



FAES STILL BUILDING AT 60

Nonprofit Continues Mission to Complement NIH

BY CARLA GARNETT

Some 60 years ago, 11 visionary NIH scientists built a bridge—or more precisely, a virtual network of bridges—to help newcomers navigate the intramural research community. Today, that vast infrastructure, a nonprofit called the Foundation for Advanced Education in the Sciences (FAES), Inc., not only provides a pre- and postgraduate-level academic program with 150 courses and 40 core biotechnology training workshops yearly, but also sponsors concerts, book readings, scientific lectures, symposia and other cultural events, administers a



The original FAES Social and Academic Center still stands at the corner of Old Georgetown Rd. and Cedar Ln.

health insurance plan for trainees, runs several retail operations in Bldg. 10 and offers full-service conference management services.

In its 6 decades, FAES has continued to expand alongside the organization it was built to support, keeping true to its core mission.

The foundation was created “to provide interdisciplinary education to get people

from where they are to where they need to be,” said Christina Farias, FAES executive director since 2012.

Tracing this milestone anniversary, the organization’s roots essentially charted its future.

“We want this to be not just a celebration,” Farias said, “but also an acknowledgment of how FAES and NIH have worked together for 60 years to do great things, focusing on education and creating new opportunities for biomedical scientists to network and collaborate across disciplines.”

A group of NIH scientists essentially broke ground for FAES on July 2, 1959, when they signed articles of incorporation. The formal document allowed them to continue operating several advanced scientific courses at NIH that had been hosted for a few years under the auspices of the U.S. Department of

SEE FAES AT 60, PAGE 6

OPERATION RELIEF

Shinall Advocates for Earlier Palliative Care

BY DANA TALESNIK



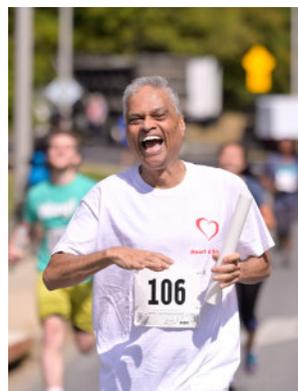
No matter how gracefully we age, most people will eventually develop a chronic or degenerative condition toward the end of life. When that time comes, the considerations can be

overwhelming—from managing symptoms to confronting weighty decisions. That’s when

SEE SHINALL, PAGE 8

‘Worktime’s Over’ Wins Institute Relay Again

BY ERIC BOCK



Dr. Simhan Danthi of NHLBI’s Heart and Sole runs toward finish line.

After 2 years on a course behind the Clinical Center, the 36th NIH Institute Relay returned to its traditional site in front of Bldg. 1. The change in location did not impede last year’s winners, who repeated their victory again this year.

On Sept. 18, Worktime’s Over won the relay for the second year in a row with a time of 14:44. Their name will be engraved once

SEE RELAY, PAGE 4



NSO entertains at CRC. See story on p. 12.

ALSO THIS ISSUE

Briefs	2
NIBIB Grantee’s Diagnostic for STDs Is Cleared by FDA	3
Program Provides Blueprint for Young Researchers	5
Digest	9
Milestones	10
Flu Vaccination Schedule	11
NSO Presents Concert at NIH	12

Website Honors Hispanic, Latino Investigators at NIH

In honor of National Hispanic Heritage Month, the Office of Equity, Diversity and Inclusion has launched the NIH Hispanic and Latino Investigators and Senior Scientist Project, which showcases 50 Hispanic and Latino scientific workforce professionals at NIH. This project honors the work and achievements of NIH's diverse workforce to motivate and inspire students and postgraduates to pursue careers in science. Take a moment to visit the site and read the biographies of these remarkable individuals at <https://www.edi.nih.gov/people/sep/hispanics/campaign/hispanic-heritage-month-2019>.

NIH-Japan-JSPS Symposium, Oct. 28-29

The NIH and the Japanese biomedical research communities have a long history of collaboration and cooperation on scientific matters. To further promote these mutually beneficial interactions and training activities, a joint NIH-Japan-JSPS (Japan Society for the Promotion of Science) symposium will take place at NIH on Oct. 28-29. The main theme of the symposium is "Inflammation." A major goal of the symposium is to promote the career development of young scientists. NIH staff and trainees, as well as interested individuals from outside NIH, are invited to register and attend.

The symposium has four parts: plenary sessions by prominent investigators, seven from NIH and eight from Japanese universities/institutes in Lipsett Amphitheater, Bldg. 10; a special session related to the damage caused by the 2011 Great East Japan earthquake; poster presentations by young scientists in one of the FAES classrooms in Bldg. 10 on Oct. 28; and a career workshop in the NIDCR conference room in Bldg. 30 on Oct. 29.

In 2017, there was a joint NIH-Japan-JSPS symposium in Sendai, Japan, to enhance ongoing recovery efforts in biomedical research in the areas affected by the Great Tohoku Earthquake. This year's symposium represents a continuation of that effort.

There will be a tour of the Clinical Center for scientists and students from Japan to introduce NIH and its mission as the biomedical research center in the U.S. Those interested in participating should contact a member of the organizing committee.

For more information, visit https://meetings.ninds.nih.gov/meetings/nih_japan_jsps_symposium.

New Prize for Gender Diversity Proposed

A recent request for information (RFI) from ORWH invites comments and suggestions on the development of a prize recognizing institutions that have demonstrated commitment to addressing gender diversity and equity issues in biomedical and behavioral science departments.

The primary goal of the competition is to acknowledge transformative structures, systems, projects and processes that have enhanced faculty gender



Appropriators Visit Leadership, Patients at NIH

Three members of the House appropriations subcommittee spent the afternoon of Sept. 17 at NIH. Above (from l), Rep. Lucille Roybal-Allard (D-CA), Rep. Rosa DeLauro (D-CT) and Rep. Lois Frankel (D-FL) meet NIGMS director Dr. Jon Lorsch, NIDDK director Dr. Griffin Rodgers, NIMH director Dr. Joshua Gordon and NIH director Dr. Francis Collins. After scientific briefings, including patient testimony, on gene editing/sickle cell disease, pediatric cancer and depression, the lawmakers greeted young trainees (below) at NIH who discussed their passion for research, experience at NIH and personal stories. Front and center is Dr. Sharon Milgram, director of the Office of Intramural Training and Education.

