

'A DAY IN THE LIFE'

Take Your Child to Work Day Returns in Person

BY AMBER SNYDER

Overheard at NIH recently: “There’s so many stairs here!” “Strawberry DNA looks like snot.” “Can you give my mom a raise?”

For the first time since 2019, children of NIH’ers got to experience the sights and sounds (and yes, many stairs) of the Bethesda campus in person on Apr. 27.

Take Your Child to Work Day (TYCTWD) was held virtually in 2021 and 2022, but this year’s event was hybrid. About 2,500 children were expected on main campus alone, with in-person activities planned at various other NIH sites. In keeping with tradition, the NIH

community also held Earth Day activities simultaneously.

Except for 2020’s cancellation due to the pandemic, NIH has observed TYCTWD every year since 1994. This year’s event featured 203 unique activities with a total of 314



Kids have fun with slime and other messy substances as they learn about science in the Bldg. 50 lobby.

PHOTO: LESLIE KOSSOFF

sessions—a busy day for all. The more structured limited-registration events were open to youngsters in grades 1-12, but younger children participated in open activities.

Continuing current Clinical Center policy, everyone wore masks while inside Bldg. 10. Child-sized masks—decorated with cartoon monkeys and other characters—are arguably much more fun than the plain versions.

Children got to tour the new Clinical Center pharmacy department in an activity titled “A Day in the Life of NIH Clinical Pharmacists and Pharmacy Technicians.”

Pharmacist Nadia Guirguis led excursions, introducing students to the inpatient and outpatient pharmacies. Participants tested out child-proof caps and pill counters, completed a scavenger hunt and observed several fascinating automated machines that aid the pharmacists and technicians.

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THE OPIOID EPIDEMIC

Efforts Underway Toward HEALing Communities

BY DANA TALESNIK

“The opioid overdose crisis continues to worsen despite substantial efforts to mitigate it,” said Dr. Sharon Walsh, director of the Center on Drug and Alcohol Research at the University of Kentucky. She is one of many principal investigators working to change that trajectory.



Dr. Sharon Walsh

The crisis started in the 1990s with the over-prescribing of pharmaceutical opioids to manage pain. The eventual clamping down

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'ASSUME GOOD INTENT'

At FNIH Helm, Gerberding Sets Ambitious Agenda

BY CARLA GARNETT

Of all the roles Dr. Julie Gerberding has served in throughout her career, physician is the one that has served her best. In fact, when communicating important messages or under difficult circumstances, she instinctively adopts her caregiver mode, “How would I convey this to my patient, one on one?”



Dr. Julie Gerberding

A little more than a year into her post as president and CEO of the Foundation for the National Institutes of Health (FNIH),

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Thai representatives visit NIH. See p. 3.

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NIH Scientific Research Officer Dr. Lataisia Jones stands next to her statue at the Smithsonian in March 2022.

INNOVATORS IMMORTALIZED IN ACRYLIC GEL STEM Statues Installed at NIH to Mark Clinical Center's 70th Anniversary

This summer, it may seem as though art has come to life in celebration of the Clinical Center's 70th anniversary. Now through Aug. 25, the hospital is hosting 10 statues from #IfThenSheCan—The Exhibit. These 3-D printed, life-size statues feature women innovators in science, technology, engineering and math (STEM). And several have ties to NIH.

The IF/THEN project seeks to further advance women in STEM by highlighting successful female professional role models.

The exhibit is available to NIH courtesy of Lyda Hill Philanthropies and is on display in the Clinical Center atrium and east courtyard/Healing Gardens. The CC Office of Communications and Media Relations selected the project as a natural tie to the unique research and care environment of the Clinical Center.

Women constitute half of the college-educated workforce but make up just 25% of the STEM industry. The exhibit showcases accomplished STEM role models whose stories can serve as proof that gender is no barrier to any career.

Featured statues represent women who study geologic hazards, work on interstellar travel and nuclear engineering and assess genetic risk factors for lupus and cancer—and that's just for starters.

Among statues visiting the CC are three with NIH connections:

Dr. Joyonna Gamble-George, a neuroscientist in the *All of Us* Biomedical Researcher Scholars Program at Baylor

College of Medicine, is looking at prescription opioid misuse, heart failure and genetic risk factors



Dr. Joyonna Gamble-George

involved in inflammation in systemic lupus erythematosus using *All of Us* research datasets. A former AAAS fellow in the Center for Translation and Implementation Science at the National Heart, Lung and Blood Institute, she has more than a decade of research expertise in the area of Alzheimer's disease pathology, anxiety and stress-related disorders, neurotoxicity, drug addiction and therapeutics.

Dr. Lataisia Jones, a scientific research officer in the Scientific Review Branch at the National Institute of Neurological Disorders and Stroke, is the first African American to earn a Ph.D. from the department of biomedical sciences at Florida State University, where she studied cellular division, diabetes and brain development. Jones started a program, "Young Scientist Wednesdays," using fun activities like sculpting and DNA extraction to teach science to kids at Children's National Hospital.

Dr. Jessica Taaffe, a microbiologist who worked as a postdoc in Dr. Patrick Duffy's Laboratory of Malaria Immunology and Vaccinology at the National Institute of Allergy and Infectious Diseases, is a World Bank consultant, providing evidence on how to improve HIV programs to global policymakers. She has written HIV reports for the United Nations.



Dr. Jessica Taaffe

The full exhibit features 120 statues of female innovators. Each subject stood in a scanning booth that combined 89 cameras and 25 projectors to generate a 3-D image. To print the image, a special machine slowly built up layers of acrylic gel. Creating the full-sized 3D-printed human figure took 10 or more hours. For details, visit <https://ifthenexhibit.org/about>.—Donovan Kuehn

NHGRI's Kastner To Deliver Mider Lecture

Dr. Dan Kastner of the National Human Genome Research Institute (NHGRI) will deliver the annual G. Burroughs Mider Lecture, part of the Wednesday Afternoon Lecture Series (WALS), on June 7 at 2 p.m. ET.

Titled "Autoinflammatory Disease and the Human Condition," the lecture will be held in person at Lipsett Amphitheater, Bldg. 10, and online at <https://videocast.nih.gov/watch=46091>.

Kastner, former NHGRI scientific director, is an NIH distinguished investigator in the NHGRI Metabolic, Cardiovascular and Inflammatory Disease Genomics Branch.

