PRESERVING YOUR

MEMORY

SUMMER 2024

WHEN DISASTER STRIKES: **Planning for Natural Disasters**

WHAT IS A LETTER OF CAPACITY?

RESEARCH TARGETS EARLY-STAGE **Alzheimer's Disease**

Impractical Jokers **Star Connected with Dad Through Humor**

DR. JUNYUE CAO

RESEARCHER IS STUDYING BRAIN CELLS ON A LARGE SCALE

FISHER CENTER FOR ALZHEIMER'S RESEARCH FOUNDATION

COFFEE
TO THE RESCUE!

In 2012, Jamie Brock's brother had a brainstorm to transform an ambulance into a coffee delivery truck. He pitched the idea to Jamie, and she volunteered to run the service, using the income to support a loved one who needed help.

Once the family member was financially stable, Jamie purchased Coffee Rescue from her brother and altered the business model from delivery routes to events and catering. "Kalamazoo County had two food trucks back then," Jamie reminisces, "now there are about 40! But Coffee Rescue is one of the only ones that focus on beverages. It's like a coffee shop on wheels." Over the years, Jamie has built a strong reputation in her community.

In 2019, she took the food truck back to its philanthropic roots by focusing on fundraising. A keen interest in learning how to roast and flavor the coffee herself became a way for her to give back. Animal shelters, suicide prevention programs and anti-bullying organizations have all benefitted from Jamie's unique coffee blends, sold by the bag or in k-cups, with a portion of the proceeds donated to that particular charity.

This summer, Jamie is proud to present the Fisher Center Foundation's vanilla roast, which she knows will be a popular draw. "My community has really been behind me. They know it's in my heart to give back and to help people."

You can order Jamie's coffee online at www.coffeerescue.net.

Photo courtesy of Junyue Cao, PhD

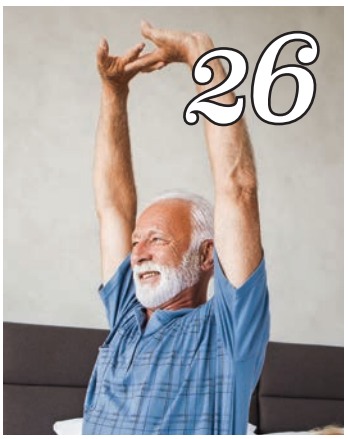
ON THE COVER

Changing the Future of Alzheimer's Disease

For the first time, scientists, including Junyue Cao, PhD, are able to study brain cells on a large scale.

FEATURES

DEPARTMENTS



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FISHER CENTER FOR ALZHEIMER'S RESEARCH FOUNDATION

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Cover photo: Matthew Septimus, courtesy of The Rockefeller University

Planning Outside the Box

Photo by Tamara Fleming Photography

Summertime greetings! We have been diligently working and planning to expand our efforts to raise Alzheimer's awareness and funds to support research in new and out-of-the-box ways. We have incorporated artificial intelligence (AI) to our Alzheimer's research methodologies and are proud to welcome the first appointee of The Fisher Center for Alzheimer's Research Foundation Assistant Professorship, Junyue Cao, PhD, Assistant Professor and Head of the Laboratory of Single-Cell Genomics and Population Dynamics at The Rockefeller University. Cao and his team are developing state-of-the-art genomic techniques to map the human brain at the transcriptional, epigenetic and functional levels (page 16).

While no one wants a disaster, being prepared for one can help minimize the impact (page 8). Find out if a letter of capacity to validate your wishes is a good option if you or a loved one receives a diagnosis of Alzheimer's disease or other form of dementia (page 20).

Check out the great strides Fisher Center Lab Director Nathaniel Heintz, PhD, and his team are making (page 12). And recently, The Rockefeller University honored our founders' legacy with beautiful panels along the entranceway of the Fisher Center Lab (page 10).

Meet postdoctoral associate Dr. Kert Mätlik, who adapted a method of isolating cell type-specific nuclei called FANS (page 27).

This summer, try starting your day with stretching (page 26) and replace bowls of processed sweets with a charcuterie board (page 24).

Finally, your commitment and generosity to remain our partner in the fight against Alzheimer's disease continues to not only help broaden our reach in awareness, but exceed our research fundraising goals. Please feel free to share your stories with us. We look forward to hearing from you soon!

Thank you for your continued support of our mission and for seeing our vision. Together, we will bring an end to Alzheimer's disease. Check out our Summer to Remember Campaign Ad on the back of this issue. Your generosity is transforming the quality of our programs. Wishing you a restful yet productive and enjoyable summer.