PHOTOS: LISA HELFERT



equity and diversity within an institution. Such approaches include eliminating or reducing barriers to career advancement, employing mentoring structures, enacting work-life integration and career flexibility programs, enhancing pathways to leadership and adopting equitable recruitment practices.

A secondary goal is to identify and report on best practices for fostering the retention and advancement of women faculty in biomedical and

biobehavioral disciplines in academic institutions.

Notice number NOT-OD-19-141 (<https://grants.nih.gov/grants/guide/notice-files/NOT-OD-19-141.html>) details the characteristics of the competition for which suggestions are requested, including the structure of the competition, the judging criteria and the dissemination of best practices. Comments are being accepted until Oct. 31.

NIBIB Grantee's Diagnostic for STDs Is Cleared by FDA

BY THOMAS M. JOHNSON

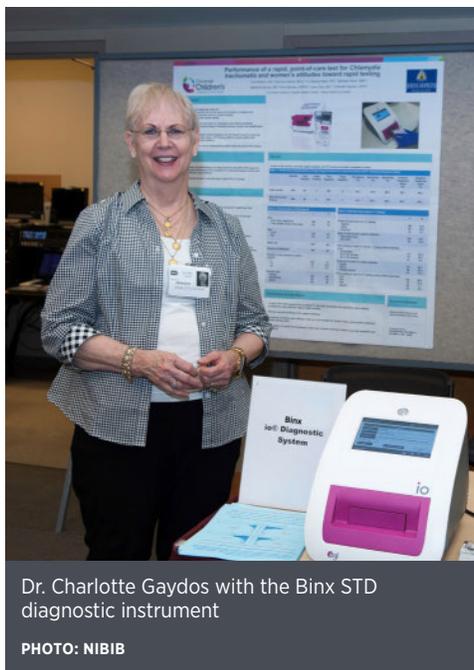
A point-of-care system to test for chlamydia and gonorrhea infection in just 30 minutes has been cleared for marketing by the Food and Drug Administration. The technology, developed by Binx Health, with locations in Boston and the U.K., is the result of funding from the National Institute of Biomedical Imaging and Bioengineering through its Point-of-Care Technologies Research Network (POCTRN).

Since 2007, the network has supported multiple centers whose purpose is to drive the development of appropriate point-of-care diagnostic technologies through collaborative efforts that merge scientific and technological capabilities with clinical need.

In this case, Binx was supported by long-time NIBIB grantee Dr. Charlotte Gaydos, head of the Center for Point-of-Care Technologies Research for Sexually Transmitted Diseases (STDs). She established the center at Johns Hopkins University, where the program has pioneered the development of rapid, mobile, inexpensive diagnostic platforms for STDs. The center has supported three early development projects for rapid molecular STD testing every year since 2007 and is in the early stages of its third 5-year cycle.

“Dr. Gaydos is known internationally for her multi-pronged approach to creating successful STD diagnostics,” said Dr. Tiffani Lash, NIBIB program director for POCTRN. “She recognizes what it takes to develop a pragmatic, useful diagnostic. Her approach includes both technology development and listening carefully to potential users about what type of procedure and setting is needed to increase the likelihood that individuals will be comfortable using the STD test.”

The Binx system is fast because it is a molecular diagnostic test that detects RNA or DNA of the pathogen of interest. Gaydos explains why getting the test down to 30 minutes is critical: “We have found that patients are willing to wait 30 minutes, but not longer, to get their results. They then can be treated immediately. Also, if patients



Dr. Charlotte Gaydos with the Binx STD diagnostic instrument

PHOTO: NIBIB

leave their samples and come back in a couple of days to get their results, they may have infected partners before they have begun treatment and the STD will continue to spread.”

Another important aspect of a 30-minute test is that health professionals can use the time to counsel patients on STD prevention in the future and explore how to talk to a partner about getting tested and treated.

★ ★ ★

“We have found that patients are willing to wait 30 minutes, but not longer, to get their results. They then can be treated immediately.”

—DR. CHARLOTTE GAYDOS

★ ★ ★

“It is the attention to these sorts of details with patients that makes Dr. Gaydos so successful at developing complete programs to reduce STD spread at the population level,” said Lash.

POCTRN currently has five centers across the country—several with international partners. Since its inception in 2007,

POCTRN has grown its partnerships with industry and other stakeholders to facilitate the needs assessment, technology evaluation and clinical testing necessary to realize clinical impact of new point-of-care technologies and enable new approaches to health care delivery.

Though led by NIBIB, POCTRN gets additional support from the National Heart, Lung, and Blood Institute, the National Institute of Allergy and Infectious Diseases, the National Center for Complementary and Integrative Health, the Fogarty International Center, the Office of Behavioral and Social Sciences Research, the Office of AIDS Research and the Office of Disease Prevention. [R](#)



ON THE COVER: Eye cells multiply. NIH scientists uncovered how neurons in the eye may use math to distinguish moving objects.

IMAGE: DIAMOND LAB, NINDS

The NIH Record

Since 1949, the *NIH Record* has been published biweekly by the Editorial Operations Branch, Office of Communications and Public Liaison, National Institutes of Health, Department of Health and Human Services. For editorial policies, email editor or phone (301) 496-2125.

Editor: Rich McManus
Rich.McManus@nih.gov

Associate Editor: Carla Garnett
Carla.Garnett@nih.gov

Staff Writers:
Eric Bock • Eric.Bock@nih.gov
Dana Talesnik • Dana.Talesnik@nih.gov

Subscribe via email: listserv@list.nih.gov Follow: <http://nihrecord.nih.gov/>



The *NIH Record* is recyclable as mixed paper.