Arriving at NIH in 1985 and often stimulated by patients with relatively rare ailments seen at the Clinical Center, Kastner has focused his research on using genetic and genomic strategies to understand inherited disorders of inflammation.



Dr. Dan Kastner

His work has provided detailed molecular explanations for these illnesses, as well as a conceptual basis for highly effective targeted therapies. The Kastner lab also proposed the now widely accepted overarching concept of autoinflammatory disease to denote disorders of the evolutionarily ancient

innate branch of the human immune system.

Kastner has won several awards and honors, including election to the National Academy of Sciences and National Academy of Medicine, recognition as federal Employee of the Year in 2018, the Ross Prize in Molecular Medicine in 2019 and the Crafoord Prize in 2021.

The Mider Lecture was established in 1968 in honor of the first NIH director of laboratories and clinics. The talk is presented by an NIH intramural scientist to recognize and appreciate outstanding contributions to biomedical research.

Continuing medical education credits will be available. More information about WALS is posted at <https://oir.nih.gov/wals>.—Diana Gomez



Next Scientific Workforce Diversity Seminar Set, June 14

The Chief Officer for Scientific Workforce Diversity (COSWD) office is hosting its fourth Scientific Workforce Diversity Seminar Series event of the 2022–2023 season on Wednesday, June 14, 10:30 a.m.–noon ET. The event, "How Does Mentoring Impact Diversity in the Biomedical and Behavioral Research Workforce?" will feature a panel sharing evaluations of mentoring's effect on researchers' career paths. Panelists will also discuss the importance of theoretical models and future directions for building an inclusive environment through mentorship.

Registration for the event is now open at: <https://bit.ly/31522e7>. The event will include closed captioning. Sign language services and other reasonable accommodations are available upon request using the registration form. For details about the series, visit: <https://bit.ly/31et2YA>. For more on COSWD, go to <https://diversity.nih.gov/>.



Stopping for a photo during the visit are (from l) Dr. Nakorn Premisri, director, National Vaccine Institute, Thailand; Dr. Tares Krassanairawiwong, director general of the Department of Disease Control, Thailand; Dr. Lawrence Tabak, acting NIH director; Dr. Pongkasem Khaimook, deputy permanent secretary, Thailand Ministry of Public Health.

PHOTOS: JUDITH COAN-STEVENS/FIC

Thai Public Health Delegation Pays a Call on NIH

In fiscal year 2022, NIH funded nearly 90 U.S. research awards that included collaborations with Thai organizations, making Thailand one of the top countries in the world for joint activities as part of NIH-funded research projects.

A delegation from Thailand's Ministry of Public Health (MoPH) visited NIH's Bethesda campus on Apr. 20.

Dr. James Heffelfinger, Thailand

country director at the Centers for Disease Control and Prevention (CDC), and CDC Deputy Country Director Todd Mercer accompanied the delegation led by Dr. Pongkasem Khaimook, Thai deputy permanent secretary of the Ministry of Public Health.

Dr. Christine Sizemore, director of the Division of International Relations at the Fogarty International Center, presented an overview of NIH and its engagements in Thailand.

NHGRI Director Dr. Eric Green joined virtually while NHGRI staff presented in person on the clinical implementation of genomics data into health systems.

NIAID Vaccine Research Center Acting



At a roundtable briefing are (from l) Tabak; Dr. Christine Sizemore, director, Division of International Relations, Fogarty International Center; Todd Mercer, Thailand deputy country director, Centers for Disease Control and Prevention; and Dr. James Heffelfinger, CDC Thailand country director.

Thai Princess Visits NCI Frederick Campus

Dr. Tom Misteli, director of the Center for Cancer Research (CCR) at the National Cancer Institute (NCI), and Dr. Barry O'Keefe, director of the Molecular Targets Program and chief of the Natural Products Branch at CCR, welcomed Her Royal Highness Princess Chulabhorn Mahidol of Thailand to NCI's Frederick campus on Apr. 21.

CCR staff briefed her on NCI's ongoing natural products research. Chulabhorn holds a Ph.D. in chemistry and has long been interested in natural products as potential therapies. She has visited NIH periodically since the late 1980s, when she established the Chulabhorn Research Institute in honor of her father, King Bhumibol's 60th birthday.



NCI's Dr. Tom Misteli (l) and Dr. Barry O'Keefe greet Her Royal Highness Princess Chulabhorn Mahidol of Thailand.

PHOTO: MARLEEN VAN DEN NESTE

Director Dr. Richard Koup and several of his staff discussed vaccine development as part of pandemic preparedness with the guests who included members of Thailand's MoPH, National Vaccine Institute and National Institute of Health. The Thai delegation in turn shared an update on their TB vaccine research project.

Dr. Lawrence Tabak, acting NIH director, also joined the meeting briefly to greet the delegation.

A separate Thai delegation led by H.R.H. Princess Dr. Chulabhorn Mahidol of Thailand visited the Frederick campus of the NCI Center for Cancer Research the next day (see story below). —Judith Coan-Stevens **R**



ON THE COVER: Artistic rendering of ventral tegmental area glutamatergic inputs to nucleus accumbens drive aversion by acting on GABAergic interneurons.

IMAGE: NIDA/IRP

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Images of Provider on the Pier, an intervention program in Gloucester, Mass.

cut the risk of death by half or two-thirds and yet we are not able to get it to people who need them in this country where we have this enormous health care system?"

HEALing Communities

In 2019, NIH and the Substance Abuse and Mental Health Services Administration (SAMHSA) launched the HEALing Communities Study, part of the HEAL (Helping End Addiction Long-term) initiative, an agency-wide effort led by the National Institute on Drug Abuse.

The study is testing interventions that prevent and treat opioid misuse and OUD across health care, behavioral health, the justice system and other community-based settings in four hard-hit states—Kentucky, Ohio, Massachusetts and New York—to implement those deemed most effective nationwide. The overarching aim is to reduce opioid overdose deaths by 40 percent.

“The vision for this project was that large-scale community activation was needed to expand evidence-based practices and reach the individuals who need them,” Walsh said. “Along the way, we’re trying to change hearts and minds.”

Within the four states, the study is working with 67 communities, both rural and urban, with a total population of more than 10 million people. Communities in the first wave began the study in 2020 and implemented the interventions for 30 months

while Wave Two communities continued usual care. Wave Two communities are now in the middle of their interventions.

