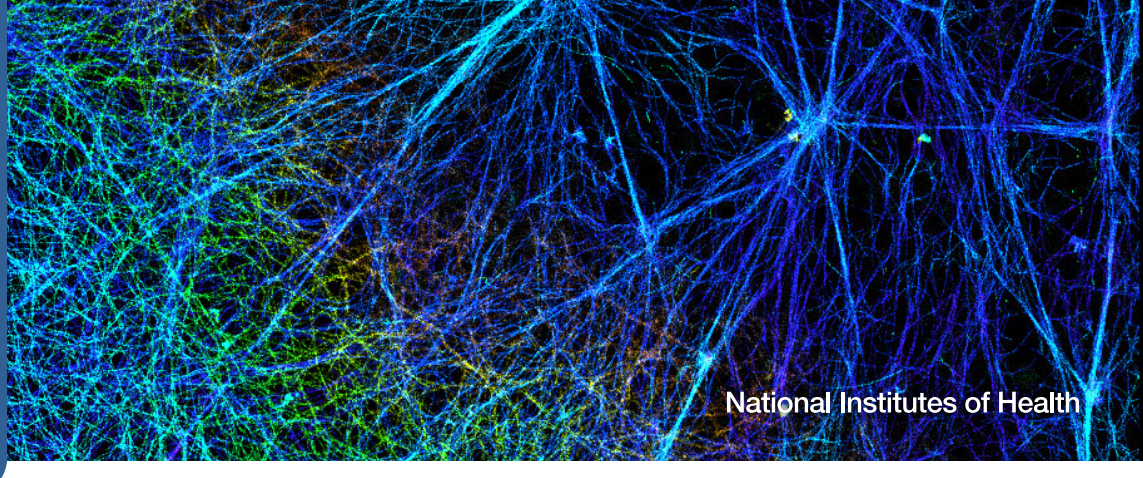
NIH RECORD

January 16, 2026
Vol. LXXVIII, No. 2



PROGRESS REPORT

Vallabh Prepares for First Clinical Trials for Prion Disease Therapeutic

BY AMBER SNYDER

When Dr. Sonia Vallabh visited NIH five years ago, she was on the hunt to find a treatment for a rare disease encoded in her own genes. The patient-turned-researcher carries the gene for an inherited prion disease called fatal familial insomnia. She and her husband Dr. Eric Minikel have devoted their lives to finding a cure and now they're closer than they've ever been.

Vallabh returned to NIH in December to deliver the Wednesday Afternoon Lecture: "A Patient-Scientist Lens on How and Why to Move Faster to First in Human."

Prion protein, in its native form, is a protein that exist normally in mammalian brains. In rare cases, it can spontaneously misfold into a "prion" and spread throughout the brain, forming clumps that damage or destroy neurons and cause neurological symptoms. Prion protein, abbreviated PrP, is encoded by the *PRNP* gene.


Dr. Sonia Vallabh

All prion diseases can be divided into three subtypes: familial, sporadic or acquired. Patients with the familial form—like Vallabh—can be identified while still healthy, and she thinks that lowering levels of PrP should benefit both pre-symptomatic and symptomatic individuals.

"*PRNP* loss of function alleles occur in the population at a rate of 50 per million—exactly what would be expected if natural selection didn't mind it," explained Vallabh. While researchers are still trying to elucidate the exact functions of *PRNP*, it seems that losing the gene isn't detrimental enough for nature to safeguard against it.

"There's still a lot we don't know about prions," she added. "But I think we know enough to develop meaningful therapies."

Her lab is doing just that. They currently have two prion-lowering modalities that they are working to develop in-house: an

SEE **PRION**, PAGE 4


WWE wrestlers visit pediatric patients, p. 8.

ALSO THIS ISSUE

Record Number of Teams Participate in NIH's First Winter Relay

BY ERIC BOCK

It was a cold, blustery day, with the temperature barely above freezing, and yet more runners turned out for the annual NIH Institute Relay than ever before. A record 132 teams participated in the 40th annual relay on Dec. 11.

The relay brings teams together from across NIH to compete in a baton race on campus every year. It's usually held in September but, due to inclement weather and then the federal funding lapse, the race was postponed until December. The relay's theme was "Holiday Jingle Bell Run."


Runners get in the holiday spirit at the December relay.

This year, Pep in your Steptide won the relay with a time of 14:41. Their name will be engraved on the Allen Lewis NIH Memorial Trophy in the Bldg. 31 Fitness Center. Can't Ignore the Official! finished second with a time of 15:41.