NIH National Institutes of Health
Turning Discovery Into Health

Relay

CONTINUED FROM PAGE 1

again on the Allen Lewis NIH Memorial Trophy in the Bldg. 31 Fitness Center. High Mobility Group J finished second in 14:51 and Non-Shivering Thermogenics came in third at 15:22.

Worktime's Over featured three new runners, according to team member Andrew Gravunder, a research engineer in the Clinical Center's rehabilitation medicine department. He recruited the same way he did last year, by finding runners who are hard workers—those who are “first in the building and last ones out.” In 2018, the team didn't have time to warm up because they were busy working. It was the same this year.

Next year, the team hopes to compete for the trophy again, although they will be without their anchor leg for the past 2 years, the “irreplaceable” Matthew Short.



Worktime's Over won this year's relay. They are (from l) Andrew Gravunder, Janelle Hauserman, Blynn Shideler, Kerry Quinn and Matthew Short.

“It was so much fun to meet and run with other NIH personnel. Everyone had such great spirit and came out to work hard, which is standard at NIH,” Gravunder said.

Before the race, NIH director Dr. Francis Collins addressed the crowd. He noted, “We are the National Institutes of Health. We care not only about the nation's health but also the health of everybody who works here.”

Then, the NIH Recreation and Welfare Association's David Browne reminded runners of the rules. 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



Happy runner cartwheels over the finish line.

line on the driveway between Bldgs. 1 and 2.

And with that, Collins blew his whistle, officially starting the race. The crowd roared as the runners took off and cheers continued as the teams ran laps around Bldg. 1. Later, ORS Director Colleen McGowan whistled the start of the second heat. “It's great to see all this camaraderie,” she said.

The race was held in front of Bldg. 1 for the first time since 2017—good



David Winter of CSR's Tutus and Tiaras begins his lap around Bldg. 1.



NIH director Dr. Francis Collins blows his whistle, starting heat 1 of the 36th NIH Institute Relay. He is flanked by Colleen McGowan, ORS director, and David Browne of the R&W.

PHOTOS: MARLEEN VAN DEN NESTE

news for the last runner of each team. At the previous course near the CC's south entry, runners faced a steep incline as they sprinted toward the finish. Browne said construction around Bldg. 1 finished in 2018, allowing the race to move back. Although the Bldg. 1 course is flatter, it's longer than the course near the CC, so time comparisons might not be significant.

This year, 76 teams participated in the relay, according to Browne. Once again, the team names were a highlight of the day. Titles included the Flu Fighters, Heart and Sole, The Eyes Have It and the INNcredibles.

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



NEI's Wurtz Possible Runners were in good spirits after the race. They are (from l) Bevil Conway, Whitney Teagle, Leor Katz, Kazutaka Maeda and Xuefei Yu.

NEI 5K: Show Some Love for the Combined Federal Campaign

The National Eye Institute will host its annual 5K on Thursday, Oct. 24. This year's event is a part of the Combined Federal Campaign.

Festivities and a group warm-up kick off at 11:30 a.m. in front of Bldg. 1, followed by the start at noon. Get your vision screened and try out the NEI virtual reality eye disease simulator. Food will be available for purchase truck-side. To register or to volunteer, go to <https://forum.nei.nih.gov/nei5k>. Questions? Contact Lilly Sadler at sadlerla@mail.nih.gov or (301) 451-8007.

Important: The 5K course follows the campus perimeter. Participants will need their PIV cards to re-enter campus.

This year's NIH campaign theme is "Show Some Love." With the help of the CFC, NIH'ers have the chance to help those in need by reaching this year's goal of \$2 million. Look for organizations or causes that are meaningful to you by searching <https://cfc.nih.gov/>.

Webinar on Global Burden of Disease, Oct. 24

The Office of Disease Prevention will hold a webinar on "The Global Burden of Disease (GBD) Study: Drivers of Premature Mortality in the United States." It will take place on Thursday, Oct. 24 at 12:30 p.m.



Dr. Ali Mokdad will summarize the history, analytical principles and methods underlying the GBD Study. He will describe the work and results of a collaboration with the Office of Disease Prevention to estimate disease burden for the population under 70 years of age.

Mokdad is a professor of health metrics sciences at the Institute for Health

Metrics and Evaluation (IHME) and chief strategy officer for population health at the University of Washington. As a public health researcher, he has published groundbreaking work on local-level disease trends and some of the leading risk factors for poor health. His work on obesity is among the most highly cited in the field.

Prior to joining the IHME, Mokdad worked at the Centers for Disease Control and Prevention, starting his career there in 1990.

Registration is required at <https://prevention.nih.gov/news-events/global-burden-disease-gbd-study-drivers-of-premature-mortality-in-the-united-states>. The webinar will be recorded and available on the ODP website in about a week.

Program Provides Blueprint for Young Researchers

BY JANKI PATEL

The Health Disparities Research Institute (HDRI) is an endeavor to support the career development of early-stage investigators and stimulate research in the disciplines supported by minority health and health disparities science. During the 5-day program, scholars hear lectures from prominent researchers, network with NIH scientific program staff across various institutes and centers and participate in a grant-writing session, small group discussions and a mock grant review.



HDRI scholars are shown alongside NIMHD director Dr. Eliseo Pérez-Stable (front, l), planning committee members and faculty.

PHOTO: JEFF ELKINS

Fifty early-stage investigators were selected to participate in the annual HDRI held recently on campus, sponsored by the National Institute on Minority Health and Health Disparities. Participants represented 25 states, the District of Columbia, Guam and Puerto Rico. "Participants were selected based on their proposed unique research ideas and demonstration of their ability to readily apply what they're learning to future research and potential to become future leaders in the field," said HDRI course director Dr. Richard Palmer.

On her native Micronesian island of Guam, part of U.S.-affiliated Pacific Islands, Dr. Tressa Diaz is both a social worker and research scientist. An assistant professor in the division of social work at the University of Guam School of Health, she spoke of her interest in improving the health of indigenous people of the region.