Strategy Buckets

The study features three buckets of evidence-based practices: education on opioid overdose and naloxone distribution; delivering approved OUD medications to high-risk populations and increasing retention in care, and promoting safer opioid prescribing and dispensing. Each bucket contains a variety of strategies that communities have devised to effect change.

The chosen strategies were implemented in partnership with hundreds of health care, behavioral health and criminal justice agencies and many community-based organizations and programs.

“With a lot of help, cooperation and coordination, it is amazing how much has actually gotten done,” Walsh said.

Taking Action

Hundreds of different strategies have been employed, many of them adapted to local needs.

In New York, hundreds of NaloxBoxes—boxes containing six to eight doses of naloxone that hang on walls and provide 24/7 access—were strategically placed in train stations, restaurants and other public spaces during Wave One.

In Gloucester, Mass., a “Provider on the

Opioid

CONTINUED FROM PAGE 1

on prescription opioids then led to a fast-developing heroin market. A decade ago, the landscape shifted again: Synthetic opioids (largely fentanyl, which is at least 50 times more powerful than morphine) began to be produced and sold illicitly, spawning a lethal overdose crisis that continues today.

“We are battling against a changing background largely attributable to the widespread availability of fentanyl [which is] leading to the highest rates of overdoses we have ever seen,” said Walsh, professor of behavioral science, psychiatry, pharmacology and pharmaceutical sciences at UK, who spoke at a recent National Institute of Mental Health Director’s Innovation lecture.

And yet, “We have efficacious interventions to address opioid use disorder [OUD],” she noted. “We’ve had some of them for decades.”

Two FDA-approved medications in particular—methadone and buprenorphine—have proven effective at treating OUD. Unfortunately, though, these drugs are underutilized.

These medications, said Walsh, “have inadequate uptake and inadequate delivery to the people who need them due to structural barriers, disjointed care systems, stigma and discrimination, which play a huge role in preventing people from getting access to care.”

It’s estimated only 5-10% of people who could benefit receive medication-assisted treatment.

“This is remarkable,” Walsh exclaimed. “How could we have medications that could



Vince McCarty, a HEALing Communities Study spokesperson who is in long-time recovery, stands in front of his billboard promoting naloxone in Kenton County, Ky. The local fire chief and a mother and local advocate who lost her son to an opioid overdose are also featured on the billboard.

PHOTO: GABI DEATON/HCS-KY

Pier” offers direct care to the fishing community. A clinic opened in the harbor master’s office aimed at helping immigrant dock workers affected by OUD.

In Kentucky, the “hub with many spokes” model connects study team pharmacists and partner agencies to expand naloxone distribution in hundreds of locations, from mental health to primary care to criminal justice settings.

In Guernsey County, Ohio, people held in jail awaiting trial were released under supervision and some inmates were moved to house arrest two months before discharge to initiate treatment earlier.

Challenging Times

Other strategies aim to address the social determinants of health that prevent people from staying in treatment.

“We see something that we have not historically seen before in these decades of the overdose crisis,” said Walsh. There has been a significant increase in the opioid overdose death rate for non-Hispanic Blacks, which recently has surpassed the death rate of Whites. With this data in mind, investigators are tailoring strategies to address this disparity.

Meanwhile, the HEALing Communities Study was repeatedly revised when the Covid-19 pandemic hit shortly after Wave One interventions began.

“We used an interrupted time-series analysis to find there was a significant jump in opioid overdoses that happened right when the state of emergency was declared,” noted Walsh. At that time, jails were letting people out while hospitals were limiting admittance to critical cases.

“And we had challenges for people who were in treatment,” Walsh said. In response, “we decided to fast-track



NaloxBoxes, such as this one in Pittsfield, Mass., provide free doses of naloxone, an opioid overdose reversal drug.

distribution of naloxone a little earlier than we had expected in Wave One.”

Hope for HEALing

“I want to leave us with a note of hope,” said Walsh. “Despite the fact that we are seeing these outrageous rates of death and a loss of young people, there are a lot of changes happening.”

In recent weeks, the FDA approved an over-the-counter naloxone nasal spray and is reviewing potential nonprescription status for other naloxone products. Guidelines are

also easing to expand access to buprenorphine. Telehealth continues to help more people start and stay in treatment. And forthcoming study data ultimately will help bring tested HEALing interventions to more communities.

“As one of the PIs,” Walsh said, “my goal is to see if we could have a significant reduction [in overdose deaths] so we could parse out what does and does not work...to adapt that and disseminate it to places so we can start saving lives.” **R**

NIH’ers Among Sammies Finalists

The Partnership for Public Service has named members of the National Human Genome Research Institute-funded Telomere-to-Telomere (T2T) Consortium and the National Cancer Institute’s Dr. Eric “Rocky” Feuer as finalists for the 2023 Samuel J. Heyman Service to America Medals.

Known as the “Sammies,” the awards are considered the Oscars of public service. According to the partnership, they honor exceptional public servants who keep our nation running and moving forward.

Dr. Adam Phillippy, Dr. Sergey Koren and Dr. Arang Rhie of NHGRI are finalists for the Science,



Sammies finalists include NHGRI team members (from l) Dr. Arang Rhie, Dr. Adam Phillippy and Dr. Sergey Koren and NCI’s Dr. Eric “Rocky” Feuer.

T2T CONSORTIUM PHOTO: ERNESTO DEL AGUILA/NHGRI
FEUER PHOTO: CHIA-CHI CHARLIE CHANG/NIH

‘OSCARS OF PUBLIC SERVICE’

Technology and Environment Medal, which recognizes significant contribution in such areas as artificial intelligence, biomedicine, digital services, economics, energy, information technology, meteorology, resource conservation and space.

The team leads the T2T Consortium, a group of more than 300 international scientists. They “conducted the first complete assembly of

the human genome, sequencing the most difficult, final part of our genetic makeup, advancing our understanding of our biological blueprint and opening up scientific frontiers that could revolutionize the treatment of a multitude of diseases.”

Feuer is a finalist for the Paul A. Volcker Career Achievement Medal, which recognizes career federal employees who have led significant and sustained achievements during 20 or more years of service in government. Feuer is chief of the Statistical Research and Applications Branch in NCI’s Division of Cancer Control and Population Sciences’ Surveillance Research Program.

He “built a sophisticated system using statistical analysis to better understand and interpret national cancer trends, leading to significant prevention, screening and treatment options that have saved countless lives.”