"After months of delays, we, as a staff, weren't sure what to expect for the relay. We hoped to have some warmer winter days but we determined that having the event before the year ended would be best for

SEE **RELAY**, PAGE 5

Dunbar to Deliver Anita Roberts Lecture

Jan. 26

Dr. Cynthia "Cindy" Dunbar will deliver the Anita Roberts lecture on Monday, January 26 at 12 p.m. ET in Lipsett Auditorium.

Dr. Cindy Dunbar

Dunbar, chief of the Translational Stem Cell Biology Branch at NIH's National Heart, Lung and Blood Institute and head of NHLBI's Molecular Hematopoiesis section, has had a distinguished career encompassing clinical investigation, translational laboratory science and education/administration.

Dunbar continues to be a pioneer in stem cell biology and molecular hematopoiesis, optimizing and assessing the potential of CRISPR/Cas gene editing to modify hematopoietic stem cells (HSCs). The successful integration of gene editing into her research created predictive non-human primate models for multiple human blood disorders to validate editing safety and efficacy for future human trials.

Furthermore, she developed a powerful clonal tracking of the longitudinal output, lineage trajectories and geographic distribution of thousands of individual HSCs. These successes provide insights that could pave the way to improving HSC transplantation and gene therapies.

Throughout her career, Dunbar designed and led landmark clinical trials in congenital and acquired bone marrow failure diseases. One trial resulted in the first new FDA-approved drug treatment for aplastic anemia in over 30 years.

"My time in Cindy's lab pushed me to see problems clearly," said NHLBI Senior Investigator Dr. John Tisdale. "Cindy can identify with extraordinary clarity the crux of the problem and she is always looking after her mentees."

Dunbar remains committed to the career development of physician-scientists. She has led the NIH clinical hematology fellowship program for 17 years, and over the years she has received numerous mentoring and public service awards from NHLBI, NIH and professional societies. She previously served as editor-in-chief of the premier hematology journal, *Blood*.

Dunbar's former and current mentees consistently praise her leadership and guidance, noting her pivotal influence in shaping their scientific journeys.

"Cindy doesn't merely train hematologists," said NHLBI Senior Investigator Dr. Andre Larochelle. "She cultivates scientific citizens who are thoughtful, resilient and eager to mentor the next generation."

Assistant Secretary for Health Visits NIH

ADM Brian Christine, assistant secretary for health at HHS and head of the U.S. Public Health Service Commissioned Corps., visited the Clinical Center in December to talk with NIH National Cancer Institute (NCI) leaders, researchers and patients.

Christine met with NCI Director Dr. Anthony Letai and was briefed by researchers from NCI's Pediatric Oncology Branch, a discussion that included the impact of the President's new executive order that encourages artificial intelligence and other tools to accelerate pediatric cancer research.

The tour concluded at the Children's Inn at NIH, where Christine met Inn CEO Jennie Lucca and spent time talking and doing crafts with several young patients.

At l, ADM Brian Christine poses with patients and LCDR Abigail at the Children's Inn at NIH; at r (from l) Children's Inn CEO Jennie Lucca, Christine, NCI Director Dr. Tony Letai, NCI Chief Science Advisor Dr. George Sigounas and LCDR Dan Johnson, with Zilly, the Inn therapy dog and Abigail

PHOTOS: MALIK LONON

White House Reclassifies Marijuana

On Dec. 18, Dr. Nora Volkow—director of NIH's National Institute on Drug Abuse—joined the President and other members of the Administration in a press conference announcing an Executive Order to reschedule marijuana from Schedule I to Schedule III of the Controlled Substances Act. This new classification will facilitate cannabis research, noted Volkow.

Cannabis research is a priority for NIH and in particular for NIDA as cannabis is one of the most commonly used drugs by adolescents, with 26% of 12th graders reporting use in the last year. Fetal, childhood and adolescent development are critical periods for brain development and are particularly vulnerable to the effects of cannabis and other drugs.

No amount of cannabis use is known to be safe during pregnancy or childhood and adolescence, and there is a crucial need for preventive interventions for pregnant women and young people. Moreover, approximately 20-30% of people who use cannabis develop a cannabis use disorder, and there are currently no FDA-approved medications to treat it.