"I am committed to addressing and exploring social determinants of cancer disparities within Pacific Islander communities," she said. "The HDRI provided examples of what a good application could look like in terms of not only technicalities of writing, but also conceptualizing. You're seeing models of what people have done, which can help you expand possibilities. In a way, being at the HDRI has contradicted feelings of isolation as a researcher [on the island of Guam] because we

get to collaborate and we see many of us are committed to doing this work."

Born to immigrant parents and having faced socioeconomic adversities while growing up in Texas, Dr. Cassandra Johnson, now an assistant professor of nutrition and foods in the School of Family and Consumer Sciences at Texas State University, is passionate about improving access to nutritious foods for people of rural areas and border towns of Texas. These people are at greater risk of food insecurity, which can lead to serious health problems. She echoed other scholars and intends to apply for an R15 award, which supports small-scale research projects. "I will apply the principles learned during the HDRI course and determine how to integrate new digital health technologies into research," she said.

NIMHD is committed to training and fostering the development of the next generation of minority health and health disparities research scientists. "We want to encourage diversity and expand the pipeline so that NIMHD and other NIH institutes and centers receive more applications from these scholars focused on the field of minority health and health disparities research," said NIMHD director Dr. Eliseo Pérez-Stable. The next HDRI will be held Aug. 3-7, 2020.

Participants left the event with skills that will enable them to submit competitive research applications to NIH. More importantly, they are committed to enhancing NIMHD's mission by leading scientific research to improve and make a transformative difference in minority health and reduce health disparities in underserved communities.

Watch the 2019 HDRI video at <https://www.youtube.com/watch?v=5FRKXP7EOgM&feature=youtu.be>.

HDRI

FAES at 60

CONTINUED FROM PAGE 1

Agriculture night school.

Say an incoming investigator required a refresher course on some lab technique. FAES filled that need. Today, if an intramural research training awardee (IRTA) wants to get up to speed on biostatistics, or a visiting fellow would like to hone his conversational English skills, the foundation provides quality instruction on myriad topics—from anatomy and CRISPR-based gene editing to epidemiology and tech transfer—after work, right on campus.

Although most FAES students are NIH trainees, enrollment is also open to non-NIH biomedical researchers, physicians and other industry professionals. Anyone can take an FAES class.

“The intent was to bring a collegial environment to NIH,” Farias explained. “FAES was founded not only to expand the horizons and education of trainees, but also to establish a quasi-university atmosphere here. And FAES does just about everything a university does, except confer degrees; however, we partner with several area universities, such as Johns Hopkins and UMBC, such that FAES course credits can be transferred to degree programs.”

The founders themselves were an august assembly of investigators that included future Nobel laureate Dr. Christian Anfinsen, who within a few months drafted a document, “Role of the Scientist in the Community,” and began enlisting other notable, like-minded researchers to help

define the new organization. A board of directors formed and the first president, elected in 1959, was Dr. Daniel Steinberg.

Other notable presidents have been Drs. J. Edward Rall, DeWitt Stetten, Jr., Robert Adelstein, Martha Vaughan, Henry Metzger and Alan Schechter. The current FAES president is Dr. Susan Leitman, who has served on the FAES board for more than 9 years and retired in 2013 as chief of the blood services section in the Clinical Center department of transfusion medicine after serving NIH for 30 years.

By 1961, the foundation had acquired real estate within walking distance of NIH to create a faculty club. In 1966, services started to include provisions for student health insurance, a music series and a bookstore. In the next decades, FAES would fund memorial events for deceased NIHers and give limited grants. In 1999, NIDDK research physicist Dr. Connie Noguchi began serving as the FAES academic dean and has taught with FAES each year for the last 20 years.

These days, FAES courses are taken by approximately 4,500 postbaccalaureate students, postdoctoral fellows and various other biomedical trainees annually, with more than 100,000 researchers and other

professionals served since the programs began. FAES also supports dozens of additional cultural and scientific events at NIH, including music performances, fellows’ retreats, workshops, symposia and seminar series and visits by special guests that enrich the NIH work environment, such as Yo Yo Ma, Dr. Sid Mukherjee, Diane Rehm and Renée Fleming.

Now going on 61 years, the FAES board of directors continues to attract prominent NIH scientists to help govern the foundation. Farias oversees day-to-day operations in new headquarters FAES opened 5 years ago in the Clinical Center. The redesigned facilities allow the foundation to combine its graduate school, biotech workshops and conferences into one academic program, along with a new bookstore and several state-of-the-science classrooms. A teaching wet lab and other demo rooms remain in Bldg. 60.

In the last 5 years, FAES course enrollments have increased more than 60 percent. Its health insurance program covers more than 6,000 trainees and their family members.

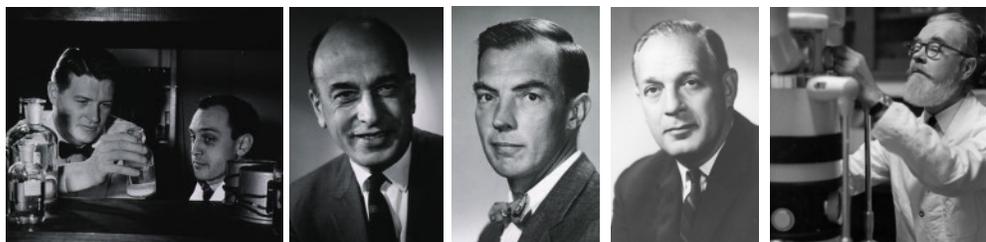
A 501(c)(3) charitable organization, FAES returns about 8 to 10 percent of its annual revenue to NIH in scholarships, discounted services and sponsorship of events and activities.

“One way we give back is by partnering with the Office of Intramural Training and Education to host events, for instance, or with the Clinical Center on Grand Rounds,”



In the FAES administrative suite in Bldg. 10, foundation CEO/Executive Director Christina Farias (c), along with Lisa Rogers (l), foundation executive assistant, and Audrey Lyons, an FAES staffer of some 42 years, holds a photo of two key organization founders, NIH scientists Dr. Christian Anfinsen and Dr. Daniel Steinberg.

