A new gift will spur stem cell research

Financial support for work on epigenetic foundations of essential cellular activity

Luye Life Sciences Group, a Chinese medical conglomerate, has given the Yale Stem Cell Center (YSCC) $1 million in support of basic stem cell research. The gift “will allow my lab to explore cutting-edge questions that are high-risk and unlikely to be funded by mainstream funding mechanisms,” says Haifan Lin, PhD, YSCC’s director, Eugene Higgins Professor of Cell Biology, and professor of genetics and of obstetrics, gynecology, and reproductive sciences.

With the gift, Lin and his lab team will continue to investigate a class of genes he discovered called the Argonaute/Piwi family, which is linked to human fertility. Lin has researched these genes’ potential role in the division of cancer cells—gaining knowledge that might lead to new anti-cancer treatments.

The boost from Luye Life Sciences Group will help Lin focus on “epigenetic mechanisms mediated by the Piwi-piRNA pathway in defining a cell’s fate,” he says. “I am very grateful to Luye Group’s leadership for their friendship and trust in my research. I look forward to a wonderful relationship with Luye colleagues in years to come,” Lin says.

The donation comes from Luye’s new Boston area-based research and development center, which opened in July 2017. “As one of the world’s leading companies, we are committed to supporting cutting-edge research in various areas of science and technology,” says Fu. “We believe that this gift will help to advance the field of stem cell research and contribute to the development of life-saving therapies for patients.”

Devastating disease of the lung is a new research gift’s focus

The lungs are made up of some 30 to 40 different types of cells. “When you get sick, these cells can change. New cells can come in and resident cells can change over,” says Naftali Kaminski, MD, Boehringer Ingelheim Pharmaceuticals, Inc., Endowed Professor of Medicine (Pulmonary), and chief of the Section of Pulmonary, Critical Care, and Sleep Medicine (Yale PCCSM) at the School of Medicine.

If researchers understood the interactions that take place between cells as disease takes hold in the lungs, he says, they might be able to develop targeted treatments to block crucial steps in the disease process.

A particular priority is idiopathic pulmonary fibrosis (IPF), a disorder that does not typically respond to treatment. At the signing ceremony that made Luye Life Sciences Group’s gift official, (l–r): Peter Schiffer, Yale vice provost for research; Tim Maguire, director of business development, Luye Boston R&D, LLC; Sean Fu, president of Luye Boston R&D, LLC; Dean Robert J. Alpern, and Haifan Lin.

At the signing ceremony that made Luye Life Sciences Group’s gift official, (l–r): Peter Schiffer, Yale vice provost for research; Tim Maguire, director of business development, Luye Boston R&D, LLC; Dean Robert J. Alpern, and Haifan Lin.
Medical director is named for Yale New Haven Psychiatric Hospital

Frank Fortunati

Frank Fortunati earned his JD from Rutgers University School of Law—Camden and then his MD from UMDS (now Rutgers) New Jersey Medical School. He completed a psychiatry residency and fellowships in child and adolescent psychiatry and forensic psychiatry at Yale School of Medicine.

“We are thrilled to conclude our very competitive national search with the appointment of Dr. Fortunati, someone we know, respect, and rely on as a psychiatrist and a leader,” says John H. Krystal, MD, Robert L. McNeil, Jr. Professor of Translational Research, chair and professor of psychiatry, and professor of neuroscience, and chief of psychiatry at YNHH.

Marcella Nunez-Smith

A champion of health care fairness

Uncovering inequalities and striving to improve both care and education

Marcella Nunez-Smith, MD, MPH, ’06, associate professor of medicine (general medicine) and of epidemiology (chronic diseases/social and behavioral sciences). Her godfather, a surgeon, practiced in her mother, a nursing professor, taught community health. Etched in family lore, and recorded somewhere, is Nunez-Smith’s confident declaration, at age 6, of her plans to become a reproductive endocrinologist. Her devotion to medicine has never wavered.