Dr. Nora Volkow (standing next to President Donald Trump) in the Oval Office as the executive order is signed to reclassify marijuana

In 2024, NIH invested $21.7 million in cannabinoid research. One significant effort is the Adolescent Brain Cognitive Development (ABCD) Study, a longitudinal study following 10,000 young people from adolescence to young adulthood that is elucidating the impact of adolescent cannabis and other drug use and health outcomes to inform prevention interventions.

Brazil Approves Dengue Vaccine Developed at NIH

NIAID's Dr. Stephen Whitehead in his lab

After 25 years of research and clinical development at NIH's National Institute of Allergy and Infectious Diseases (NIAID), the world's first single-dose dengue vaccine was approved in December for use in Brazil.

Dengue fever is a mosquito-borne illness widespread in tropical regions, endemic in Brazil. Spread by infected *Aedes* mosquitoes, the viral disease causes severe flu-like symptoms and can be life-threatening. Over the past 25 years, more than 20 million Brazilians contracted dengue; last year alone, more than 6 million probable cases of dengue were registered in the country and thousands died from it.

The vaccine—Butantan-DV—is produced by Instituto Butantan, an organization linked to São Paolo State Department of Health, and was approved by Anvisa, Brazil's National Health Regulatory Agency, for use in the Brazilian population, ages 12 to 59. The vaccine is expected to be included in Brazil's National Immunization Program (PNI).

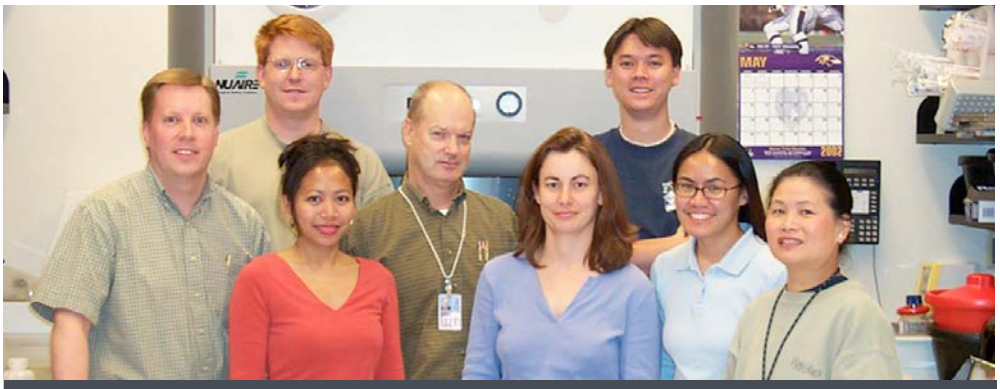
Even before the approval, Instituto Butantan had already started producing the vaccine in its industrial park, with more than a million doses ready to be incorporated into the PNI. The official launch of Butantan-DV in Brazil begins this month with an expected 30 million doses this year.

"Many people at NIAID have been involved in this process and it is a success story both for the science and technology transfer," said NIAID's Dr. Stephen Whitehead, the lead inventor on dengue vaccine technology licensed to several companies and institutes across the world for commercial development and late-stage clinical evaluation.

Butantan Institute in São Paolo recently completed a pivotal 5-year efficacy study throughout Brazil. The vaccine—which is tetravalent, meaning it's effective against the four dengue strains—demonstrated nearly 75% overall efficacy, with 91% efficacy against severe dengue and 100% efficacy against dengue hospitalizations. The study, conducted between 2016 and 2024, evaluated Butantan-DV in more than 16,000 volunteers living in 14 Brazilian states.

"We hope this is just the beginning of approval for this vaccine," said Whitehead. Phase 3 trials are underway in Southeast Asia (Merck) and India (Panacea Biotec), with Serum Institute of India to open a study in 2026. R

From l, the first volunteer in the Butantan Phase III study in 2016 with Dilma Rousseff, then-president of Brazil; Jorge Kalil, then-director of Butantan Institute; Geraldo Alckmin, then-governor of São Paulo state and currently vice president of Brazil



In this 2002 photo of the dengue vaccine discovery team, (back from l) Whitehead; Dr. Joseph Blaney, currently associate director, NIAID Division of Intramural Research; Dr. Brian Murphy, retired investigator; Dr. Chris Hanson, now acting NIAID deputy director for science management; (front from l) Gracielle Manjpon, a 2002 postbac; Dr. Kathryn Hanley, 2002 postdoc fellow; Cai-Yen Firestone, biologist; Luella Manlucu, 2001-2003 postbac