PHOTO: ALINA CALA



The vision for FAES was provided in 1959 by signers of the articles of incorporation (above, from l) Anfinsen, Steinberg and Drs. Robert Berliner, Robert Livingston, Seymour Kety, Roger Cole, (below, from l) Kenneth Cole, DeWitt Stetten Jr., David Shakow, Hewitt Fletcher and Murray Brown.





In 2013 during Research Festival, NIH and FAES leaders cut the ribbon on the foundation's newly renovated headquarters in the Clinical Center.

PHOTO: ERNIE BRANSON

companies to partner with us and help fund these new homes," said Farias. "We're considering appealing to companies like Apple, Sony and Samsung—places that already have innovative, tech-driven products and services going strong."

A month or so ago, FAES's annual faculty open house event welcomed more than 240 attendees to preview some of its fall offerings. In late September, the foundation put on a 60th anniversary gala at its original Social and Academic Center, located at the corner of Cedar Ln. and Old Georgetown Rd.

Because growth always seems to be top of mind for FAES, a feasibility study to expand that building by 5,000 square feet to create new classrooms gets underway next year. In fact, the foundation plans a new retail store for NIH'ers on the Clinical Center's B1 level later this year and a 6,000-sq.-ft., cutting-edge teaching lab featuring 3-D glasses and touch-screen technology is slated for 2022.

"We love being here at NIH," said Farias. "We work in lockstep with NIH leadership. We love getting feedback and we love getting better every year."



FAES will parlay a portion of its five acres (on Cypress Ave. off Cedar Ln.) into construction of so-called "discovery houses" designed to be affordable for NIH researchers. The foundation gained Maryland National Capital Park and Planning Commission approval to subdivide its vacant property into lots for seven new single-family homes.

Farias said.

To keep pace with the ever-evolving needs of incoming trainees, Farias and the FAES board meet regularly with the NIH fellows committee (FelCom) and institute and center scientific directors. To elicit creative input, the foundation also routinely hosts forums and circulates surveys and polls in the NIH trainee community.

The foundation's next big project also aims to build: FAES will parlay a portion of its five acres (on Cypress Ave. off Cedar Ln.) into construction of so-called "discovery houses" designed to be affordable for NIH researchers.



"FAES was founded not only to expand the horizons and education of trainees, but also to establish a quasi-university atmosphere here."

-CHRISTINA FARIAS



In 2018, the foundation—in an agreement with the Maplewood Citizens Association—gained Maryland National Capital Park and Planning Commission approval to subdivide its vacant property into lots for seven new single-family homes.

Two of the lots, Farias said, are designated for ultra high-tech homes that will enable residents to collaborate and interact with people around the globe. Construction will begin as soon as permits can be obtained, with completion possible as soon as 2021.

"We hope to bring in all sorts of



A Gift of Painted Rocks

One never knows when the bluebird of happiness will alight. This collection, spotted on a wooden bench along Center Drive in front of the Clinical Research Center on Sept. 26, could have been left by accident, perhaps forgotten by someone, or might have been left deliberately to enchant. Does motive even matter when the result is enchantment?

PHOTO: RICH MCMANUS

Shinall

CONTINUED FROM PAGE 1

palliative care often lends a helping hand.

Palliative care is a process designed to improve the quality of life of patients suffering from serious or life-threatening illnesses. The process, which encompasses treating pain and other symptoms while alleviating emotional and spiritual suffering, typically occurs at the advanced or end stages of illness, when curative or life-prolonging options have run out.

Dr. Myrick Shinall, a general surgeon and palliative care specialist at Vanderbilt University Medical Center, has long been frustrated by this late-stage palliative care model. His research aims to show the benefits of starting such care much sooner.

The trajectory of dying most studied in palliative care research is terminal illness, particularly cancer. Cancer patients tend to feel well, other than treatment side effects, until the last few months or weeks of life when they start rapidly deteriorating. By contrast, patients with organ failure experience a vicious cycle of exacerbations as they decline over time. A third main trajectory is frailty, such as dementia patients who slowly, steadily decline.

“Aside from sudden death,” said Shinall, “these trajectories of dying are really trajectories of unhealthy aging.”

The rate of decline differs based on the disease. In his palliative role, Shinall helps patients assess their place on the illness trajectory and their available options.

Research over the past decade has sup-



“Palliative care might not only improve your quality of life, but it might also improve length of survival for some patients.”

—DR. MYRICK SHINALL



In an ideal model, “Palliative care would be a focus even from the very beginning of dealing with a serious illness,” Shinall said. “And as people progress through the process of what will eventually be a terminal illness, this palliative care part of it becomes a bigger and bigger part of their overall medical care.”

Shinall, who spoke in Wilson Hall at a recent NIH Rising Stars lecture—part of a series featuring the work of exceptional early-career investigators—comes to this topic from a unique perspective. It’s unusual for a surgeon to have a palliative care background. Shinall has both a medical degree and a doctorate in religion, which attracted him to the spiritual side of patient care, inspiring him to specialize in palliative medicine.

“As surgeons, we tend to think of surgery and its recovery as a discrete period,” he said. But his palliative care training led him to see his relationship with patients as more of a deeper commitment, beyond the operation and initial post-op recovery. “I was not used to thinking about trajectories as long-term patterns of the way that illnesses affect people.”

ported his theory of increased benefits from starting palliative care earlier in the disease process. Several oncology clinical trials that incorporated palliative care intervention from the time patients were first diagnosed showed improved quality of life. And there was another fortuitous finding.

“One of the fascinating and tantalizing findings was the secondary outcome of survival,” said Shinall. Data started emerging that showed “palliative care might not only improve your quality of life, but it might also improve length of survival for some patients.”

Increased survival rates grab attention in the medical community.

“When I can show other surgeons these papers that show survival ranges for palliative care,” said Shinall, “palliative care suddenly seems more interesting to them.”

The most consistent evidence showing the impact of palliative care comes from patient-reported outcomes such as symptom relief and improved mood, which are vital to patients. But surgeons usually get more excited by the hard outcomes, the ultimate



being survival, which may help convince them of the importance of palliative care.