In addition, the NIH’ers are eligible to win the People’s Choice Award, which is based on online voting results. Vote at: <https://servicetoamericamedals.org/peoples-choice-award/> through June 30.

Sammies are named after partnership founder Heyman, who was inspired by President John F. Kennedy’s call to service in his inaugural address in 1961. To learn more about the awards and the other finalists, visit <https://servicetoamericamedals.org/honorees/>.



At left, if a t-shirt can tell a story, reptiles make this youngster happy. PHOTO: DONA JONES At right, veterinarians-to-be learned microsurgery and suturing techniques with NIH's veterinarians. Below, Henry and Vivienne, children of NINR's Adrienne Burroughs, tour the CC. PHOTO: ADRIENNE BURROUGHS



Kids at Work

CONTINUED FROM PAGE 1

The crowd favorite was the XR2 robot, which uses a large mechanical arm to find medications in a complex storage system and delivers them to the machine operator. Kids clustered around the window at the end of the machine to watch the arm at work.

Another popular machine was the NIH Library's 3-D printer, operated by Library Reference Assistant Charles King.

"We use 3-D printers because scientists may want to have models to use along with their research papers," he explained to his young audience.

In other areas of campus, kids learned microsurgery techniques (useful for small lab animals such as mice) and robotic surgery (for delicate human operations).

There were plenty of outdoor activities, too. The Earth Day celebration occupied two tents on the Bldg. 1 lawn and had two dedicated food trucks.

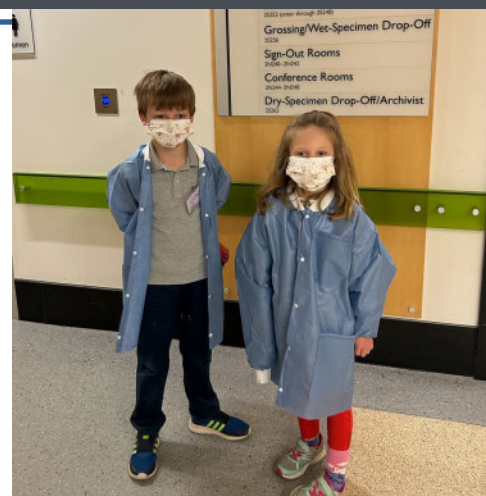
Attendees burned off some extra energy by pedaling a bike to charge the battery that

powered the Earth Day music speakers. Others participated in a water runoff demonstration using spray bottles (with great enthusiasm) to "rain" on a topographic map. Several local wildlife societies brought animals, such as a Gila monster, a tarantula, a ball python and other snakes.

Kids also took guided tours of the NIH stream and met with the NICHD Green Team composting crew and their mascot, Jeremy Wormy. The ever-popular sapling giveaway was also back, offering Norway spruce and Northern red oak trees. Other goodies came from the FAES Science Fair: bags and t-shirts in addition to slime and cotton candy, and kids could spin a prize wheel at the Earth Day tent to win an assortment of NIH-inspired merchandise.

Hopefully, the event's main takeaway for the young learners was that science and sustainability are exciting and rewarding jobs. Session leaders reinforced this message throughout the day.

"This is a good example of what it's like to work in a lab, because you're working



as a team to complete this activity," said instructor Dr. Lataisia Jones of NINDS in the much-loved DNA Extraction from Strawberries event. Students peppered her with questions about the many uses for DNA extraction.

"I want you all to study these questions in your own labs," she encouraged.

As the children made their way around campus, yellow roadside signs cautioned drivers: "Be Alert—Future NIH'ers Walking."

Most current campus denizens shared the same sentiment: We hope to see many of these young faces back for future TYCTWDs—or as employees!

For more images from the day, see p. 7 and visit the *NIH Record's* website: <https://nihrecord.nih.gov/>.

Supply Center Shows Kids Purchase Power

The NIH Supply Center (NIHSC) hosted a hugely successful Take Your Child to Work Day event, with more than 250 children visiting. Featured were mock shopping experiences plus giveaways of real NIHSC products for grades K-12. Children learned about various lab, office and PPE (personal protective equipment) items as well as environment-friendly products available through NIHSC. NIHSC staff also demonstrated CAN card use, how to request a new item and how to place an order. Each child went home with an NIHSC pen and tote bag. Parents also participated, asking lots of questions about how to order through the NIHSC, providing feedback on where they'd like to see portable stores or "kiosks."



Shown at the NIHSC event are (from l) Morgan Edson, Ioana Hance, Soujanya Giambone and Abhishek Goel. PHOTO: EMILY BALLOU At right, Edson and Hance welcome NIH Deputy Director for Management Dr. Alfred Johnson. PHOTO: SOUJANYA GIAMBONE



Kids got to practice with an otoscope and other common pediatric medicine tools.



Two friendly snakes were just some of the animal visitors brought on campus for Earth Day by Drew Roderuck (r) from the Maryland Reptile Conservation Center.



Above, at his first TYCTWD, Calvin—son of Rebecca Lenzi of NIAMS—checks out a snake up close. Below, Rebecca Hawes of NIAMS and Doron Shalvi of NLM, who is also the coordinator of the electric vehicle (EV) group at NIH, volunteer at the EV exhibit booth.



Above and at right, kids and their grown-ups have fun learning about skin, joints, muscles and bones at multiple NIAMS stations.



Clockwise from above:
Rebecca Philogene of ORS and her daughter Genevieve pose with Mr. Bones.

Kids at a NIAMS station learn about joints.

The NIH Library's 3-D printer made a musculoskeletal model of a knee. A big screen showed the finished product.

PHOTOS: LESLIE KOSSOFF, EXCEPT WHERE NOTED



Kids enjoyed watching the XR2 robot at work in the CC pharmacy.

Gerberding

CONTINUED FROM PAGE 1

Gerberding will deploy her default persona more now for her latest challenge—galvanizing like-minded allies to reach ambitious goals in a post-pandemic world.

“When we looked across the whole spectrum of what NIH and what science can do, there probably has never been a more optimistic point in time—if we’re just thinking about the possibilities of science,” she said in a recent interview. “It’s also a sobering reminder that society isn’t always on our side and the context in which we are operating is very challenging for scientists and for citizens. That’s all the more reason to forge partnerships and alliances so that we can be a whole greater than the sum of our parts and find common ground to move important agendas forward.”