ON THE COVER: *3D image of actin in a cell. Actin is an essential protein in a cell's skeleton (cytoskeleton). It forms a dense network of thin filaments in the cell. Here, researchers used a technique called stochastic optical reconstruction microscopy (STORM) to visualize the actin network in a cell in three dimensions.*

IMAGE: XIAOWEI ZHUANG, HHMI, HARVARD UNIVERSITY, AND NATURE PUBLISHING GROUP

The NIH Record

Since 1949, the *NIH Record* has been published biweekly by the Staff News and Public Inquiries Branch, Office of Communications and Public Liaison, National Institutes of Health, Department of Health and Human Services. For editorial policies, email nihrecord@nih.gov.

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NIH National Institutes of Health
Turning Discovery Into Health

Prion

CONTINUED FROM PAGE 1

oligonucleotide and a gene editing tool.

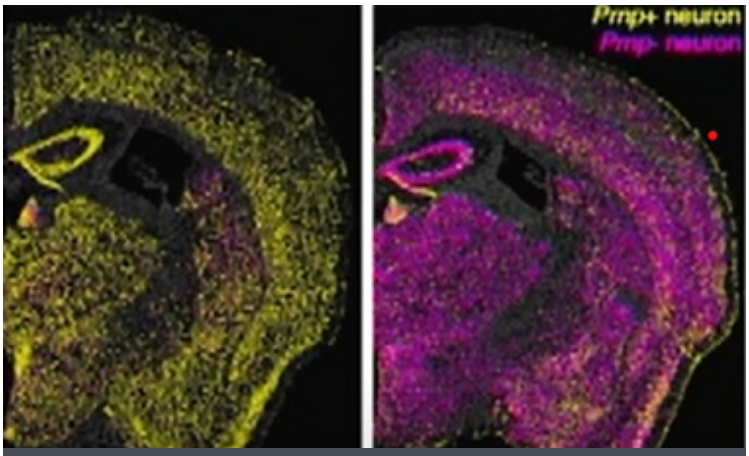
Oligonucleotides are short sequences of chemically modified nucleotides (the building blocks of DNA). They can be built to target specific stretches of RNA to turn genes on or off, blocking the expression of harmful proteins and more.

The oligonucleotide Vallabh is developing is a divalent, small-interfering RNA oligonucleotide (di-siRNA). siRNA triggers the RNA interference process to target and destroy the messenger RNA of a target gene. The divalent format of this technology was developed by Dr. Anastasia Khvorova at the UMass RNA Therapeutics Institute, with whom Vallabh's lab is collaborating. By linking two siRNAs together, Khvorova and her team created a structure that appears to be active for up to six months post-dose and distributes widely across the brain.

The oligonucleotide is delivered through the cerebrospinal fluid and must be dosed periodically as the drug is metabolized.

The research that Vallabh and her team have conducted in animal models has led her to believe the therapy "absolutely seems worth advancing."

Vallabh and her husband received an investigational new drug (IND) clearance from the Food and Drug Administration (FDA) in March 2025 to test the di-siRNA therapy in humans. Clinical trial preparations are now underway at five locations in the U.S., and Vallabh is hopeful they could dose their first patient in early 2026.



In an untreated mouse, neurons containing the PRNP RNA are stained yellow. When the mouse was given a trial dose of CHARM, most of the neurons turned magenta, signaling the PRNP RNA had been turned off.

The other therapy she discussed was the epigenetic editor CHARM, which stands for Coupled Histone tail for Autoinhibition Release of Methyltransferase. This tool, developed by Dr. Jonathan Weissman's lab at the Whitehead Institute, works by adding methyl groups to the promoter section of the *PRNP* gene, silencing it. CHARM may be less risky than a gene editor because it modifies *how* the prion gene is read rather than making edits to the actual genetic code.

"Three years ago, I wouldn't have bet on gene therapy for our disease," Vallabh said. This was because of the difficulty of delivering gene therapies across the entire human brain, which will be essential to make a difference in prion disease. However, recent advances in delivery methods have made her more optimistic that this approach is worth trying. Her lab is working with Dr. Ben Deverman, a fellow Broad investigator, and his team, which recently developed a viral vector that binds the human transferrin receptor in order to cross the blood-brain barrier. Vallabh is hopeful together, they will file an IND in 2027.

