded in 1998 with initial funding from The Patrick and Catherine Weldon Donaghue Medical Research Foundation. Women’s Health Research at Yale is a program within Yale School of Medicine. Yale University is a 501(c)(3) nonprofit organization.
RESEARCH TRAINING FELLOWSHIP

Mentoring Tomorrow’s Leaders

What do you get when you teach students to ask new and important questions? A promise for a better future.

Women’s Health Research at Yale’s Undergraduate Fellowship offers an opportunity for Yale students to work alongside faculty members focused on sex and gender as a fundamental component of biomedical research and medical practice.

Heading into its third year, the program continues to attract students who display the curiosity, intelligence, hard work, and talent that will drive medical progress with an eye toward minimizing costs and maximizing health outcomes for everyone.

ROSE DAVIS, a rising senior majoring in Molecular, Cellular and Developmental Biology (MCDB) pursuing a career as a surgeon, spent her junior year as a WHRY fellow working with Dr. Lisa Freed, Director of Yale New Haven Hospital’s Women’s Heart and Vascular Program.

“There was definitely a sense of trust that her patients had in her,” Rose said. “She was treating the whole person. I could see by how they responded to her that they developed a special relationship. She was a fantastic mentor.”

Davis contrasted this type of patient interaction with her last three summers in which she worked as an intern with a plastic surgeon near her home on Long Island.

“With cardiology, unlike elective medical care where the patient is specifically seeking your medical advice, the conversation with patients surrounding lifestyle and health choices is a more difficult one,” she said. “You really have to work harder to partner with them to make the healthy changes that you know are in their best interest.”

Davis also valued her time with WHRY Director Carolyn M. Mazure, Ph.D., who conducts interactive teaching sessions with the students during the school year to provide insight into the history of policies concerning sex and gender in biomedical science and discuss the challenges that remain.

“Before joining WHRY, even while taking the core courses for a premed major, I had not really considered how sex and gender could affect the outcome of a study,” Davis said. “Now I appreciate the impact. I’m excited to share it with classmates and colleagues.”

This summer, Davis is working with a health care company in Darien, Conn., that manages bundle payment programs. After accepting the job, Davis’ mind quickly pivoted to what she had learned this past year.

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“This company manages service for patients undergoing acute care, such as a hip or a knee replacement,” she said. “I immediately wondered if sex and gender differences are considered when setting the anticipated cost and length of stay in the medical facility. Maybe women will need a different medicine or heal at a different rate? If the service isn’t set to reflect these differences, I think money could be lost and care would be less efficient.”

In the fall, she will continue to work with Dr. Freed as part of the WHRY team.

“I enjoy being around strong women in the science field,” Davis. “We’re fixing the gaps between genders — not only as researchers and medical practitioners but also as research subjects. It’s inspiring to me.”

MILANA BOCHKUR DRATVER worked with Dr. Lynn Fiellin at the Yale Center for Health and Learning Games,
helping to design and develop video game interventions and assessments. Now a rising senior, she considered the time she spent during her junior year an opportunity to explore research different from her experience conducting wet lab work with Dr. Clare Flannery in the Obstetrics, Gynecology & Reproductive Sciences Department.

“It was very exciting to develop and test serious video gaming technology,” Bochkur Dratver said. “Growing up playing video games with my brother, I had not previously thought about the power of video games to be used as a tool in research to promote behavioral change.”

One of the projects involved a game to help young people work through different scenarios and learn to make better choices about smoking and e-cigarettes.

“Interacting with people presents a unique set of challenges in comparison to working at a lab bench,” Bochkur Dratver said. “Collecting information and discussing sensitive topics with adolescents concerning health behavior allowed me to further develop strong communications skills.”

She expressed a new appreciation for how technology can be used to influence behavior to improve health outcomes.

“Games can be very effective tools to shape behavior,” she said. “Technology and mobile applications are already engrained in children’s daily lives. It’s incredible how natural it is for youth to navigate the games and how well the video games can sustain the participants’ attention. Designing interventions that are user friendly helps promote accessibility. It is very exciting how the science substantiates the potential these games have for promoting better decision making.”

This summer, Bochkur Dratver, a MCDB major, is conducting clinical research with a family planning and reproductive health organization in Los Angeles. She hopes to carry her experiences at WHRY forward as her career develops.