Chartered by Congress in 1990 to facilitate groundbreaking NIH research, FNIH largely aligns its agendas with those of the world’s largest biomedical research enterprise. The not-for-profit organization has raised more than \$1.5 billion to support NIH’s mission over more than three decades. FNIH manages and provides resources and structure for large-scale scientific endeavors that often involve multiple partners from both public and private sectors as well as academic and philanthropic institutions.

Gerberding took the FNIH helm in May 2022, after spending more than a decade at Merck & Co., Inc. as president of the vaccines business and chief patient officer. Before that she served for 11 years in senior leadership at the Centers for Disease Control and Prevention (CDC), guiding the agency as director through the global SARS (severe acute respiratory syndrome) outbreak and many other public health crises.

In the past couple of decades, Gerberding has seen the greater medical science movement face some formidable obstacles, including the worst global pandemic in a century. How to recover and advance?

“Part of the challenges we’re facing right now is just competing priorities,” she said. “There are so many ways in which people outside of government can invest their resources and their time. To make sure we have the right participation—from the scientific perspective, but also from the financial perspective—that we need to move these

• • •
“When we looked across the whole spectrum of what NIH and what science can do, there probably has never been a more optimistic point in time.”

—DR. JULIE GERBERDING

• • •

partnerships forward, we have to be able to articulate a compelling argument about the value we can create. I actually think it’s very easy, because there aren’t too many organizations that can bring together the incredible scientific leadership of NIH, with the scientific leadership of our biopharmaceutical industry and the scientific leadership of our academic institutions. When you bring that firepower together to concentrate on a shared challenge, you can perform miracles.”

In the vein of miracles—feeding multitudes with sparse resources, for example—Gerberding believes in thinking big.

“We really are excited about expanding our portfolio of partnerships—and expanding them not just into new therapeutic areas of health. We’re also looking at new health tech partners who have digital biomarkers opportunities or new devices that can help monitor patients’ clinical status and help patients have a more precise approach to medical decision-making.”

FNIH also hopes to grow initiatives geographically. It’s exploring ideas that emerged from the advisory committee for the Fogarty International Center, for instance, to pursue more global framing for partnership models.

In addition, Gerberding said FNIH wants to help speed up the pace of partnership design, development and implementation.

“We’re hoping two things,” she said. “One is that we’re going to have a fundraising campaign so that we have the unrestricted resources to help jumpstart things ahead of the budget year and maybe get some projects launched a little bit faster. The other thing is we are doing some improvements in contracting—finding innovative ways to contract not only with NIH but also with our outside partners. For example, instead of making each agreement a completely separate standalone agreement, we can develop a master agreement and then issue task orders from it.”

Another crucial component of Gerberding’s agenda is shoring up the people behind the breakthroughs.

“We’ve been talking about supporting

science, but we also have a long tradition of supporting scientists—both intramurally

at NIH and extramurally,” she noted. “That’s an opportunity where we hope we can come up with ways to be helpful in a big challenge that everyone is facing—postdoc salary limitations. [It’s] discouraging really talented people from staying in academia or pursuing their research careers.”

Gerberding began her own career in science as chief medical resident at the University of California San Francisco (UCSF). She served as an associate professor at UCSF and as director of the Epidemiology and Prevention Interventions Center at San Francisco General Hospital. She collaborated with Dr. David Henderson at NIH’s Clinical Center to develop the first post-exposure prophylaxis protocol to prevent occupational HIV infection in health care workers and was on the frontlines treating some of the first patients with HIV/AIDS.

Academia, government, private sector and nonprofit. Having first-hand experience from several different perspectives has provided Gerberding with both a diverse skillset and a unique vantage point for tackling what may be the biggest global health threat yet.

“I think all of us share the belief that—at the end of the day—trust in science is very important,” Gerberding observed. “We are working with our patient organizations and our patients who are a part of our overall partnership portfolio to think how we can build more understanding of the process of science, but also more trust in how science is conducted and how people can use that science to make better decisions. So, science, scientists and trust in science—that’s our portfolio.”

Gerberding has been interested in science ever since Santa left her a doctor’s kit when she was a youngster growing up in Estelline,



Seizing an opportune time, Gerberding has set an ambitious agenda for FNIH.

a city of fewer than 1,000 people in South Dakota. She's built on and invested in that early-life curiosity throughout her career, always employing some good advice she got along the way.

"Assume good intent," she counsels others and reminds herself as she advances toward the next goal. "Whether you're dealing with an interpersonal environment, or whether

you're dealing with a large organization, sometimes people default to mistrust as their starting point. And then you interpret everything in that sense. But if you learn to adjust your thinking and assume good intent as the starting point until proven otherwise, it opens up the door to a very different framework—not only for relationships with people, but also for many opportunities." **R**



At left, NEI Director Dr. Michael Chiang greets speaker Christine Hà. At right, during a speed networking activity, attendees found opportunities to collaborate on eye health education.

Partners in Vision Health Highlight Accessibility in Summit

In a conference on NIH's Bethesda campus, a rapt audience listened as Christine Hà, winner of the third season of the reality TV program *MasterChef*, discussed the challenges of competing in a cooking show as a person with a visual impairment.

The gathering was the 2023 Partnership Summit for the NEI's National Eye Health Education Program (NEHEP). Since it was authorized by Congress in 1988, NEHEP has performed public health education and outreach about eye health for health care practitioners and consumers.

With more than 60 attendees representing 35 organizations, participants were challenged to work together to achieve shared goals in eye health education, including moving the needle on meeting the HHS Healthy People 2030 vision objectives. The summit also highlighted the importance of diversity, equity, inclusion and accessibility (DEIA)—with a special focus on accessibility.

NEHEP Director Devina Fan discussed the creation of more than 130 Spanish-language pages for consumers in the past year, as well as NEI's commitment to making materials and digital products accessible to people with visual impairment.

Representatives from the NEHEP Partnership described the results of educational collaborations with NEHEP. And staff from the Office of Disease Prevention and Health Promotion (ODPHP) at the Department of Health and Human Services discussed progress on Healthy People (HP) 2030 and opportunities for technical support and networking for organizations interested in becoming HP2030 Champions. Attendees also connected with each other through a speed networking activity.

Several attendees with visual impairments appreciated the ways the summit was made welcoming to them. Audience members took inspiration from Hà, who, at the time of the event was about to open her third restaurant. She shared her experiences living with vision loss, including working as a chef and restaurateur, and her perspectives on how societal attitudes, accessible environments and assistive technology can help people with disabilities.