As a patient-scientist, Vallabh is sensitive to the needs of her potential patients. "What are we asking of people who go on this therapy?" What will their futures look like, if they receive a "one-and-done," irreversible therapy like CHARM versus a therapeutic like the di-siRNA oligonucleotide that can be halted if needed, but will require repeated doses if helpful? Companies that manufacture rare disease drugs cannot always afford to continue making them. What happens to the patients who depend on those drugs if they lose access?

Vallabh's unique patient-scientist perspective also begets a unique drug development process. Her lab publicly shares as much information as possible, displaying everything from

Vallabh (l) with her husband Dr. Eric Minikel during their 2020 visit to NIH. **PHOTO: CHIA-CHI CHARLIE CHANG**

their data and results to their regulatory submissions and related feedback from the FDA. If the new treatment modalities her lab is testing prove helpful against prion disease, she is hopeful that they may also prove useful against other diseases of the central nervous system.

As she phrased it, "Fast human learning helps all boats rise."

Even with all the progress her lab has made, the amount of work ahead of Vallabh is immense.

"We have so much now that I could not have even imagined when we first started down this road," she said. But still, "when a patient reaches out to me, which happens basically every day, what I have to say to them is 'right now, there's nothing.'"

About 600 people die of prion disease in the U.S. each year; even once the upcoming di-siRNA clinical trial launches, this small first-in-human study will not be able to enroll the majority of patients who reach out.

"I can tell you at any given time who in my community is actively dying of prion disease today because we didn't get there fast enough for them," she said. "To have come so far and still have so far to go...I wouldn't have imagined it this way."

Vallabh said one bright spot is her children. They were conceived via in-vitro fertilization (IVF) pre-implantation genetic diagnosis (PGD) and were tested as embryos for her *PRNP* mutation, for which they are negative. For now, she speculates, maybe this is the ultimate form of prevention.

"I'm going to fight for prevention for the people who are living and at-risk today," she said.

"And, however it goes, I want [my kids] to know that I fought for this."

A recording of the lecture is available at https://videocast.nih.gov/watch=57108.

Relay

CONTINUED FROM PAGE 1

everyone," said NIH Recreation & Welfare CEO David Browne. "The NIH community needed a morale boost and this annual event is one of the biggest morale boosters."

Colleagues from Genomaniacs and Large Lap Models (LLMs) **PHOTOS: MALIK LONON**

Despite the new date, the rules were the same. The first four runners each complete a half-mile loop around Bldg. 1 then hand off the baton to the last runner in an exchange area near the starting line. The final runner on each team must run the loop and then turn right at a chute to the finish line on the driveway between Bldgs. 1 and 2.

Before the start, ORS Director Colleen McGowan addressed the crowd. "This relay truly embodies the spirit of community and team building that defines NIH."

NIH Deputy Director for Management Dr. Alfred Johnson and McGowan whistled the start of the race. NIH Police directed traffic to keep runners safe.

The first relay was held in May 1978. Members of NIH Health's Angels Running Club conceived of the race. Since then, McGowan said, "the well-supported tradition has persevered through countless challenges, including government shutdowns, the complexities of Covid-19 and other unforeseen derailments. It's a true testament to our collective resilience."

Some runners said they preferred running in the warmer fall weather. Other runners were excited to run the race in the cold. Melissa Kitner-Triolo of NIA's Pace of Aging said, "I'm more of a cold-weather person...And it's nice to see people smiling and dressed up" for the holiday season.

Above, team Confident Intervals pose together. Below, colleagues from HodgePodge and Castration Nation gather before the race.

Matthew Brooks of NEI's In Rod We Trust added, "I prefer running in the cold. I can always put on more layers. And, besides, you can work up a sweat out in the cold, too."

Other runners are just happy to participate in any weather. Antoinette Percy-Laurry of NIA's Aging Runners remarked, "I'm just happy to get out of the office and be together with my colleagues for this."

To commemorate the 40th anniversary, participating teams received race packets that included water bottles, bibs and bags. After the race, runners could grab a complimentary ice cream or hot chocolate.

This year, the Relay broke its participation record. More than 160 teams originally signed up to run. However, not every registered team could make the new date. Still, 132 were able to participate—up from the previous record of 121.

As usual, team names didn't disappoint. Clever monikers included Lymph Laugh Love, Mighty Mito Racers, and Chasing LipodysTROPHIES.

"Despite all of the delays, we couldn't be happier with how it turned out," Browne concluded. "We'd love to do another holiday themed event in the future, perhaps before Thanksgiving in November when it's a little warmer."