At 16, she matriculated at Swarthmore College in Pennsylvania, and double-majored in biological anthropology and psychology. She took a year after graduation to care for her aging grandmother, and teach at her former high school in St. Thomas, U.S. Virgin Islands, and then began medical school at Thomas Jefferson University College of Medicine in Philadelphia in 1997.

Eventually, internal medicine would supplant reproductive endocrinology as her primary interest. It became the focus of her residency at Brigham and Women’s Hospital in Boston. One day, a close colleague mentioned a fellowship program that provided skills and resources for physicians to affect the health of whole populations, rather than one patient at a time. “I immediately thought—I want to do that!” Nunez-Smith says. She applied to what was then the Robert Wood Johnson Foundation Clinical Scholars Program at Yale, and learned of her acceptance from Harlan M. Krumholz, MD, Harold H. Hess, Jr., Professor of Medicine (Cardiology) and associate professor of investigative medicine and of public health (health policy), who would be her program director.

Inscribed by the work of one of her mentors, Judaynn Bigby, MD, former secretary of Massachusetts’ Executive Office of Health and Human Services, Nunez-Smith knew she would pursue fellowship research on health disparities and inequities. Her first project grew out of her own residency experience as a woman of color. “We had a very sup- portive environment there,” Nunez-Smith says. “We also had some medical staff who, for the length of the residency, con- fused me with another resident, who is 6 feet tall, and many shades darker than myself. We laughed at it, at the time, but I began to think, ‘What does it look like for our profession to support diversity?’”

“People of color in hospitals and practices are often invisible and must deal with culture and climate issues all the time,” says Nunez-Smith. “For example, patients might refuse to accept that a particular color is a physi- cian, even with data they have—like seeing a stethoscope.”

She led a group that approached Krumholz and her fellowship program advisor, Elizabeth H. Bradley, PhD, now president of Vassar College, with a plan to investigate workforce diversity in health care—a topic so nascent that neither had heard of it. That qualitative research would lead to work on patient health care inequity, and with pilot data supported through a Yale Center for Clinical Investi- gation (YCCI) Scholar Project Award in 2006, Nunez-Smith became principal investigator of a National Institutes of Health-funded grant to develop a Patient-Reported Experiences of Discrimi- nation in Care Tool (PreDict). She became assistant professor of medicine at Yale a year later.

Nunez-Smith would soon develop the Eastern Caribbean Health Outcomes Research Network (ECHORN), a col- laborative, multimillion-dollar research study funded by the National Institute for Minority Health Disparities. Among other NIH- and foundation-funded projects, she would found the Equity Research and Innovation Center (ERIC), which turns five this year. All ongoing projects at ERC—from population migra- tion, to cardiovascular disease, to pedi- atric obesity—are examined through a health-equity lens, she explains. During her 14 years in the field, Nunez-Smith has found that a par- ticipatory research approach is the most important tool she has in trans- late health equity research to tan- gible results. “As its core, participatory research means that researchers cede some power to community members who have the expertise necessary for the scientific success of a project,” she says. In 2016, Nunez-Smith and colleagues were awarded nearly $10 million in funding over five years to launch the Yale Transdisciplinary Collaborative Center for health disparities research (Yale- TCC), within ERC, which aims to improve early identification of individuals at risk for hypertension and type 2 diabetes.

No matter which research project Nunez-Smith works on, the immense impact she felt during her initial Yale fel- lowship, now called the National Clinical Scholars Program (NCSP), is never far from her mind. “I learned to take risks. Build good teams. To not take ‘no’ easily,” she says. Now, as a core NCSP faculty member, she impresses these lessons on the next generation of clinician-scholars.

LIFELINES

A collaborative immuno-oncology center is launched

Yale Cancer Center (YCC) has launched the Yale Center for Immuno- Oncology (YCO), which will build on YCC’s interna- tional leadership in immunobiology, cancer immunology, and development of novel cancer immunotherapies. It is a partner- ship between YCC and immuno- biology at Yale University.