Sincerely yours,

Lucretia Holden, SHRM-CP
Executive Director

About the Fisher Center for Alzheimer's Research Foundation

Since 1995, the Fisher Center Foundation, a 501(c)(3) nonprofit organization, has provided hope and help to the public by funding research into the cause, care and cure of Alzheimer's disease and creating much-needed information programs. Our internationally renowned scientists are at the forefront of research that provides a conceptual framework for modern-day investigations into Alzheimer's disease.

The Fisher Center Foundation has earned Charity Navigator's highest 4-Star rating for more than 15 years, including the last 11 consecutive years, for fiscal management and commitment to accountability and transparency.

To read back issues of this magazine, go to ALZinfo.org/pym-archive/.

Want more information on Alzheimer's?

Sign up for our free biweekly e-newsletter, *Alzheimer's Research News You Can Use*, at **ALZinfo.org/news/e-newsletter**.

Daily Multivitamin Helps Issues with Memory and Thinking

A new study found that in people older than 60, taking a daily multivitamin slowed declines in memory and thinking skills by about two years.

The study, published in the *American Journal of Clinical Nutrition,* followed more than 5,000 people who were randomly assigned either a supplement or a placebo pill. Taking a multivitamin provided modest protection against some types of memory loss, including helping older adults recall lists of words. A daily multivitamin appeared to boost the ability to reason, plan and pay attention. It also helped with learning, as well as with storing and retrieving information about everyday experiences.

Experts stress, however, that taking supplements is no substitute for a healthy diet. Eating a rainbow of colorful fruits and vegetables, with potentially brain-boosting nutrients, is linked to a reduced risk for Alzheimer's disease.

Take 4,000 Steps to Better Brain Health

Exercise can do more than bulk up your muscles. It may also bulk up your brain.

Those are the findings of a new report in the *Journal of Alzheimer's Disease*. The study analyzed exercise habits and brain scans from more than 10,000 healthy people ages 18 to 97. Researchers found that the more physical activity people got, the larger the volume of several brain regions critical for memory and learning. Even moderate activity—about 4,000 steps a day—seemed to benefit brain health.

Experts believe that greater brain volume may help protect against the memory loss that comes with aging and Alzheimer's. As brain cells die, enough healthy brain cells remain to make up for the loss.

EXAMINING THE BRAIN-BELLY CONNECTION

If you have Alzheimer's in your family, you may want to watch your waistline.

In a study of middle-aged people with a family history of Alzheimer's, higher amounts of belly fat were tied to:

- Greater declines in thinking and memory skills
- Decreased brain volumes in key areas of the brain tied to memory

This brain-belly fat link was particularly strong for men.

The findings, published in *Obesity,* add to growing evidence about the dangers of "hidden" belly fat. This kind of fat, also called visceral fat, surrounds organs deep in the abdomen.

The good news? Making healthy lifestyle changes may help reduce visceral fat. Aim to keep your overall weight down with a heart-healthy, high-fiber diet. And avoid excess sugar and alcohol.

Chronic stress can also contribute to increased belly fat. Meditation, yoga, deep breathing exercises and regular physical activity can all help reduce stress—and may help lower your Alzheimer's risk.

SMOG ALERT: AIR POLLUTION LINKED TO ALZHEIMER'S RISK

People who live in areas with lots of vehicle traffic, and who breathe in pollutants from diesel exhaust and other sources, have brain changes linked to a greater risk for Alzheimer's disease.

A study published in *Neurology* looked for signs of Alzheimer's in the brains of 224 deceased men and women in the Atlanta area who had donated their brains to science.

Researchers found that people who lived in areas with high levels of traffic-related air pollution had higher amounts of amyloid plaques in their brains. These plaques are a hallmark of Alzheimer's. People with the highest exposure to fine particulate matter in the year before their death were nearly twice as likely to have higher plaque levels.

This study only shows a link between air pollution and amyloid plaques. But other studies show that air pollution may play a role in Alzheimer's disease.

No one wants a disaster to strike. But by planning for the worst, you can minimize the impact on you and your loved ones. By Cindy Kuzma

Earthquakes in New Jersey, flooding in Dubai and wildfires in Chile. Around the globe, climate disasters are occurring more often than ever before.

These events affect everyone. But older adults and people with Alzheimer's disease or other dementias are more vulnerable. Some of their bodily functions, such as temperature control, don't work as well. Plus, they might not always know what's happening or be able to tell you when they're feeling uncomfortable.

As a caregiver or family member, you have added responsibilities. Fortunately, there's a lot you can do to prepare for the unexpected.

KNOW THE DANGERS

Research disasters in your area. Many parts of the country are prone to heat waves in the summer, especially in the Southwest. Floods can happen anywhere but are more common near waterways. Louisiana, Florida and Mississippi are three states at great risk for flooding. And forests invite fires, which are typically most common in the Western part of the country.