The relay was sponsored by the R&W Association and ORS's Division of Amenities and Transportation Services.

NIH Mourns Passing of Hallett

Dr. Mark Hallett

NIH scientist emeritus Dr. Mark Hallett passed away on November 2 from a glioblastoma. He was surrounded at home by family and friends.

Hallett, an internationally renowned expert in movement disorders, had retired from federal service three years ago. He became a scientist emeritus after a stellar 38-year career at NIH. At NIH's National Institute of Neurological Disorders and Stroke (NINDS), Hallett directed the Medical Neurology Branch and was chief of the Human Motor Control Section, which he founded in 1984.

A native of Philadelphia, Hallett developed an early interest in science. He earned his undergraduate degree in biology in 1965 and his medical degree in 1969, both from Harvard University. He interned at Peter Bent Brigham Hospital in Boston, received neurology training at Massachusetts General Hospital and, in 1970, had a fellowship in neurophysiology and biophysics in the Laboratory of Neurobiology at NIH's National Institute of Mental Health.

Before coming to NINDS, Hallett served as a Harvard University William C. Moseley Jr. traveling fellow at the Institute of Psychiatry in London. In 1976, he was chief of the Clinical Neurophysiology Laboratory at Brigham and Women's Hospital in Boston and rose to associate professor of neurology at Harvard Medical School. In 1984, he joined NINCDS (now NINDS) as clinical director and chief of MNB's human motor control section.

He played a major role in establishing movement disorders as a subspecialty of neurology. He was one of the first to use transcranial magnetic stimulation, a technique that he employed, along with an array of brain imaging methods, to treat patients and develop a deep understanding of human functional movement and the pathophysiology of neurological disorders such as dystonia, Parkinson's disease, cerebellar ataxia, myoclonus, essential tremor, tic and others. He was among the first to use botulinum toxin therapy for motor disorders, notably to treat hand dystonia.

During his time at NINDS, Hallett contributed tremendously to its intramural program—through both the groundbreaking research within his lab and his leadership. He chaired or served on numerous committees, including the Tenure Review Committee and the Scientific Review Committee. He was deeply respected by the institute's leaders, faculty and staff, all of whom looked up to him and consulted him regularly for advice and wisdom. He mentored more than 150 fellows, many of whom have become international leaders in neurology, and he received numerous mentoring and clinical teaching awards.

The scope and impact of Hallett's work transcend traditional productivity metrics but those numbers are astounding: He published more than 1,000 manuscripts and reviews, edited nearly 30 books, and served on the editorial board of more than 40 journals.

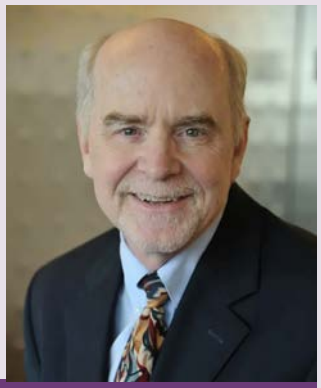
Hallett held leadership positions in many professional societies, including the American Academy of Neurology and the International Federation of Clinical Neurophysiology. His clinical and scientific accomplishments were recognized by dozens of distinguished service and lifetime achievement awards, as well as honorary degrees, professorships and society memberships around the world.

He is survived by his wife Judy, children Nick and Vicky and granddaughters Flora and Celeste.

Two NIH Investigators Named NAI Fellows

NIH scientists Dr. John O'Shea and Dr. Steven Rosenberg have been selected as 2025 National Academy of Inventors (NAI) fellows.

The NAI is a member organization comprising U.S. and international universities, and governmental and non-profit research institutes, with over 4,000 individual inventor members and fellows spanning more than 250 institutions.



Dr. Steve Rosenberg (l) and Dr. John O'Shea (r) were selected as National Academy of Inventors fellows in December.

O'Shea is a senior investigator and chief of the Molecular Immunology and Inflammation Branch at NIH's National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), a position he has held since 2002, where he studies cytokine signaling transduction. He served as the NIAMS scientific director of Intramural Research for 20 years, from 2005 until 2025.

Rosenberg is chief of the Surgery Branch at NIH's National Cancer Institute. He pioneered the first effective immunotherapies for patients with advanced cancer. His basic and clinical studies of interleukin-2 directly resulted in FDA approval of this immunotherapy for the treatment of patients with metastatic melanoma and renal cancer. Many of these patients remain disease-free more than 25 years after treatment.