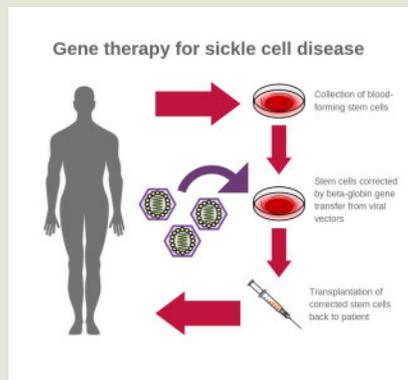
Shinall hopes that results from a current study will provide further evidence supporting earlier palliative care intervention. He currently is heading an NIH-funded clinical trial at Vanderbilt called SCOPE (Surgery for Cancer with Option of a Palliative Care Expert).

All enrolled patients are undergoing surgery for major abdominal malignancies, the kinds of cancers with high rates of recurrence and mortality. Some of the patients consult with palliative care specialists pre- and post-op with ongoing consults for up to 3 years. The trial will assess quality of life during the months following surgery, post-traumatic stress symptoms, long-term care and survival. It will also compare the outcomes of patients who received specialized palliative care with a control group that does not receive such care.

Patients, their families and clinicians usually don’t consider palliative care until there’s a health crisis, said Shinall. Without that sense of urgency, it’s easy to overlook the need for such intervention. But Shinall asserts that wherever patients are on their trajectory, whether they’re having surgery, an organ transplant or other intensive medical treatment, palliative care can play a critical role.

“For me, in my studies, I want my audience to be surgeons,” said Shinall. “If my studies are positive, I want surgeons to read them and say, ‘Hey, this is something I should do for my patients.’” **R**

New Viral Vector for Improved Gene Therapy in Sickle Cell Disease



Strategy for new SCD treatment

Researchers at NIH have developed a new and improved viral vector—a virus-based vehicle that delivers therapeutic genes—for use in gene therapy for sickle cell disease. In advanced lab tests using animal models, the new vector was up to 10 times more efficient at incorporating corrective genes into bone marrow stem cells than the conventional vectors currently used, and it had a carrying capacity of up to 6 times higher, the researchers report.

The development of the vector could make gene therapy for sickle cell disease much more effective and pave the way for wider use of it as a curative approach for the painful, life-threatening blood disorder. Sickle cell disease affects about 100,000 people in the United States and millions worldwide.

“Our new vector is an important breakthrough in the field of gene therapy for sickle cell disease,” said study senior author Dr. John Tisdale, chief of NHLBI’s Cellular and Molecular Therapeutic Branch. “It’s the new kid on the block and represents a substantial improvement in our ability to produce high capacity, high efficiency vectors for treating this devastating disorder.”

The new vector, for which NIH holds the patent, still needs to undergo clinical testing in humans.

The study was supported by NHLBI and NIDDK and was published online Oct. 2 in *Nature Communications*.

High Lead Levels During Pregnancy Linked to Child Obesity

Children born to women who have high blood levels of lead are more likely to be overweight or obese, compared to those whose mothers have low levels of lead in their blood, according to a study funded by NIH and the Health Resources and Services Administration. The study was conducted by Dr. Xiaobin Wang of Johns Hopkins Bloomberg School of Public Health and colleagues. It appears in *JAMA Network Open*. NIH funding was provided by NICHD and NIEHS.

Researchers analyzed data on 1,442 mother-child pairs from the Boston Birth Cohort, a large observational study that aims to determine the causes of preterm birth. Mothers’ blood samples were analyzed for lead exposure 24 to 72 hours after they gave birth. Children had their weight assessed periodically throughout childhood. At an average age of 8.1 years, children born to mothers with high lead levels were more than four times as likely to be overweight or obese than children born to mothers with low lead levels.

Among women who had high lead levels, the risk of their children being obese or overweight decreased if the women had adequate levels of folate 24 to 72 hours after giving birth. The U.S. Preventive Services Task Force recommends that all women of reproductive age consume 400 micrograms of folic acid (the synthetic form of folate) each day to help prevent neural tube defects, a class of birth defects affecting the brain and spine. Women in the study had earlier responded to a questionnaire indicating whether they had taken a supplement containing folic acid in the second and third trimesters of pregnancy. The authors note that if their results are confirmed, testing pregnant women for lead exposure and then offering folic acid to those who have high levels could potentially reduce their children’s risk of being overweight or obese.



Children born to women who have high blood levels of lead are more likely to be overweight or obese, compared to those whose mothers have low levels of lead in their blood.

Emerging Parasitic Disease Mimics the Symptoms of Visceral Leishmaniasis in People



A female *Anopheles albimanus* mosquito takes a blood meal. Some *Crithidia* parasites are known to parasitize anopheline mosquitoes.

PHOTO: CDC/JAMES GATHANY

A new study published online in *Emerging Infectious Diseases* suggests that transmission of a protozoan parasite from insects may also cause leishmaniasis-like symptoms in people. The parasite, however, does not respond to treatment with standard leishmaniasis drugs. The research was conducted by scientists at the Federal Universities of Sergipe and São Carlos, the University of São Paulo and the Oswaldo Cruz Foundation, all in Brazil, along with investigators at NIAID.

Leishmaniasis is a parasitic disease found in parts of the tropics, subtropics and southern Europe. It is classified as a neglected tropical disease and is often transmitted by the bite of sand flies. The most common forms of leishmaniasis are cutaneous, which causes skin sores, and visceral, which affects several internal organs (usually spleen, liver and bone marrow). According to the World Health Organization, each year between 50,000 and 90,000 people become sick with visceral leishmaniasis (kala-azar), a form of the disease that attacks the internal organs and is fatal in more than 95 percent of cases left untreated. During the last several decades, researchers have described rare cases of patients co-infected with both *Leishmania* and other groups of protozoan parasites that usually infect insects, including *Crithidia*. The current study of parasites isolated from a Brazilian patient confirms that *Crithidia* parasites also can infect people.

The study raises concerns that the Brazilian patient might not be an isolated case. If *Crithidia* infections represent an emerging infectious disease in people, there will be an urgent need to develop novel effective treatments, the researchers said.