Find ways to stay informed about potential emergencies. For instance, if you live in a place where earthquakes may strike, sign up for alerts at **earthquake.usgs.gov**. Get a weather radio, which offers updates on emergencies like hurricanes or tornadoes when other networks fail. And download the Federal Emergency Management Agency (FEMA) app for real-time weather alerts and updates about any disaster.

Also, talk with your loved one's health care provider about their unique risks. For example, some medications can make it harder for the body to stay cool. Plan to protect your loved one during extreme heat by keeping them out of the sun and watching for warning signs of heat-related illness, such as a rapid pulse or cold, clammy skin.

PACK A KIT

You may need to leave quickly or stay at home with no power or water after a disaster. Pack an emergency kit with key items like:

- Water and nonperishable food
- Medications and medical equipment
- Flashlights and extra batteries
- A first aid kit
- Hygiene supplies, such as soap and hand sanitizer
- Sleeping bags or warm blankets
- A change of clothes and shoes for everyone in your family
- Glasses and hearing aids
- Battery-powered radio, cellphone and other communication devices, with chargers or backup batteries

Include copies of legal documents, such as powers of attorney and advance directives. Save those—and a contact list of health care providers—in a watertight container. Keep copies in your phone or another electronic device.

Based on your loved one's needs, include items that calm them or help with communication. A favorite pillow, weighted blanket or noise-canceling headphones might reduce anxiety. Picture boards can convey important information.

Finally, make sure the person with Alzheimer's wears a medical alert tag or bracelet. That way, medical personnel will know who they are and how to treat them.

CRAFT A PLAN

Map some routes you might take if you need to leave home. Practice so you're prepared for different scenarios. If waters rise or a heat wave occurs,

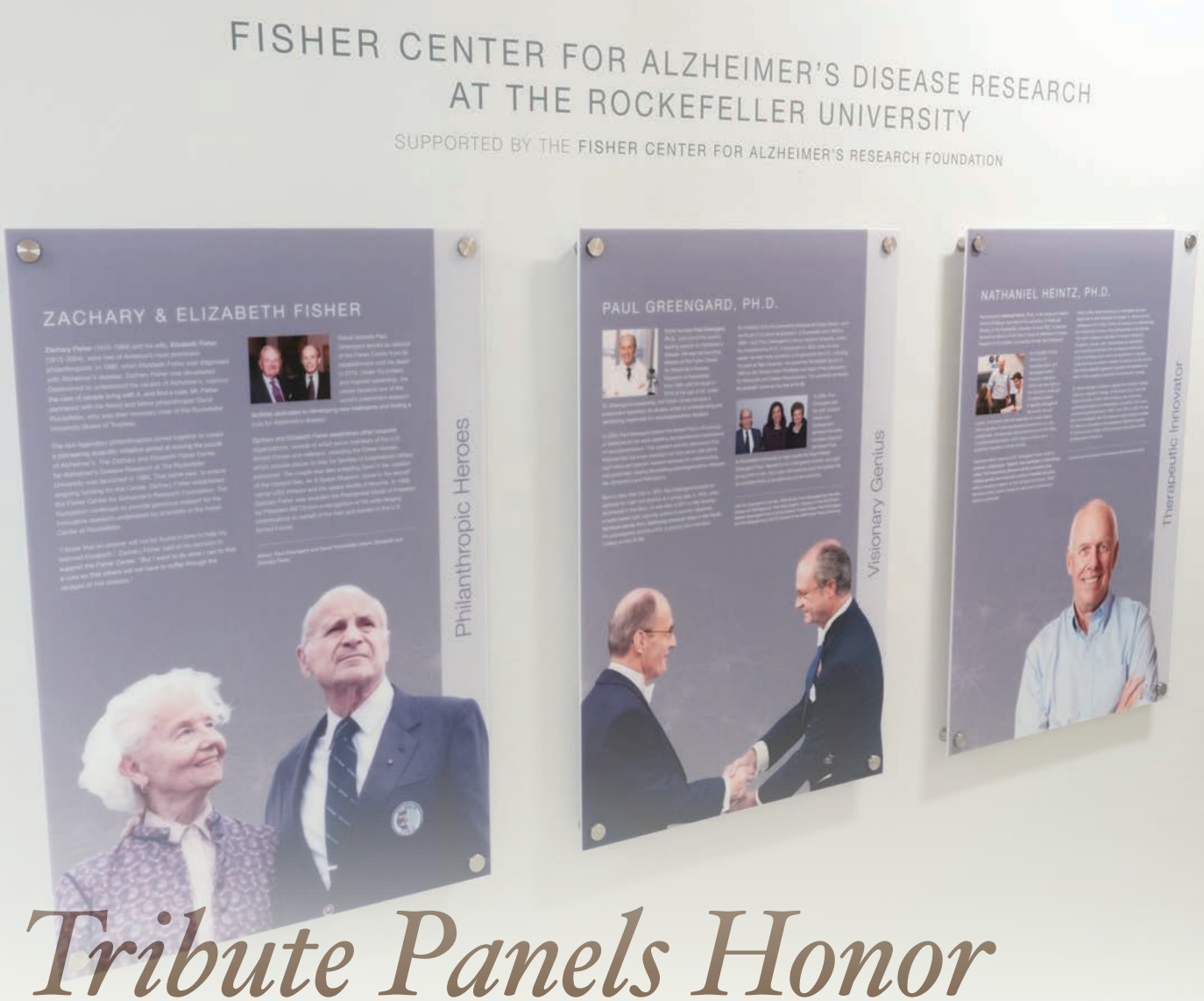
your state or local government will likely set up shelters. Find them by texting **SHELTER** and your ZIP code to 43362.