“This new center gives us the chance to work more collaboratively and efficiently with our world- renowned scientists and faculty to address scientific questions in immuno-oncology,” says Roy S. Herbst, MD, PhD, Ensign Professor of Medicine and professor of pharmacology, associate director for translational research at YCC, and chief of medical oncology at YCC and Smilow Cancer Cen- ter. “We hope we can transform the way we treat people affected by cancer by generating research advances more quickly.” Herbst will serve as interim director until a search for a permanent director is completed.

“The addition of YCO contin- ues our goal to expand the depth and breadth of our science, including the broadening of our trans- lational research infrastructure,” said Charles S. Fuchs, MD, MPH, Richard Sackler and Jonathan Sack- ler Professor of Medicine (Medical Oncology) and director of YCC. “Goals for YCO include building upon Yale’s leadership in immuno- biology and immunotherapy drug development, developing the next generation of immune-based thera- pies, and genetically engineering immune cells to target cancers.”

Medical director is named for Yale New Haven Psychiatric Hospital

Frank Fortunati, MD, JD, assistant professor of psychiatry, has been named medical director for Yale New Haven Psychiatric Hospital and associate chief of psychiatry for Yale New Haven Hospital (YNHH).

Frank Fortunati

He served in an interim capacity for more than two years. Fortunati earned his JD from Rut- gers University School of Law—Cam- den and then his MD from UMDS (now Rutgers) New Jersey Medical School. He completed a psychiatry residency and fellowships in child and adolescent psychiatry and forensic psychiatry at Yale School of Medicine.

Charles Fuchs
Yale is adding microscopy that provides an unprecedented view of specimens whose thickness had thwarted close inspection.

Biological structures exist and function in three dimensions, but the limitations of traditional microscopy have long meant that scientists could examine only two dimensions in fine detail. The traditional practice of analyzing specimens one thin slice at a time, even if the structure being investigated is considerably thicker, can only get a researcher so far, says Derek K. Toomre, PhD, associate professor of cell biology, and director of the Yale “CINEMA” (Cellular Imaging using New Microscopy Approaches) laboratory. “Imagine if I had to recognize your face if I had just a slice through your skull,” he says. “It would be very hard.”

This summer, Yale is on track to install what for Toomre and his colleagues is a major advance: the focused ion beam-scanning electron microscope (FIB-SEM), which acquires tomography data from biological specimens. “There are relatively few of these microscopes around,” he notes. “There is not one in the region. It’s new and it’s something we’ve been wanting for a while, and I think it plays to an inherent strength of Yale, the hormone, may be effective against pulmonary fibrosis. This led the investigators to hypothesize that anti-DKK2 antibody might shield the lungs. This effect, which may shield the lungs, may be effective against pulmonary fibrosis in people. The hormone should be developed for pulmonary fibrosis in people.

Lung disease may respond to hormone

Thyroid hormone, or drugs based on the hormone, may be effective against pulmonary fibrosis—a chronic and progressive lung disease—according to a new study. Researchers led by Naf- taili Kaminski, MD, chief of pulmonary critical care and sleep medicine and the Boehringer Ingelheim Pharmaceuticals, Inc., Endowed Professor of Medicine (Pulmonary), first found that a protein involved in activating thyroid hormone was increased in the lungs of people with a severe form of pulmonary fibrosis. This led the investigators to try the effects of aerosolized delivery of thyroid hormone to two different mouse models of lung fibrosis. Mice treated with aerosolized thyroid hormone, as well as a small molecule that mimics the effect of the hormone, showed significant resolution of the fibrosis in their lungs and survived longer compared to untreated mice. The hormone, the team discovered, improved the function of energy-generating mitochondria in the cells that line the lungs. This effect, which may shield the cells of the lung from damage, may be important in the resolution of fibrosis. The results, reported on Dec. 4 in Nature Medicine, suggest that aerosolized thyroid hormone should be developed for pul- monary fibrosis in people.
November 7  At A More Unified Yale, a reunion event in San Diego, a group of rheumatologists visited and shared advances in the field. (Left to right): The event was hosted by Matthew Browne, YC ’90, and his wife, Juli Oh; and included Gary V. Desir, MD ’80, chair of internal medicine; and Joseph E. Craft, MD, section chief of rheumatology.