“I loved the experience at WHRY and would definitely recommend it 100 percent to any of my peers,” she said. “I hope the program continues to expand and develop.”

HALEIGH LARSON collaborated with Dr. Mazure, Communications Officer Rick Harrison, and Media and Design Specialist Carissa Violante on the center’s health literacy initiative. She wrote a piece on the policy implications of emerging human genetic editing technology and contributed to the production of a series of videos seeking to help young women better avoid their elevated risks associated with alcohol, stress, and sex.

“Before working with WHRY, I was not aware of the huge gap in knowledge concerning women’s health,” Larson said. “I’ve spent summers working at the National Institutes of Health and Jackson Laboratory in Bar Harbor, Maine. There was a lot of discussion about shortfalls in research. But I didn’t hear much talk about sex and gender.”

Larson, a rising senior majoring in Molecular Biophysics and Biochemistry, emphasized that the center allowed her to develop skills in writing and editing to most effectively communicate health messages to a wide audience.

“It was great to see how to take ideas and develop a hook and a clear message,” she said. “To take some difficult concepts and crunch them down so I could easily explain to my family and friends.”

In addition, she found inspiration in how Dr. Mazure built the center over nearly 20 years into a national model for advancing science with practical implications for the health of women and men.

“I’ve been in labs led by women before, and I’m always pleased to see the power and reach of a woman’s perspective,” Larson said. “Learning about the progress we’ve seen in the advancement of women’s health and listening to Dr. Mazure, it’s clear that we wouldn’t be where we are today without women like her pushing for change. It’s given me courage to pursue my work with a focus on sex and gender.”

Larson plans to return to WHRY in the fall as she continues to pursue a career as a physician researcher. This summer she is working as an editor and researcher at Yale Environment 360, a magazine published by the Yale School of Forestry and Environmental Studies, as well as with Dr. Fuad Abujarad, Assistant Professor of Emergency Medicine.

Larson’s projects with Dr. Abujarad include developing multimedia tools to help patients of all backgrounds fully comprehend their informed consents, a screening tool to catch and report elder abuse during visits to the Emergency Department, and an interactive iPad-based program that helps women decide whether to undergo cancer treatments such as chemotherapy.

After studying for the MCAT and serving as a resident advisor for the college’s summer session, Larson looks forward to completing WHRY’s health literacy videos in the fall and testing their efficacy with focus groups.

“We’ve done so much great work,” she said. “And I’m eager to get it out into the world where it can do some good.”
Thank You for Joining Us in Discovery

I am so grateful for everyone who helped us exceed our annual fundraising goal for the fiscal year ending in June.

Thank you so much for your generous support!

Through our Annual Appeal and The Great Give, you once again answered the call to help us in our shared mission to advance women’s health and sex and gender research and improve the lives of everyone.

Our work not only helps fill the gap in knowledge that had built for decades before women were included in clinical trials. It helps answer questions about how fundamental differences between males and females affect the development of diseases and conditions and how differing approaches to treatment based on sex and gender can affect health outcomes.

A more personalized approach to medicine means more cost-effective care with more informed decisions leading to better results for everyone.

Adhering to Yale School of Medicine’s core principles of education, advancing knowledge, and providing the best care for patients, we have selected three new pilot projects that show great promise to achieve practical results for the communities we serve.

These studies confront potentially devastating but solvable problems posed by colon cancer, viruses during pregnancy, and the intergenerational cycle of domestic violence.

Thanks to your thoughtful gifts, we are poised to stimulate new science, increase our understanding of sex and gender differences, mentor more of tomorrow’s researchers, and continue pioneering new techniques and technologies.

By sparking innovation in health research, we’re finding sex and gender differences that matter. And as we near our 20th anniversary, we know that together we can improve the lives of both women and men.

Sincerely,

Carol Ross
Advisory Council Chair
WHRY Funds Three New Studies

Dr. Caroline Helen Johnson, Assistant Professor of Epidemiology, received this year’s Wendy U. and Thomas C. Naratil Pioneer Award and co-funding from the Yale Cancer Center to explore hormones and environmental factors related to metabolite production (such as sugars and amino acids) and beneficial bacteria that live in the colon as possible sources of this gender difference.