Cashion Retires as NINR Acting Director

BY JO-ANN KRIEBEL

NINR acting director and scientific director Dr. Ann Cashion retired from federal service on Sept. 30. She had served as NINR acting director since September 2018, and as NINR scientific director since 2013.

Cashion arrived at NINR in 2011 as a senior advisor to then-NINR director Dr. Patricia Grady. She also served as acting scientific director before being named permanent SD. In this role, she established a thriving intramural research program focused on advancing symptom science, a program that now includes the NINR-led trans-NIH Symptom Science Center. Additionally, with Grady, Cashion developed the NIH Symptom Science Model to guide symptoms research in the intramural program.

Before joining NIH, Cashion was professor and chair of the department of acute and chronic care in the College of Nursing, University of Tennessee Health Science Center (UTHSC). She joined the faculty in 2000, shortly after earning her doctorate at UTHSC. During her tenure there, Cashion researched social, environmental and genetic markers to predict patient outcomes and guide therapies in solid organ transplant recipients. She also shared her expertise, mentoring numerous doctoral students on how to incorporate genomics into their programs of research.

In a director's message posted on NINR's website, Cashion thanked the community for its support during her acting directorship. She continued, "I am always inspired by the accomplishments of the nursing science community, and I know that our science will continue to thrive and improve the lives of



Dr. Ann Cashion

many individuals and families for decades to come."

While the search for NINR's next permanent director is ongoing, NIH principal deputy director Dr. Lawrence Tabak is serving as acting director and NIH associate deputy director Dr. Tara Schwetz is serving as NINR acting deputy director. Dr. Jessica Gill, currently NINR's deputy scientific director, is serving as acting scientific director.

Longtime NIH Leader Breithaupt Mourned

BY GREG LAVINE

Gahan Breithaupt, 64, a longtime leader at NIH, passed away on Aug. 31 from complications related to lymphoma. Despite facing the challenges of a treatment process that lasted for more than a year, the executive officer at NIAMS maintained his trademark upbeat and positive presence.

"Gahan's dedication to NIAMS was extraordinary," said NIAMS acting director Dr. Robert Carter. "He personified those



Gahan Breithaupt

qualities that our institute values: doing our personal best and working together to create the conditions for everyone to do their best."

Breithaupt, who served as associate director for management and operations, is the second high-level NIAMS leader to die in less than a year. Former NIAMS director Dr. Stephen Katz passed away in December.

The loss of two such experienced and respected voices in the institute over such a short time span tested the resolve of the NIAMS family, Carter said. But he noted that NIAMS employees pulled together in a way that reflected Breithaupt's dedicated efforts toward fostering a collaborative environment for the institute.

Breithaupt joined NIAMS in 2004 after

serving as acting executive officer and chief information officer for the National Institute of Neurological Disorders and Stroke.

Before NIH, he spent more than two decades holding various leadership positions at the Internal Revenue Service.

In 2010, Breithaupt won the rank of meritorious executive in the Senior Executive Service for sustained superior accomplishment and noteworthy achievement and excellence in management and efficiency in the public sector. Among his other honors was the NIH Director's Mentoring Award earned in 2007 for his strong commitment to mentoring staff from diverse backgrounds across NIH.

Rick Phillips, NIAMS deputy associate director for management and operations, worked under Breithaupt for several years. Phillips said Breithaupt approached all challenges with an open mind and an even temperament. He noted, "Gahan was acknowledged by his peers as a man of unimpeachable integrity, always willing to serve where needed to advance the mission of both NIAMS and the NIH."

Breithaupt is survived by his husband Jeffrey Chappell as well as siblings and his extended family.

Fosu Named Associate Director at CSR

Dr. Gabriel Fosu has been named the new associate director for diversity and workforce development at the Center for Scientific Review. This office provides guidance to CSR on generating new approaches for enhanced diversity within CSR and diversity considerations as they relate to peer review.

Fosu has a wealth of experience and accomplishments related to diversity issues in a variety of contexts and has demonstrated his ability to identify practical strategies and successfully implement them. As a chief technical advisor at the United Nations, working in Nigeria, he cultivated strategic partnerships among governments and international groups, managed a large research program and established a gender-disaggregated population and health database for monitoring sector-wide development initiatives. In his work at the UN, he excelled in navigating the tensions of meeting multiple, sometimes conflicting needs of



Dr. Gabriel Fosu

diverse groups, and at bringing people with different perspectives together to achieve a common goal.

Fosu also has prior experience leading initiatives at the U.S. Agency for International Development focused in Ghana and Uganda. He

has also served as a resource person to the health sub-committee of the State of Maryland's Commission on Black Males and has served as a consultant to the World Health Organization to inform strategies for community participation in the delivery of primary health care.

Fosu earned a Ph.D. in medical sociology and demography from Brown University and has held faculty positions at Catholic University, Howard University and the University of Maryland. He joined CSR in 2006 as a scientific review officer in the risk prevention and health behavior integrated review group and in 2013 became chief of the healthcare delivery and methodologies IRG.

Among other activities, he has worked with trans-NIH collaborative teams to issue cross-cutting funding announcements in health disparities and served as chair of the workforce analysis sub-committee of the NIH Diversity Council. 

VOLUNTEERS

VRC Needs Healthy Volunteers

Vaccine Research Center researchers seek healthy volunteers, 18-50 years old, for a study evaluating an investigational vaccine that targets HIV. Compensation is provided. There is no risk of infection. To learn how to participate, call 1-866-833-5433, email vaccines@nih.gov or visit <http://bit.ly/VRC-018>.