February 2  At the inaugural Sidney Blatt Lecture, Paul L. Wachtel, MA ’63, PhD ’65, (center), distinguished professor of psychology at City College of New York, gave a lecture titled, “Revisiting the Dynamics of Personality: Beyond Diagnostic Categories, Developmental Levels, and Linear Formulations.” Sidney J. Blatt, PhD, died in 2014 and served a 50-year career in Yale’s department of psychiatry. Wachtel was a mentee of Blatt. From left, John Casey, YC ’79, and his wife, Judy Casey, YC ’81, a daughter of Blatt; David Blatt, YC ’85, Law ’88, his son; Wachtel; Lisa Blatt, David’s wife; and Susan Goetsch, MFA ’76, daughter of Blatt, and her husband, Charles Goetsch.

March 1 1. Richard A. Silverman (center) with his wife Nancy and surrounded by family at his Retirement Party, was the School of Medicine’s director of admissions for 18 years, capping four decades of service to Yale University. His career began at Yale College, where he was associate director of admissions from 1977 to 1983, and continued at the School of Management, where he served as director of admissions from 1983 to 1999. 2. A farewell card filled with best wishes.

March 16  On the annual Match Day, all 123 medical students in the Class of 2018 who sought residencies learned which programs they will be joining. 1. Marcella Nunez-Smith, MD, MPH ’06, associate professor of medicine (general medicine) and of epidemiology, and Darin A. Latimore, MD, deputy dean and chief diversity officer, give congratulations to Marquita Nicole Kilgore. 2. Andrew Loza (left) and John Andrews are all smiles. 3. From left, Alyssa Zupon, Blair McNamara, Alyssa Thomas, Rachel Klausner, Andi Shahu, and Hadley Bloomhardt hold up their match letters after opening them at noon in Harkness Hall.

April 4  The Section of the History of Medicine hosted a screening of Thank You For Coming, a documentary about the years-long search by filmmaker Sara Lamm (right) for her sperm-donor biological father, Patrick Mullen, MD, (second from right). Also fielding—and asking—questions after the screening were (from left) Rene Almeling, PhD, associate professor of sociology; and Joanna Radin, PhD, associate professor in the history of medicine, of anthropology, and of history.

February 9  Yale Law School’s Solomon Center for Health Law and Policy hosted The Policy, Politics & Law of Cancer conference in collaboration with Smilow Cancer Hospital and Yale Cancer Center. Featured speakers at the two-day event included, from left, Norman E. Sharpless, MD, director of the National Cancer Institute; Otis W. Brawley, MD, chief medical and scientific officer for the American Cancer Society; and Roy S. Herbst, MD, PhD, Ensign Professor of Medicine, professor of pharmacology, and chief of medical oncology at Yale Cancer Center and Smilow Cancer Hospital.

March 9  A More Unified Yale, held at the Hotel del Coronado in San Diego, featured a group of rheumatologists who gathered to share advances in their field. (Left to right): Matthew Browne, YC ’90, and his wife, Juli Oh; Gary V. Desir, MD ’80, chair of internal medicine; and Joseph E. Craft, MD, section chief of rheumatology.

Out & About

// Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4) // Luye (page 4)
First online physician assistant class gets to work

Goal is to train primary care providers for their own underserved communities

The launch in January of the medical school’s inaugural physician assistant online program (PA Online) marked the first time that students not on campus could work toward a Yale degree. Forty-two students are enrolled in the initial class, in a program designed to let talented aspiring physician assistants from across the country benefit from a Yale education while staying in their home communities.

Those communities, which often are underserved, also stand to benefit because their own home-grown health professionals are considered more likely to remain and provide primary care locally.