About the Investigator —
Dr. Caroline Helen Johnson earned her Ph.D. at Imperial College London, her M.S. at University College London, and her B.S. at Keele University. She is currently an Assistant Professor of Epidemiology at Yale School of Public Health.

Dr. Johnson’s research uses mass spectrometry-based metabolomics to understand the role of metabolites in human health. Her primary research interest is to investigate the relationship between genetic and environmental influences (diet, microbiome) in colon cancer. She is also examining human exposure to chemicals in artificial turf and chemical exposure during pregnancy.

About Dr. Johnson
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Colon Cancer

Women have a lower rate of colon cancer than men but higher rates of right-sided colon cancer, which affects the part of the colon nearer to the small intestine and is associated with worse outcomes than cancer of the left side, which is closer to the rectum.

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In the United States, colon and rectal cancer are together the number three cause of cancer death for women and the number two cause for men. This year, more than 50,000 people are expected to die of the disease.

“Colon cancer is the second most common cancer diagnosed among women worldwide,” Johnson said. “This work will benefit all women, particularly black women, who are at higher risk for colon cancer compared with other races or ethnic groups.”

Bacteria in the colon produce organic molecules that help the body absorb cholesterol and fat-soluble vitamins. But in high concentrations, they can promote a toxic imbalance that leads to cancer.

The hormone estradiol regulates bile production and is thought to protect against colon cancer, as premenopausal women have higher levels of estradiol and lower levels of cholesterol than men of the same age. After menopause, cholesterol levels increase and exceed levels seen in similarly aged men while hormone therapy can provide a protective effect for women against the development of colon cancer.

“It is clear that we need a greater understanding of the way hormones, cholesterol, and the metabolic action of bacteria in the colon react to form colon cancer differently in women and men,” Johnson said.

Using metabolomics, state-of-the-art techniques to analyze the chemical fingerprints of the metabolic process used by bacteria in stored colon tissue of cancer patients, Johnson’s team will assess the relationship between the products of this process and the side of the colon that develops cancer. The researchers expect to find that women...
have a greater propensity for right-side colon cancer because of decreased estradiol following menopause.

Johnson said the study could reveal potential markers of colon cancer that could aid in early diagnosis and treatment. In addition, she anticipates the work will lead to targeted investigations of diet, the composition of beneficial bacteria in what’s known as the body’s microbiome, and lifestyle to determine causes of colon cancer and dietary recommendations that can help prevent the disease.

**VIRAL INFECTIONS DURING PREGNANCY**

Dr. Michelle Silasi, Assistant Professor of Obstetrics, Gynecology, and Reproductive Sciences, will test the effectiveness of a new technique to screen for viral exposure during pregnancy that can identify women at risk for serious complications and allow for interventions to improve pregnancy outcomes.

“As we’ve seen with the recent outbreak of the Zika virus, viral infections during pregnancy pose serious threats to both the mother and the developing fetus, which can quickly become a major public health crisis,” Silasi said. “But there is currently no effective, noninvasive, affordable method to test for such exposures.”

Inflammation signals an infection and can be measured by an increase of a type of protein called interferon-gamma induced protein of 10kDa, or IP-10. Silasi’s team will compare levels of IP-10 in stored samples of blood serum and swabbed vaginal secretions that had been collected during a prenatal visit early in the second trimester of black women who went on to deliver at full term (between 39 weeks and 40 weeks and 6 days) and from women who delivered prematurely before 35 weeks.

Elevated IP-10 levels in amniotic fluid during mid-trimester have been associated with preterm birth, but measurements require amniocentesis, an invasive procedure that carries a risk of miscarriage. High IP-10 levels in the serum of pregnant women also have been associated with premature birth, but testing requires some suspicion of infection, and women might not show symptoms.

“In other cases, women might show symptoms, but collecting samples can be time-consuming and costly, while not revealing disease-specific results,” Silasi said. “We are hopeful that by demonstrating the value of more easily obtained vaginal secretions in detecting exposure to viruses, our study can lead to the adoption of a rapid, effective, specific, inexpensive, and noninvasive tool so we can better care for mothers and their fetuses.”

**INTIMATE PARTNER VIOLENCE**

More than 40 percent of mothers in the United States experience some form of intimate partner violence (IPV), affecting 15 million children and adolescents.