NEHEP Director Devina Fan introduces HHS ODPHP Senior Advisor Emmeline Ochiai.

New Insights on Preventing, Managing Childhood Pain

Dr. Tonya Palermo, professor of anesthesiology and pain medicine at the University of Washington School of Medicine, will present



Dr. Tonya Palermo

a virtual lecture, "New Insights into Prevention and Management of Chronic Pain in Children and Adolescents," on Thursday, June 15 from noon to 1:15 p.m. ET.

Palermo is also editor-in-chief of *The Journal of Pain* and associate director of the Center for Child Health, Behavior and

Development at Seattle Children's Research Institute, where she directs the Pediatric Pain and Sleep Innovations Lab. Her lecture is part of the Integrative Medicine Research Lecture Series at the National Center for Complementary and Integrative Health.

Chronic pain affects up to 40 percent of children and adolescents worldwide and can lead to negative consequences, such as reduced functioning and high levels of health-care use. The risk for continued pain and the impact of childhood chronic pain on health and development in adulthood are emerging areas of research. Psychological treatments in childhood may help prevent pain and disability and build resiliency throughout life.

Palermo is multiple principal investigator on several pain prevention and management trials using psychological interventions (including digital) to:

- Prevent pain in children whose parents have chronic pain
- Reduce the risk in adolescent surgical patients of developing chronic pain
- Reduce disability in adolescents with disease-related pain

Her other topics include important factors that may predict pain in children and related effects when they are adults.

Palermo holds a Ph.D. in clinical psychology from Case Western Reserve University.

Registration (free) for this virtual lecture is required at <https://bit.ly/IMLS-June2023>. All are welcome to attend.

For details about the series, visit: <https://bit.ly/42Xeh16>.—**Ellen O'Donnell**

Sleep Apnea Associated with Increased Risks for Long Covid

Among people who have had Covid-19, adults with obstructive sleep apnea were more likely to experience long-term symptoms suggestive of long Covid than those without the sleep disorder, according to a large study supported by NIH. In fact, multiple analyses of electronic health records (EHR) uncovered adults with sleep apnea may have up to a 75% higher risk of developing long Covid. The findings, part of NIH's Researching Covid to Enhance Recovery (RECOVER) Initiative, published in the journal *SLEEP*.

Long Covid is an umbrella term for one or more symptoms that people can experience for weeks, months or years after a Covid-19 infection.

Obstructive sleep apnea occurs when the upper airway becomes blocked during sleep, which interrupts breathing. The condition affects about 1 in 8 adults but is often underdiagnosed.



Adults with sleep apnea may have up to a 75% higher risk of developing long Covid, according to electronic health record analyses.

PHOTO: SBW18/SHUTTERSTOCK

The research, which came from EHR data of more than 2.2 million Americans with Covid-19, suggests close monitoring after a Covid infection may help adults with sleep apnea. The findings may also strengthen understanding of why some people are more likely to develop the post-viral syndrome after acute infection.

"We still have a lot to learn about the

long-term effects of this virus, but this study could inform clinical care by identifying patients who may benefit from closer monitoring," said Dr. Marishka Brown, director of the National Center on Sleep Disorders Research at the National Heart, Lung and Blood Institute.

"People with obstructive sleep apnea should also keep up with their vaccinations to minimize the risk of infection," said the study's senior author Dr. Lorna Thorpe of New York University's Grossman School of Medicine.

Data for the analysis came from three RECOVER networks: the National Covid Cohort Collaborative, which included 1.7 million adults; PCORnet, which included 330,000 adults; and PEDSnet, a pediatric-focused research network participating in PCORnet that included 102,000 children. All participants included in this analysis had tested positive for Covid-19 between March 2020 and February 2022.

Researchers Develop Model for How the Brain Acquires Omega-3 Fatty Acids

NIH researchers and colleagues have developed a zebrafish model that provides new insight into how the brain acquires essential omega-3 fatty acids, including docosahexaenoic acid (DHA) and linolenic acid.

Their findings, published in *Nature Communications*, have the potential to improve understanding of lipid transport across the blood-brain barrier and of disruptions in this process that can lead to birth defects or neurological conditions. The model may also enable researchers to design drug molecules that are capable of directly reaching the brain.

Omega-3 fatty acids are considered essential because the body cannot

make them and must obtain them through foods, such as fish, nuts and seeds. DHA levels are especially high in the brain and important for a healthy nervous system. Infants obtain DHA from breastmilk or formula, and deficiencies of this fatty acid have been linked to problems with learning and memory.

To get to the brain, omega-3 fatty acids must pass through the blood-brain barrier via the lipid transporter Mfsd2a, which is essential for normal brain development. Despite its importance, scientists did not know precisely how Mfsd2a transports DHA and other omega-3 fatty acids.

In the study, the research team provides images of the structure of zebrafish Mfsd2a, which is similar to its human counterpart. The snapshots are the first to detail precisely how fatty acids move across the cell membrane.

The findings provide key information on how Mfsd2a transports omega-3 fatty acids into the brain and may enable researchers to optimize drug delivery via this route.

The study was led by Dr. Doreen Matthies of NICHD and Dr. Tamir Gonen of the University of California, Los Angeles. Additional funding was provided by NIGMS and the Howard Hughes Medical Institute.

NIH'ers Identify Large Genetic Changes that Contribute to Dementia Risk

NIH scientists have identified new genetic risk factors for two types of non-Alzheimer's dementia. The findings were published in *Cell Genomics* and detail how researchers identified large-scale DNA changes, known as structural variants, by analyzing thousands of DNA samples.

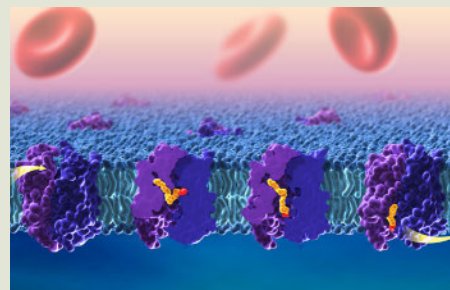
The team discovered several structural variants that could be risk factors for Lewy body dementia and frontotemporal dementia. The project was a collaborative effort between scientists at NINDS and NIA.

Structural variants have been implicated in a variety of neurological disorders. Unlike more commonly studied mutations, which often affect one or a few DNA building blocks called nucleotides, structural variants represent at least 50 but often hundreds, or even thousands, of nucleotides at once, making them more challenging to study.