NAI Fellowship is the highest professional distinction awarded solely to inventors. Together, the 2025 class holds more than 5,300 U.S. patents and includes recipients of the Nobel Prize, the National Medals of Science and Technology & Innovation, and members of the National Academies of Sciences, Engineering, and Medicine, among others. This year's 169 U.S. fellows represent 127 universities, government agencies and research institutions across 40 U.S. states.

Spanning every major field of discovery, including quantum computing, artificial intelligence and regenerative medicine, NAI fellows are tackling the biggest and most pressing issues of our time. Their success in translating research into products and services that improve lives demonstrates the continuing importance of the U.S. patent system.

The NAI Fellows program was founded in 2012 and has grown to include 2,253 distinguished researchers and innovators, who hold more than 86,000 U.S. patents and 20,000 licensed technologies. Their innovations have generated an estimated $3.8 trillion in revenue and 1.4 million jobs.

NIH Remembers Brown

Dr. Paul W. Brown, a physician-scientist who spent 40 years working for NIH's National Institute of Neurological Disorders and Stroke (NINDS), recently died peacefully at his home. He was 89.

Brown dedicated his professional life to public health at NIH. He worked in the NINDS Laboratory of Central Nervous System Studies, making major contributions to our understanding of transmissible spongiform encephalopathies, also known as prion diseases.

Brown's work was instrumental in advancing research on kuru, Creutzfeldt-Jakob Disease (CJD), and variant CJD, a human disease acquired from bovine spongiform encephalopathy popularly called mad cow disease.

He will be remembered not only for his impressive scientific contributions, but also for his compassionate nature. Brown placed great emphasis on discussing diagnoses and prognoses with patients and their families, explaining complex concepts in accessible terms. He also was a leader in assisting industries with developing methods for prion detection and removal, focusing on the safety of blood and plasma-derived therapies.

His colleagues remember him riding to work on his scooter, wearing a robin's-egg blue safety helmet. He was a man of few words but articulate nonetheless—brilliant, kind and forever passionate

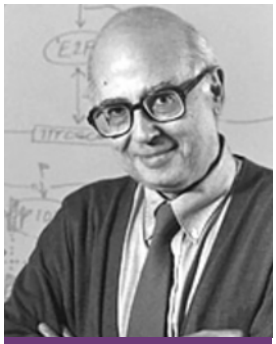
Dr. Paul Brown

about his work. He was also an avid gardener, a competitive tennis player and a polymath who loved art. Brown's legacy of scientific excellence and personal kindness will continue to inspire us all.

"I cherish my memory of Paul, this man in the blue helmet and all he meant to me and his other co-workers," recounted his colleague Dr. Larisa Cervenakova. "He was a brilliant and compassionate physician and scientist, articulate speaker and teacher, exceptionally lucid writer, late-in-life published meteorologist, passionate master gardener, polymath and art lover, aggressive competitive tennis player (no pickleball for Paul), loving husband and father."

NIH Mourns the Passing of Kohn

NIH scientist emeritus Dr. Kurt W. Kohn recently passed away at age 95. He had devoted nearly 60 years of his life to anti-cancer drug research at NIH's National Cancer Institute (NCI).



Dr. Kurt Kohn

Kohn earned an A.B. from Harvard in 1952 in chemistry and physics, an M.D. from Columbia University College of Physicians and Surgeons in 1956 and a Ph.D. in biochemistry and molecular biology from Harvard in 1965.

After an internship at Mount Sinai Hospital in New York, he joined NCI as a clinical associate in the Clinical Pharmacology Service (1957–1960). He then spent two years in the laboratory of Dr. Paul Doty at Harvard before returning to NCI in 1962 to the Laboratory of Chemical Pharmacology led by Dr. David P. Rall.

In 1968, Kohn founded the Laboratory of Molecular Pharmacology, which he led until 1997. He advanced understanding of DNA-targeted anti-cancer drugs, demonstrating the cytotoxicity of bifunctional alkylating agents is due to DNA interstrand crosslinks, elucidating a novel mechanism of action of the anthramycin family of antibiotics, and identifying DNA topoisomerases as targets of several clinically important anti-cancer drugs. These discoveries sparked a worldwide interest in topoisomerase inhibitors that continues to this day.

Under his direction, the lab grew into a hub of innovation, advancing mechanistic pharmacology and training a generation of scientists who went on to lead their own pioneering research programs.