Both victims of abuse and their children who witness it suffer increased poor physical and mental health, high-risk behaviors such as substance abuse, and vulnerability to intimate partner violence in the future.

**ABOUT THE INVESTIGATOR —**

Dr. Michelle Silasi earned her M.D. from the University of Texas Health Science Center at San Antonio and her B.A. from Texas Tech University. She is currently an Assistant Professor in the Department of Obstetrics, Gynecology, and Reproductive Sciences and since 2013 she has been the Director of the Diabetes in Pregnancy Program and Co-Director of the department’s Bio-Specimen Repository.

Dr. Silasi’s research interests involve the role of the immune system during pregnancy, including the impact that infection and inflammation have on adverse pregnancy outcomes. Her clinical work focuses on complications of pregnancy, including viral infections and preterm delivery.
Dr. Trace Kershaw, Professor of Social and Behavioral Sciences, will develop a data-driven behavioral intervention using a mobile app designed to improve decision-making for mothers and daughters exposed to violence in the home and reduce high-risk behaviors and future intimate partner violence.

“Female adolescents affected by violence in their homes are particularly vulnerable to unwittingly accepting a negative cycle that can have widespread influence on the health and well-being of women across generations,” Kershaw said. “We are focusing on mothers and daughters because it is essential to end this cycle.”

Kershaw and his doctoral student Tiara Willie will develop the first family-based intimate partner violence intervention using interactive video graphic novellas in which participants can choose a character like themselves, make behavioral choices that lead to positive or negative consequences, and then learn from the choices they make.

“This approach recognizes that IPV does not occur in isolation, that parent-child relationships are key to overcoming obstacles, and that technology easily disseminates the intervention, increasing its overall impact and reach for families,” Willie said.

Research has shown that graphic novellas make it easier for people to grasp complex health messages and that interactivity helps personalize the experience and improve the participants’ comfort and understanding of how to make healthier choices, Kershaw said, adding that putting the intervention on a smartphone greatly increases its impact and reach.

In New Haven, more than 85 percent of the target audience of low-income adolescents, emerging adults, and young parents have access to a smartphone.

To create the app, Kershaw and Willie will assemble a community advisory board composed of two experts in intimate partner violence research, two adolescents and two mothers who have been exposed to intimate partner violence, two social workers, a creative writing expert, and an expert in graphic novellas.

The researchers will test the usability of the app with five pairs of mothers and daughters before testing acceptability, feasibility, and satisfaction with 15 mother-daughter pairs over eight weeks.

“By working with mothers and daughters at the same time, we hope to strengthen their relationship and their ability to respond to the negative effects of violence,” Kershaw said. “With new skills and confidence, both mothers and daughters will hopefully better avoid violence in future relationships.”

Thank You for Your Support

Women’s Health Research at Yale is pleased to acknowledge the many important gifts from our Society of Friends, who support our shared mission to improve the health and well-being of everyone. In the constantly changing landscape of research and health care, we are so fortunate to have committed allies who appreciate the need to provide reliable resources to secure the advancement of research in women’s health.

We value each and every gift. Thank you for your continued generous support.

A COMPLETE LIST OF ALL OUR FRIENDS FOR THE 2016-17 YEAR CAN BE FOUND ON OUR WEBSITE.

Visit www.yalewhr.org or scan this code with your smartphone.
In 1978, Dr. Constance Hammen received a new book in the mail to review, written by a pair of sociologists named George W. Brown and Tirril Harris. It was “Social Origins of Depression.”

“I thought, wow, that’s great,” said Hammen, who was then beginning to build a career at the forefront of research into mood disorders. “What a tool. And how great that sociologists came up with a concept for the context in which stress and depression occurs.”

The book investigated clinical depression “as an understandable response to adversity” and helped prod Hammen to examine the role of acute and chronic stress throughout one’s life and across generations. “We could imagine practically anyone developing depression given a certain set of environmental circumstances,” the authors wrote.

And yet, the subtitle of the book revealed the field’s focus on depression: “A Study of Psychiatric Disorder in Women” because depression was considered a disease of middle-aged women. “To a great majority of the medical community, it was as though men and younger people just weren’t depressed,” Hammen said.