“The goal is to contribute to the health care needs of the country,” says Robert J. Alpern, MD, dean and Ensign Professor of Medicine, “and to give more qualified applicants the opportunity to earn a Yale School of Medicine Master of Medical Science degree.”

PA Online provides 12 months of online didactic work, with cohorts of 11 to 15 students engaging frequently with each other and a School of Medicine faculty member through an interactive “Online Campus.” Sixteen months of clinical rotations then follow, predominately in students’ home areas, including a month-long capstone research project. Mixed in are three separate weeks of on-campus immersion that include work in Yale’s simulation lab and in-person faculty lectures. During the first such week, in March, students received their ceremonial white coats.

The physician assistant field is expanding rapidly across the country, expected to grow by 27 percent between 2016 and 2026, according to the U.S. Bureau of Labor Statistics. Yale’s Physician Associate Program, based on the Yale campus, has contributed to the profession since its first students arrived in 1971. By adding PA Online, the School of Medicine now extends that reach more broadly.

PA Online’s director, James Van Rhee, MS, PA-C, associate professor of medicine, praises the quality of the inaugural students in his program, including their health care experience, which averages just over 8,000 hours of patient care.

“Compared to the national data from the Physician Assistant Education Association,” says Van Rhee, “the first cohort of online students, on average, had twice the health care experience and was five years older than the average PA program matriculating student.” Their past roles range from PharmD, to work at a clinic for home-less people, to two decades’ service as a nurse on a Native American reservation in Arizona. The inaugural class includes three military veterans.
### Grants and contracts awarded to Yale School of Medicine