"If you imagine that our entire genetic code is a book, a structural variant would be a paragraph, page or even an entire chapter that has been removed, duplicated or inserted in the wrong place," said Dr. Sonja Scholz, investigator in the neurogenetics branch of NINDS and senior author of the study.

By combining cutting-edge computer algorithms capable of mapping structural variations across the whole genome with machine learning, the research team analyzed whole-genome data from thousands of patient samples and several thousand unaffected controls.

"From a genetics standpoint, this is a very exciting finding," said Scholz. "It provides a point of reference for cell biology and animal model studies and possibly down the road, a target for intervention."



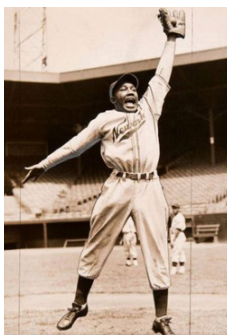
Docosahexaenoic acid (DHA) is an omega-3 fatty acid essential for a healthy nervous system. This model shows how DHA and other omega-3 fatty acids cross the blood-brain barrier through the lipid transporter Mfsd2a.

IMAGE: ETHAN TYLER/NIH MEDICAL ARTS



Local Juneteenth Observance Features Nod to Late NIH'er

Montgomery County's Scotland community in Potomac, Md., recently announced its observance of Juneteenth and festivities will again include a connection to NIH. On June 19, the heritage festival will present the second annual Clarence "Pint" Isreal Juneteenth Classic hosted by Bethesda Big Train,



a summer collegiate baseball team, at Povich Field in Rockville, Md.

Big Train players will wear jerseys honoring Isreal, a longtime Montgomery County resident who was raised in Rockville. He worked at NIH from 1948 to 1973 as a lab technician in the National Institute of Arthritis and Metabolic Diseases'

Laboratory of Biophysical Chemistry. Before then though, he played professional baseball in the Negro League from 1940 to 1947, covering third base for both the Washington Homestead Grays and Newark Eagles. He won the league's World Series in 1946 with the Eagles—in one game of the series besting legendary pitcher Satchel Paige, who played for the Kansas City Monarchs.

Isreal found success playing and managing NIH Club baseball, too. (See top photo from the *NIH Record*, 1970). In 1951, he led the NIH squad to capture the Metropolitan Area Championship. NIH topped more than 230 other local teams that year with 45 wins and 3 losses.

Isreal was inducted into the Montgomery County Sports Hall of Fame last December.



Juneteenth, which gets its name by combining "June" and "nineteenth," commemorates the June

19, 1865, order freeing slaves in Texas, which was the most remote secessionist state in the Confederacy. Although President Lincoln had issued the Emancipation Proclamation on Jan. 1, 1863, enforcement in Texas took more than 2½ years to take effect.

For more information on the Juneteenth game, visit <http://www.bigtrain.org/>.

ODS Nutritional Epidemiologist Potischman Retires

BY ANN JAMISON

After 34 years at NIH, Dr. Nancy Potischman retired on Apr. 30. Since 2016, Potischman, a nutritional epidemiologist, directed the Population Studies Program at the Office of Dietary Supplements (ODS). She studied U.S. survey data to evaluate dietary supplement use and its associated health effects. She also promoted research on methodological issues in assessing diet and supplement intakes.

"Every conversation with Nancy was a delightful learning experience for me," said Dr. Joseph Betz, ODS acting director emeritus, describing Potischman as a wonderful person and dedicated public servant who contributed greatly to the ODS mission. "She did much to fill in the gaps in my understanding of both epidemiology and basic nutrition. Her work in leading the ODS Population Studies Program went a long way toward identifying knowledge gaps in basic nutrition and she was instrumental in the work required to fill those gaps."

Potischman first came to NIH as a fellow in the Cancer Epidemiology and Biostatistics Training Program in 1989 and spent 26 years working at the National Cancer Institute (NCI) on cervical, endometrial and breast cancers.

After a brief stint as an associate professor in the department of biostatistics and epidemiology at the University of Massachusetts, Amherst, she returned to NCI and remained until 2015. Career highlights include work on a large epidemiologic study of diet and premenopausal breast cancer that provided evidence of possible bias related to post-diagnosis influences, in particular the over-reporting of food intake by patients undergoing chemotherapy.

Potischman also collaborated on an endometrial cancer study that used anthropometric data, including weight, height and body mass index, from centers across the U.S. and explored other risk factors.

In addition, she collected distant-past food intake data and worked with radiation dosimetrists to measure diet-related radiation exposure following nuclear testing in the 1940s to 1960s in Kazakhstan and in the 1940s and 1950s in New Mexico.

Potischman devoted years to studying early origins of cancers and wrote several book chapters on life course epidemiology. She evaluated factors associated with differences in biomarkers for foods and hormones across populations, worked with a cognitive psychologist to update and improve the validity of the food frequency questionnaire and worked on several iterations of NCI's Automated Self-Administered Dietary Assessment Tool.

At ODS, Potischman studied dietary supplement use data among various U.S. populations. She reported, for example, that use of dietary supplements containing iodine among pregnant and lactating women and use of vitamin D and iron supplements among exclusively breastfed infants are below current recommendations, and that most older adults take multiple micronutrient and botanical supplements.



Dr. Nancy Potischman

Potischman was an annual lecturer for training fellows in cancer prevention in the Principles and Practice of Cancer Prevention and Control course at NCI's Division of Cancer Prevention. She also developed and taught graduate courses at UMass Amherst and lectured at George Washington University.

Potischman has held leadership positions on scores of committees, boards, working groups, panels, teams, consortia and workshops. She has given many lectures and presentations, was an associate editor for the *American Journal of Epidemiology* and was a reviewer

for more than a dozen professional journals. She has published six book chapters and nearly 200 articles, many of which are available on the ODS Staff Publications webpage: <https://bit.ly/3lhtkHA>.

Potischman reviewed proposals for NCI's Gynecologic Oncology Group and collaborates with the CDC's Infant Feeding Research Study, for which she developed a food frequency questionnaire for pregnancy and lactation. She is a member of the International Childhood Cancer Cohort Consortium and is working on a follow-up study of a cohort in China.