But research on depression has come a long way since 1978, a topic that Hammen discussed with an engaged audience at a Grand Rounds presentation in May sponsored by the Women’s Behavioral Health Division of Yale School of Medicine’s Department of Psychiatry.

“We recognize now that depression is both a serious disorder and it is widespread,” said Hammen, a Distinguished Professor of Psychology and Psychiatry and Biobehavioral Sciences at the University of California, Los Angeles. “And it affects large numbers of the population across all cultures, across all nations. And particularly women.”

In fact, depression is the leading cause of disability for women worldwide. About 8 percent of Americans 12 and over have some form of current depression, though rates are higher in women and people between the ages of 18 and 29. People living below the poverty line suffer depression at rates 2.5 times greater than those more economically secure.

Experts in 2010 estimated that the annual economic cost of depression in the United States amounts to $210 billion, a number that’s likely far greater today. Before publication of the third edition of the American Psychological Association’s Diagnostic and Statistical Manual of Mental Disorders (DSM-III) in 1980, mental health professionals had no codified criteria for diagnosing depression in patients. There was little understanding of its causes, and there were no effective treatments.

Published in 2013, the DSM-V defines major depressive disorder (MDD) as occurring in someone who experiences a “depressed mood or a loss of interest or pleasure in daily activities for more than two weeks” as well as five or more other symptoms that could include loss of sleep or substantial weight loss.

Most importantly, Hammen explained, although researchers and clinicians now understand that emotional, cognitive, biological, and behavioral factors play a role in the development of depression, stress can act to provoke underlying vulnerabilities within this spectrum of factors.

“Stress is a concept that emerges as a core construct in depression, a core player,” she said. “I think questions of how this stress gets ‘under the skin’ are vitally important and very interesting. But I’ve always been more interested in what goes on in people’s lives and in the environment.”

Dr. Carolyn M. Mazure recalled how the start of her own research into stress as a trigger for depression was met with skepticism about the ability to effectively measure stress and prove its link to a physical disease state.

“You can see patients, it was apparent that there was a strong interaction among biological factors, mental and emotional health, and factors in the environment — especially stress,” Mazure said.

“It’s an exciting ride to be able to discover something new.”
Hammen noted in her presentation that stress can trigger depression but clearly not always. People most at risk for stress precipitating depression include females, those who have a depressed parent, and those who experience interpersonal difficulties.

While it is important to understand the effects of acute, negative life events, Hammen and her colleagues examined the ramifications of chronic stress and how it negatively affects daily functioning. For example, people who suffered from chronic maltreatment as children show a higher likelihood of developing depression as adolescents and adults.

Hammen and her colleagues also have shown that children who were depressed by age 15 had less satisfying romantic relationships by the time they turned 20. And in another study, she learned that youth are more susceptible to high interpersonal stress, particularly what she called “targeted rejected events” such as a non-mutual breakup or getting fired from a job.

Although depression runs in families, “children inherit not just the genetic predispositions, but the constellation of adverse circumstances producing stress that can lead to depression,” Hammen said.

The quality of parenting becomes an essential ingredient in contributing to whether depression is likely to occur in the next generation. Hammen stressed the urgent need to identify children at risk early on, particularly teenagers at the highest levels of risk.

“Environmental stress sculpts the brain in childhood, affecting neurobiological mechanisms associated with stress reactions,” she said, echoing work advanced by Dr. Hilary Blumberg, the John and Hope Furth Professor of Psychiatric Neuroscience and Professor of Psychiatry at Yale.

In addition to medication and other therapies, mental health practitioners must help patients learn to confront stress in more adaptive ways by considering the totality of the environment that causes stress, Hammen said.

“When you’re treating a depressed adult, there is a family to consider, whether that is a traditional family or essential individuals who make up a family constellation,” she said.

But even after learning so much over so many years, Hammen still embraces trying new techniques for measuring stress and evaluating its effect on depression.

“It’s an exciting ride to be able to discover something new that sheds light on a subject as important as this,” she said.

IN MEMORIAM

Eileen S. Kraus, Banking Pioneer, Civic Leader, and Good Friend of WHRY, Dies at 78

Throughout her long and accomplished career, Eileen Kraus regularly showcased her authenticity and generous spirit in both business and philanthropy. Kraus died on July 1 of pancreatic cancer. She was 78.