**March 2017 – June 2017**

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Institution</th>
<th>Title</th>
<th>Start Date</th>
<th>End Date</th>
<th>Funding</th>
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<td>Robert Dubrow</td>
<td>NIH, MIF/CD74 Signaling as a New Candidate Target for Inflammation-Based Malignancy</td>
<td>1 year, $49,431</td>
<td>Caterina Di Pietro</td>
<td>University of California, Los Angeles</td>
<td>£5,967,658</td>
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<td>Donaghue Medical Research Foundation, Toralgen Research Institute, Toralgen</td>
<td>Enhancing On-body Mechanosensing in Human Skin</td>
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<td>Stuart Weinzimer</td>
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of Gut Flora and its Role in Lupus Autoimmunity, 1 year, $38,000 • Whitney Fu, American Medical Association Foundation, The Association Between Protein Citrullination and Complement Activation in Transplantated Allografts Using Regional Physiology, 1 year, $10,000 • Rhonda Mushinski, Anti-Cytokine Correlated Prostate Antibodies as a Diagnostic Biomarker for Graft Rejection, 1 year, $2,451 • Jonathan Galliard, Howard Hughes Medical Institute, The Genetic Causes of Vein of Galen-Malformation, 1 year, $18,000 • Sara Gallini Human Frontier Science Program Organization, Understanding the Principles of Tissue Repair that Accelerate Tumor Initiation, 3 years, $160,000 • Douglas Gill, Mind Research Network (NIH), Mining the Genomewide Scan of Genetic Polymorphisms in Schizophrenia, 5 years, $122,275 • Steven Gore, University of Miami (NIH), Epigenetic Biomarkers of Response to Antidepressants in Major Depressive Syndromes, 11 months, $41,625 • Bonnie Gold, University of New Mexico (NIH), Integration of Clinical and Molecular Biomarkers for Melanoma Survival, 1 year, $26,335 • David Hoffman, Benaroya Research Institute (NIH), Regulatory Epigenetic Profile of Tregs in Multiple Sclerosis, 10 months, $125,632, Shareloe Borna (NIH), High Resolution Microarray Profiling System, 1 year, $34,961 • Stephanie Halene, Manoj Pillai, Connecticut Innovations, Biological and Therapeutic Targeting of Solving Factor Mutant MDS, 3 years, $165,000 • Annette Harper, University of Research Retention at Biostat College (SSA), Financial Management Support for SSA-Disabled and Disabled Beneficiaries, Beyond Representative Payees, 1 year, $45,000 Christos Hatzi, University of Texas M.D. Anderson Cancer Center (NIH), Integrating Bio- specimen science into the Development of IRB-Based Clinical Trials for Patients with Metastatic Breast Cancer, 1 year, $106,832 Kathryn Hawk, New York University School of Medicine (NIH), NIDA Clinical Trial Network Greater New York Node (XR-BU ED Project), 1 year, $530,004 • Ray Horst, Brown University (OSD), CHART Regulation of Cellulose Regulation, Costimulatory and Coinhibitory Molecules in Primary and Metastatic Lung Cancer, 1 year, $83,749 • Kevin Herold, University of South Florida (NIH), NIDDK Type 1 Diabetes TrialNet XR-BUP ED Project, 1 year, $150,000 • Robert Hill, Donors Cure Foundation, Myelodysplastic Syndromes (MDS)/5q Deletions and 7q22 Mutations, 1 year, $50,000 • Laurence Horish, Elisa, Fifth Annual Comprehensive Epilepsy Research Retreat, 1 month, $5,000 • Zimmer Bismar, Fifth Annual Yale Comprehensive Epilepsy Retreat, 1 month, $5,000 • Mark Horowitz, Orentreich Foundation for the Advancement of Science, The Role of the Transdifferentiation Pathway in Mediating the Development of Metastatic Colon Cancer, 1 year, $43,161 • David Hudinil, HHV-8 Foundation, The Role of Human Herpesvirus 8 in Salivary Gland Cancer, 1 year, $275,000 • Natalia Ivanova, Connecticut Innovations, BCOR-PRC Repressive Complex as the Key Regulator of Physio- types in Human Embryonic Stem Cells, 4 years, $67,500 • Akisawa Isao, Brigham and Women’s Hospital, Defining the Role of Endothe- nal Retinovuses in Lupus Skin Disease, 1 year, $50,250 • Christopher Jackson, Howard Hughes Medical Institute, Development of Nanoparticle-encapsulated Chemotherapy, Radio-Sensitizers for Intrathelial Delivery, 1 year, $38,000 • Jason Warren, New York University School of Medicine, Research & Education Foundation, Molecular Mechanisms of CLF Hypersensitivity in a Model of Intravascular Hemarthrosis, 3 months, $2,000 • Steven Kleinstein, Icahn School of Medicine at Mount Sinai (NIH), Development of HPC Data Standards, 1 year, $87,858, Icahn School of Medicine at Mount Sinai (NIH), Denref Human Immunology Project Consor- tium (DHPC), 1 year, $100,500 • Albert Kim, University of Virginia, Optimal Control Strategies for Robotic-Borne Zoonoses in Brash Salmon Settlements, 2 years, $16,347 • Kyle Kovacs, ASCRS Foundation, American Society of Catar- act and Refractive Surgery, Choroidal Vascular Development, Findings from Wide Field Indocyanine Green Angi- ography Associated with Occular and Systemic Disease, 1 year, $5,000 • Gary Kupfer, Icahn School of Medicine at Mount Sinai (SSMMS) (DHMS), Hemophilia Treatment Centers (TSPANS), 1 year, $18,837 • Soo Hyun Kwon, Connecticut Innovations, American Academy for Cerebral Palsy and Developmental Medicine, Hypoglycemia and White Matter Development in the Mower Outcomes of Extremely Preterm Infants, 1 year, $25,000 Haifan Lan, Connecticut Innovations, Continued Support and Technology Development for Shared Core Facilities at the Yale Stem Cell Center, 1 year, $50,000 • Anthony Lai, Palmer College of Chiropractic, Inter-institutional Network for Chiropractic Research, 5 years, $195,000 • Wei Liu, American Association of Physicians in Medicine, Dosimetric Verification of a Forward 6 MeV X-ray System, 4 months, $1,000 Patricia Llorente, Ascaso University LLC, Limited Master Research Agreement-Administrative Component, 1 year, $250,000 • Lu, Connecticut Innovations, Functional Mapping of Non- Co-encoding Genomic Elements, 2 years, $200,000 Patrick Lusk, Dystonia Medical Research Founda- tion, Determining the Role of Torsin in Nucleic Acid Complex Assembly, 2 years, $100,000 Nilohit Mahankian, Charles H. Hood Foundation, Targeting Bacterial Infections by Imaging Electric Interactions Between Host Surface and a Pathogen, 4 years, $83,749 • David Madar, NIDDK Type 1 Diabetes TrialNet, Role of Metastatic Breast Cancer inadaptive NK Cells in Asha in the U.S., was admitted in 1847 to New York’s Geneva Medical College as a joke. The first three women Yale School of Medicine admitted a century ago—when studying medicine was still considered “inappropriate” for women— included Louise Farnam, already a PhD in physiological chemistry, who would graduate with honors, win the Campbell Gold Prize for the highest rank in examinations, and become her class’s com- mencement speaker. While opportunities are not equal yet, women have been witness to the last several decades say they see progress. “I never believed I would see women in leadership positions in science during my career,” says Joan A. Steitz, PhD, Sterling Professor of Molecular Biophysics and Biochemistry, who earned her PhD from Harvard University in 1967. “That has all changed.” In the ses- sions, Steitz and former SWIM Chair Marie E. Robert, MD, professor of pathology and former SWIM chair, noted that while there will always be work to do, many of the positive steps taken by the medical school in recent years, showing that women comprise 30 percent of governance committees and 90 percent of senior search committees at YSM, addressing gender-based salary inequities, and the recruitment of a diversity for and inclusion, have been in partnership with SWIM. The symposium included a series of banners highlighting women in all areas of medicine and science during the past century. Robert also has worked to increase faculty engagement through activities such as a recent Internal Medicine Grand Rounds that was devoted to the history of women in medical education. An invi- ced by the enthusiastic response to the 100 Years of Women at YSM celebra- tion, they look forward now to seeing the momentum continue.
Four from medical school elected to National Academy of Sciences