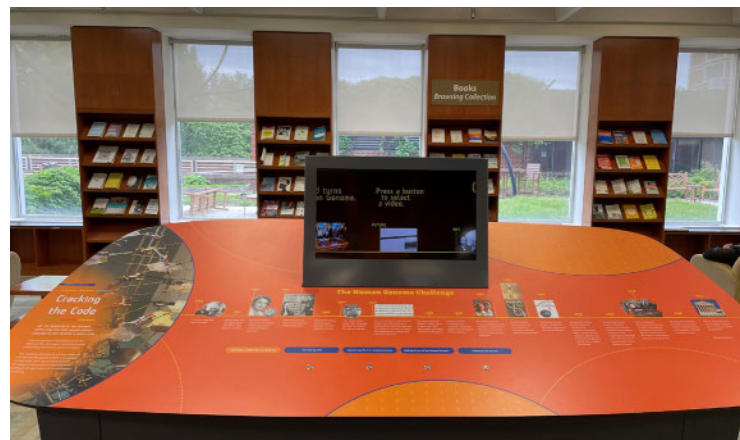
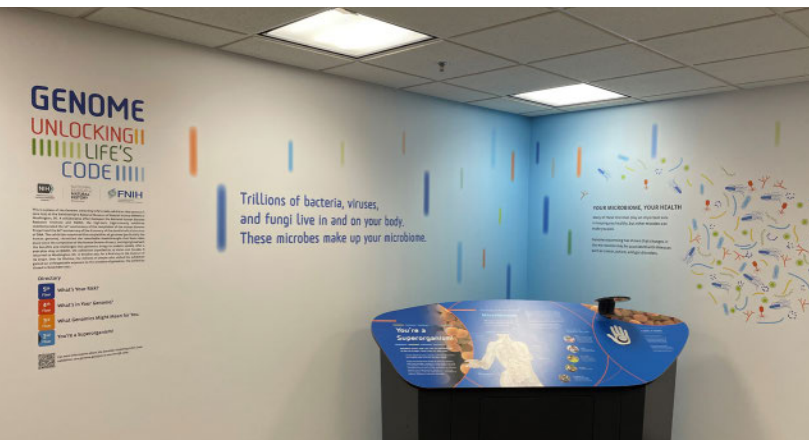
Potischman received her B.S. in biochemistry from UMass Amherst and her Ph.D. in nutritional sciences from Cornell University.

She now works part-time as a consultant on ODS projects, including those focused on folate, and enjoys having more time to travel and visit family. **R**

VOLUNTEERS

Malaria Study Seeks Participants

Did you know a child dies from malaria every two minutes? Join a research study to help with future malaria trials and vaccine studies. Compensation will be provided. To learn more, contact the Office of Patient Recruitment at (866) 444-2214 (TTY users dial 711) or ccopr@nih.gov. Refer to study #16-I-0039. Online: <http://bit.ly/436Ox6G>.



The Genome: Unlocking Life's Code exhibition is on display at NIH. Components are located in Bldg. 31 C (I) and the NIH Library in the Clinical Center.

PHOTOS: ERIC BOCK

'UNLOCKING LIFE'S CODE' Genome Exhibition Pieces Now on Display at NIH

Several pieces of the Genome: Unlocking Life's Code exhibition are now on display on NIH's Bethesda campus.

The exhibition is a collaboration between the National Human Genome Research Institute (NHGRI) and the Smithsonian National Museum of Natural History (NMNH). It opened in 2013 to commemorate the 10th anniversary of the completion of the Human Genome Project (HGP) and the 60th anniversary of the discovery of the double-helical structure of DNA.

Following a roughly 15-month stay at NMNH, the exhibit traveled throughout North America, visiting history museums and science centers in 12 states and Canada, for an additional nine years. It returned to NMNH for its final public viewing in 2022.

The installation examines the complexities of



genomes—particularly the human genome—and chronicles the remarkable breakthroughs that have taken place since HGP completion in 2003. It highlights both the benefits and challenges that genomics brings to modern society.

When the exhibit closed in 2022, NHGRI took possession of several of its prominent pieces, relocating them to the NIH campus. Those pieces are now on display in the following locations:

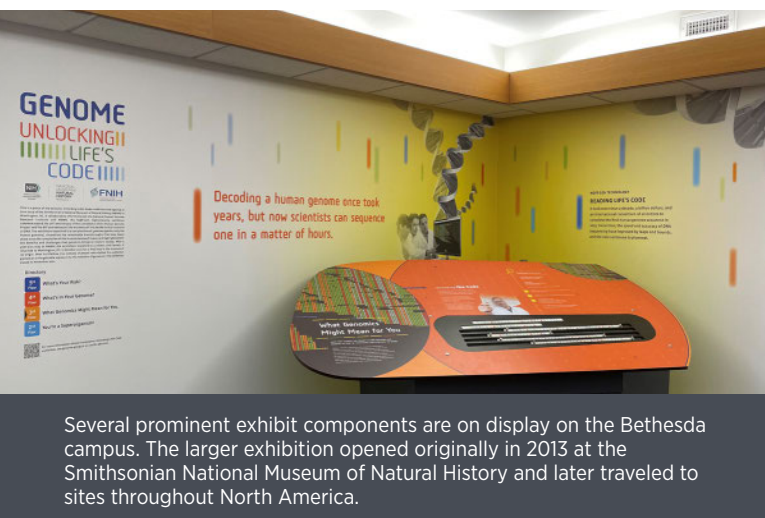
- **Where It All Began**
Bldg. 10, Rm. 1L-25 (NIH Library)
Learn about HGP history, timeline, challenges and achievements.

- **You're a Superorganism!**
Bldg. 31, 2C Elevator Lobby
Explore how microorganisms and your microbiome affect your health and influence your risk for many disorders.

- **What Genomics Might Mean for You**
Bldg. 31, 3C Elevator Lobby
Discover how scientists unraveled the code of DNA and completed the first human genome sequence.

- **What's in Your Genome?**
Bldg. 31, 4C Elevator Lobby
Explore the human genome—the three-billion-part instruction manual written in the twisting, ladder-shaped molecule known as DNA.

- **What's Your Risk?**
Bldg. 31, 5C Elevator Lobby
Learn about health risk factors; genes make a difference, but how much of a difference depends on many factors—including lifestyle choices, diet, environment and age.



Several prominent exhibit components are on display on the Bethesda campus. The larger exhibition opened originally in 2013 at the Smithsonian National Museum of Natural History and later traveled to sites throughout North America.