Flu Vaccination Schedule 2019

MAIN CAMPUS SITE ¹				
Date	Day	Location	Morning	Afternoon/Evening
10/07/19	Monday	10-CRC	8:00 – Noon	Noon – 3:30
10/08/19	Tuesday	10-CRC	8:00 – Noon	Noon – 3:30
10/09/19	Wednesday	10-CRC	8:00 – Noon	Noon – 3:30
10/10/19	Thursday	10-CRC	6:00 – Noon	Noon – 7:00
10/11/19	Friday	10-CRC	8:00 – Noon	Noon – 3:30
10/14/19	Monday	10-CRC	Closed	Closed
10/17/19	Thursday	10-CRC	8:00 – Noon	Noon – 3:30
10/18/19	Friday	10-CRC	8:00 – Noon	Noon – 3:30
10/23/19	Wednesday	10-CRC	6:00 – 11:30	11:30 – 7:00
10/28/19	Monday	10-CRC	8:00 – 11:30	12:30 – 3:30
10/29/19	Tuesday	10-CRC	8:00 – 11:30	12:30 – 3:30
10/30/19	Wednesday	10-CRC	8:00 – 11:30	12:30 – 3:30
11/04/19	Monday	10-CRC	8:00 – 11:30	12:30 – 3:30
11/05/19	Tuesday	10-CRC	8:00 – 11:30	12:30 – 3:30
11/06/19	Wednesday	10-CRC	6:00 – 11:30	12:30 – 3:30
11/07/19	Thursday	10-CRC	8:00 – 11:30	12:30 – 3:30
11/08/19	Friday	10-CRC	8:00 – 11:30	12:30 – 3:30
11/11/19	Monday	10-CRC	Closed	Closed
11/12/19	Tuesday	10-CRC	8:00 – 11:30	12:30 – 3:30
11/13/19	Wednesday	10-CRC	8:00 – 11:30	12:30 – 3:30
WEEKEND HOURS				
Date	Day	Location	Morning	Afternoon/Evening
11/02/19	Saturday	10-CRC	6:30 - 8:00	6:30 - 8:00
OFF CAMPUS SITES				
Date	Day	Location	Morning	Afternoon/Evening
10/15/19	Tuesday	Rockledge ²	9:00 – Noon	Noon – 3:00
10/16/19	Wednesday	Rockledge	9:00 – Noon	Noon – 3:00
10/18/19	Friday	Poolesville ³	8:30 – Noon	Closed
10/21/19	Monday	BRC ⁴	9:00 – Noon	Noon - 3:00
10/22/19	Tuesday	BRC	9:00 - 11:30	Closed
10/22/19	Tuesday	Harbor Hospital ⁵	Closed	1:00 - 2:00
10/24/19	Thursday	NSC ⁶	9:00 – Noon	Noon – 3:00
10/25/19	Friday	NSC	9:00 – Noon	Noon – 3:00
10/31/19	Thursday	Shady Grove ⁷	9:00 – Noon	Noon – 3:00
11/01/19	Friday	Shady Grove	9:00 – Noon	Noon – 3:00
11/14/19	Thursday	Fishers Lane ⁸	9:00 – Noon	Noon – 3:00
11/15/19	Friday	Fishers Lane	9:00 – Noon	Noon – 3:00
For questions, please contact OMS at 301-496-4411.				
¹ Main Campus: Building 10, CRC 7 th Floor Atrium, East Side		⁵ Harbor Hospital: 3001 S. Hanover Street, Baltimore, MD, 5 th Floor		
² Rockledge: 6700A Rockledge Drive, Bethesda MD, NIAAA Main Level Conference Room		⁶ Neuroscience Center: 6001 Executive Boulevard, Bethesda, MD, Conference rooms A&B		
³ Poolesville: Building 103		⁷ Shady Grove: 9609 Medical Center Drive, Rockville, MD - 2W 910/912		
⁴ Biomedical Research Center: 251 Bayview Boulevard, Baltimore, MD, 3 rd Floor Atrium Lobby		⁸ Fishers Lane: 5601 Fishers Lane, Rockville, MD, Rooms LD 20 A&B		

NSO Presents ‘Sound Health’ Concert at NIH

PHOTOS: CHIA-CHI CHARLIE CHANG

The National Symphony Orchestra presented “A Sound Health Concert” in the atrium of the Clinical Research Center on Sept. 26, thrilling an audience of patients, staff and visitors with nine selections performed under the baton of Steven Reineke, the NSO’s principal pops conductor.

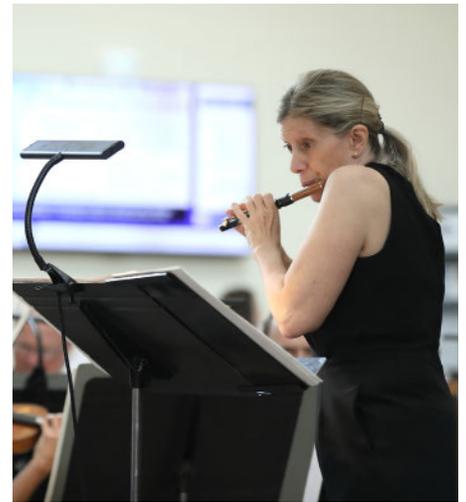
The full orchestra’s visit—and concerts by smaller NSO ensembles—are parts of the Sound Health Initiative, which for the past 7 years has brought world-class music to NIH. Just a week before the concert, NIH announced an award of \$20 million over 5 years to support the initiative’s first

research projects, which will explore the potential of music for treating a wide range of conditions resulting from neurological or other disorders.

“I look forward to coming out here each year,” said Reineke. “It’s such a pleasure to be back. I have always been fascinated by the healing powers of music.”

The concert, just over an hour long, opened with Mozart and ended with Mendelssohn, but also featured American composers Aaron Copland, Florence Beatrice Price and Eric Ewazen.

The performance was co-presented by the Foundation for Advanced Education in the Sciences and the Clinical Center.



CLOCKWISE (from top r): Steven Reineke, the NSO’s principal pops conductor, addresses the crowd before the concert. Carole Bean and her piccolo were featured in selections from Antonio Vivaldi. Bass trombone player Matthew Guilford was the soloist in Eric Ewazen’s *Andante con moto* from Concerto for Bass Trombone. Cellist Glenn Garlick is familiar at NIH as a mainstay of the Manchester String Quartet. Violinist Nurit Bar-Josef has been NSO concertmaster since 2001. The orchestra drew a large, appreciative audience.