American Academy of Arts and Sciences also chooses two from School of Medicine

In recognition of their outstanding research achievements, four School of Medicine faculty members have been elected to the National Academy of Sciences (NAS). Akiko Iwasaki, PhD, Haiyan Lin, PhD; David G. Schatz, PhD; and Gunter Paul Wagner, PhD, were selected for one of the world’s highest honors that can be bestowed on a scientist.

“This is a banner year for the School of Medicine,” says Robert J. Alpern, MD, dean and Ensign Professor of Medicine. “Election to the National Academy of Sciences is based on the quality of research and I think it speaks volumes about the caliber and impact of Yale science that four of our faculty members were elected this year.”

Iwasaki is Waldemar Von Zedtwitz Professor of Immunobiology and Molecular, Cellular and Developmental Biology and a Howard Hughes Medical Institute (HHMI) investigator. Her research focuses on the mechanisms of immune defense against viruses at mucosal surfaces. Her laboratory has made seminal contributions to the understanding of how innate recognition of viral infections leads to the adaptive immune response, and how adaptive immunity mediates protection against subsequent viral challenges. Her work spans diseases caused by such viruses as herpes, influenza, rhinovirus, human papillomavirus, and Zika.

Lin is Eugene Higgins Professor of Cell Biology, professor of genetics and of obstetrics, gynecology, and reproductive sciences, and founding director of the Yale Stem Cell Center. He has made key contributions to the demonstration of stem cell asymmetric division and the proof of the stem cell niche theory. He discovered the Argonaute/Piwi gene family and its essential function in stem cell self-renewal and germline development. He is also a discoverer of a novel class of non-coding small RNAs known as piRNAs, which was hailed by Science as one of the top breakthroughs in 2006. More recently, he demonstrated the crucial roles of the Piwi-piRNA pathway in epigenetic programming and in post-transcriptional regulation of mRNAs and long non-coding RNAs.