Her appointment in 1992 as President of Connecticut’s largest bank was a landmark achievement for women. But even while applying her expert sales and marketing skills to grow the business, Kraus contributed her time and talent to causes ranging from child and family services, community economic development, job growth, and the fight against drug addiction.

Kraus was widely recognized for her many contributions, including induction into the Connecticut Women’s Hall of Fame in 2002. A friend of WHRY dating from the first days of the center, Kraus served as a special advisor and honorary member of its Advisory Council.

“I will always be grateful to Eileen for her capacity to be so very genuine, helpful, and thoughtful and for her wonderful sense of humor,” said WHRY Director Carolyn M. Mazure, Ph.D. “She had an unending commitment to helping others — including us at WHRY — and for keeping a keen eye on how best to advance women’s lives.”
No Time to Waste

Space and time began about 13.8 billion years ago with a bang.

In the first fractions of a second that followed, the entire universe expanded from a singular point of infinite density under immense pressure and huge temperatures until it cooled enough to eventually create the elementary particles that form everything we know today.

Our galaxy began to develop about 12.6 billion years ago, spinning for another 7 billion years before it reached its current disk shape. Then 4.6 billion years ago, our sun formed, followed relatively shortly by the formation of the Earth. The first humans to share our current anatomy appeared about 300,000 years ago, achieving modern behavioral traits only (!) about 50,000 years ago.

It took maybe six million years for the Colorado River to carve out the Grand Canyon. A wonderful timeline of the past and future universe by Slovak graphic designer Martin Vargic shows how in about 7.2 million years from now, the faces on Mount Rushmore will have eroded into unrecognizability. In 80 million years or so, he estimates the big island of Hawaii will sink into the ocean. Five or six billion years later, our sun will run out of hydrogen and begin to shrink into a white dwarf, cooling off for trillions of years.

What I’m saying here is, big things take some time, and we’ve got a lot of work to do.

Science — particularly biomedical science — moves slowly. The human body remains the most complicated structure on the planet. To understand how it works on the microscopic level and how its systems work to influence behavior requires deliberate, painstaking effort. A careful researcher must often overcome obstacles, dead-ends, and confusing results that require recalibration and sometimes re-evaluation of longstanding assumptions.

Such attention takes time. And, as with most large projects, money.

Now in our 20th year, Women’s Health Research at Yale knows from experience the value of investing in the most promising studies, often at the earliest stages when it can be hard to know how long it might take to achieve an outcome with practical benefits for people. But when evaluating prospective studies, our panel of faculty experts always considers their true potential to translate into improving or even saving lives.

As our country grapples with tremendous uncertainty surrounding the public funding of health research and the administration of health insurance, now is the time to invest in reliable institutions with proven track records and a commitment to the long, hard, and ultimately fruitful pursuit of science.

In the 150s, Ptolemy established a model of the solar system with the Earth at the center. It wasn’t until Copernicus in 1543, supported by Galileo Galilei in 1610, that we came to understand the correct sun-centered model.

In 1665 Robert Hooke discovered the biological cell, the basic component of all living things. In 1892 Dmitri Ivanovsky discovered the first virus. In 1928 Alexander Fleming discovered penicillin, the first antibiotic to treat bacterial infections. It wasn’t until the 1940s when we finally knew how and what dose of penicillin to administer.

In 2001, the Human Genome Project published the first draft describing every component of heredity. The publicly funded effort involved 20 universities and research centers in seven countries, took more than a decade to complete, and remains the world’s largest collaboration in biological research.

We are all part of a great and ancient endeavor to better understand ourselves and our world. News cycles, governments, stars, and planets will come and go. But for now, it’s time to keep working.

“I hope everyone went home better informed about the progress and challenges surrounding issues in women’s health,” Mazure said. “When it comes to biology and behavior, women and men are not identical. We need to work together to make sure that our researchers and health care professionals understand these differences to best serve everyone.”

WHRY would like to thank Amy Langer and Wendy Naratil for hosting a lovely dinner in June at the Yale Club in New York for our newest friends.
Women’s Health Research at Yale

FACTORING IN GENDER

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OUR 20TH YEAR


In 2003, WHRY celebrated our first five years by honoring Mary B. Arnstein and Diane L. Wishnafski, two members of the community who had demonstrated an outstanding and abiding commitment to improving the health of women.

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