After stepping down as chief, Kohn continued as a senior investigator in the Developmental Therapeutics Branch. In later years, he broke new ground in computational biology by creating molecular interaction maps, graphical depictions of the complex networks that govern cell cycle regulation, DNA repair and apoptosis.

Kohn retired in 2015 and is remembered as a brilliant scientist and a remarkable mentor whose impact extended across generations of researchers.

NIH Biologist Combines Love of Science with Passion for Running

NIH biologist Gwynne Roth has two overarching passions—advancing biomedical research to help others and running. She advanced both of those causes when she raced with a team from the Foundation for the National Institutes of Health (FNIH) in the Marine Corps. marathon 10K in October.

NIH biologist Dr. Gwynne Roth

"I am wowed by everything the FNIH does to support scientists," Roth said.

The FNIH helps amplify and extend the reach of NIH through programs such as the Accelerating Medicines Partnership® and the Biomarkers Consortium. The FNIH has supported more than 25,000 scientists throughout its history.

As a career scientist, Roth said she's glad to support such a great cause. She joined the NIH team in 2011, researching HIV as a contractor in the lab of Dr. Peter Sun in the Structural Immunology Section of NIH's National Institute of Allergy and Infectious Diseases. Now she's a full-timer, and her research focus is Long Covid.

Most recently, she's been testing thousands of compounds to determine if any can alleviate the fibrotic clots that can develop in the lungs with severe infections. "We're hoping to get people back to having better lung capacity and breathing," she said.

Roth knows a bit about how incapacitating Long Covid can be. As someone who suffers from asthma, she had reduced lung capacity after her own Covid infection in 2022. She had to wait six months before she could resume exercising, and she still monitors her heart rate more carefully than before. The time off was challenging for this lifelong runner.

Roth started as a sprinter in high school, took a break during college and recommitted herself during graduate school. "I worked myself up from not making it down the block and segmented myself to complete the Baltimore half-marathon in six months," she said.

She eventually started running full marathons with the goal of completing one in every state. She also worked as a running coach for about seven years.

Roth is known for a light-hearted approach to help motivate herself and others, like having her trainees belt out a rock song at the halfway point of a practice run. "I love anything where I can wear a costume while running," she said.

Running in the Marine Corps. marathon 10K helped Roth get back in the swing of things—all while supporting a great cause. As a result, Team FNIH raised more than $353,000 to fuel scientific breakthroughs in cancer, Alzheimer's disease and rare pediatric illnesses.

Learn more about Team FNIH at FNIH.org/race.

From l, WWE wrestlers AJ Styles, Dragon Lee and Maxxine Dupri; NIH Director Dr. Jay Bhattacharya; wrestler Otis and NIH Principal Deputy Director Dr. Matthew Memoli launch an official NIH-WWE friendship during the wrestlers' visit to the Clinical Center in December.

SMACKDOWN CHRONIC ILLNESS

Wrestlers Visit Pediatric Patients at the CC

PHOTOS: CHIA-CHI CHARLIE CHANG

Four pro wrestlers brought smiles and healing vibes to children undergoing treatment at NIH's Clinical Center on Dec. 12. The wrestlers visited NIH as part of an emerging official friendship with the WWE (World Wrestling Entertainment).

The kids glowed with appreciation as the four wrestlers—AJ Styles, Otis, Dragon Lee and Maxxine Dupri—spent quality time with them, chatting, posing for photos, signing autographs, doing crafts. Each child also received a replica title belt.

After visiting with patients in their rooms in the pediatric unit, the wrestlers headed to the CC's main playroom to visit with several children who came over from the Children's Inn at NIH—a nonprofit facility where some children and their families reside while participating in NIH clinical research.

Upon arrival, the wrestlers learned about the CC's unique bench-to-bedside approach that brings potential new treatments right to the patient's room. Every patient is a proud partner in research, noted NIH Principal Deputy Director Dr. Matt Memoli. While invested in their own recovery, he explained, patients eagerly participate in clinical trials with the hope that the discoveries they enable will help future patients.

NIH aims to increase awareness and focus on battling chronic diseases, which are often rooted in childhood, said Dr. Jay Bhattacharya during a briefing with the wrestlers in the CC medical board room. Early interventions can alter lifelong disease trajectories, he said.

"NIH is committed to strengthening pediatric care and research," Bhattacharya said. "By investing in infrastructure, data and clinical capacity, NIH can address long-standing gaps and accelerate progress for children and families."