Schatz is chair and Waldemar Von Zedtwitz Professor of Immunobiology, professor of molecular biophysics and biochemistry, and an HHMI investigator alumnus. He has made fundamental contributions to the understanding of the mechanisms that assemble and diversify antigen receptor genes that encode antibodies and T cell receptors. He is best known for the discovery of the recombination activating genes RAG1 and RAG2, subsequent biochemical insights into RAG function and evolutionary origins, and the discovery of two distinct levels of regulation of somatic hypermutation.

Wagner is Alison Richard Professor and acting chair of ecology and evolutionary biology at Yale University, with a secondary appointment in the medical school’s Department of Obstetrics, Gynecology & Reproductive Sciences. Along with David Berovich, PhD, and Igor B. Frenkel, PhD, from Yale University, the School of Medicine researchers are among 84 new members and 21 foreign associates. They join 64 other Yale faculty members—29 of whom are from the School of Medicine—who have been elected to the NAS.

In addition, Lin was elected in April to the American Academy of Arts and Sciences, which celebrates excellence in a wide range of disciplines. Joining him from the School of Medicine faculty is Gerald L. Shulman, MD, PhD, George R. Cowgill Professor of Medicine (Endocrinology), professor of cellular and molecular medicine, co-director of the Yale Diabetes Research Center, and HHMI investigator. Shulman pioneered the use of magnetic resonance spectroscopy to examine intracellular glucose and fat metabolism in humans for the first time. The approach has led to groundbreaking basic and clinical investigative studies on insulin resistance and a deeper understanding of type 2 diabetes. Also entering the academy from Yale’s faculty is John J. Collins, PhD, the Holmes Professor of Old Testament Criticism and Interpretation.

Other new inductees to the academy include former president Barack Obama and actor Tom Hanks.

Craigs & Honors

Craig M. Crews, PhD, Lewis B. Cullman Professor of Molecular, Cellular, and Developmental Biology, and professor of chemistry, receives the Khorana Prize from the Royal Society of Chemistry, in recognition of pioneering contributions to the field of controlled proteoanabolism.

John Elefteriades, MD, William W.L. Glenn Professor of Surgery (Cardiac Surgery), has received an honorary PhD from the University of Liege, Belgium, recognizing “innumerable scientific publications of the highest caliber ... on the genetics of aneurysms and the pathophysiological mechanisms that favor their rupture.”

Stephanie S. O’Malley, PhD, professor of psychiatry, has received the Research Society on Alcoholism’s 2018 Distinguished Researcher Award, which honors a senior researcher who has made outstanding scientific contributions to the alcohol field. The society says O’Malley’s contributions to the field “have been highly significant and innovative.”

Sangiri S. Seth, MD, MPH, assistant professor of obstetrics, gynecology, and reproductive sciences, has received the Hartwell Foundation’s Individual Biomedical Research Award, in support of his research into “Fetal Cure for Spina Bifida.”

Robert M. Weiss, MD, Donald Guthrie Professor of Urology, has received the John W. Duckett, MD, Pediatric Urology Research Excellence Award from the Urology Care Foundation, for “significant contributions to drug delivery for benign and malignant diseases of the bladder as well as addressing bladder dysfunction through increased understanding of age-dependent factors in ureteral-vesical function.”

Additional information:

- Stephanie C. Eisenbarth, MD, PhD, associate professor of laboratory medicine, of immunology, and of medicine (immunology), has received the National Blood Foundation’s Award for Innovative Research, for work that has been instrumental in helping to determine why some patients become alloimmunized after transfusion.

- Paul D. Kirwin, MD, associate professor of psychiatry, receives the Jack Weinberg Memorial Award in Geriatric Psychiatry from the American Psychiatric Association, given for special leadership and outstanding work in clinical practice, training, or research into geriatric psychiatry.

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