Discuss your plan with your loved one in words they can understand. Inform neighbors, as well as friends and family who don't live nearby. Note in your plan who you should contact and when. Keep in mind that cell service and the internet may be down.

TAKE ACTION

When disaster does strike, put your plan into practice. As events unfold, always stay with your loved one. Even people with Alzheimer's who haven't wandered before might do so in new or chaotic surroundings.

If you're evacuating, get the familiar items out of your emergency kit for comfort. In a shelter, find a quiet corner, away from exits. And if your loved one becomes anxious or agitated, address their feelings and reassure them. You might not have all the answers, but you can say, "I know you're frightened. You want to go home. It's OK, and I am here with you."



Tribute Panels Honor History, Celebrate Future

A new display at The Rockefeller University celebrates people important to the Fisher Center for Alzheimer's Research Foundation.

By Gina Garippo

There are hundreds of people who serve the Fisher Center for Alzheimer's Research Foundation—whether through work, volunteerism or support. And each one represents an important part of the organization. Their collective efforts stem from the shared mission and friendship of its early founders, as well as the leaders who have built upon this strong beginning. Together, the Fisher Center, in collaboration with The Rockefeller University, is making a difference to people around the globe.

PAYING TRIBUTE

To honor and remember the key individuals whose contributions have shaped the Fisher Center for Alzheimer's Disease Research, The Rockefeller University recently funded and installed a tribute outside the Fisher Center's lab on the Rockefeller campus. The three panels focus on pivotal people in the center's nearly 30-year history.

"We're grateful to The Rockefeller University President [Richard] Lifton and Senior Vice President Marnie Imhoff for designing and installing these three panels, which depict the creation and evolution of the Fisher Center," says Barry Sloane, chairman of the Fisher Center Foundation Board of Trustees. "First, an image of Zach and Elizabeth from the founding years, second of Paul Greengard accepting the Nobel Prize while leading the Center, and third, Paul's successor Nat Heintz directing our scientific progress into the future. So many memories to be proud of as we prepare to celebrate our 30th anniversary."

ZACHARY AND ELIZABETH FISHER

In the mid to late-1900s, Zachary Fisher and his wife, Elizabeth, were generous philanthropists, helping a number of causes, including many involving U.S. veterans. However, when Elizabeth was diagnosed with Alzheimer's disease in 1990, Zachary turned his efforts to advancing Alzheimer's research, finding a cure and improving care for those with the disease. He joined together with his good friend and fellow philanthropist David Rockefeller to establish the Fisher Center lab at The Rockefeller University. Zachary also developed the Fisher Center for Alzheimer's Research Foundation to ensure ongoing funding of scientific initiatives focusing on Alzheimer's.

PAUL GREENGARD, PHD

To lead the Fisher Center, the founders tapped Paul Greengard, PhD, a friend and renowned expert in Alzheimer's disease research. Greengard served as the founding director of the Fisher Center for 24 years, until his death. During this time, he grew the Fisher Center into a robust and prestigious laboratory. In 2000, Greengard was awarded the distinguished Nobel Prize in Physiology or Medicine for his work in neurotransmission. This research laid the foundation for breakthroughs in the understanding of the disease.

NATHANIEL HEINTZ, PHD

Serving as only the second director of the Fisher Center for Alzheimer's Disease Research, Nathaniel Heintz, PhD, has further developed the Fisher Center into the cutting-edge research laboratory it is today. As a neuroscientist, innovator and longtime colleague of Greengard, Heintz's contribution to the scientific community has revolutionized how targeted cell types are identified and analyzed and set the stage for new drug therapies for neurodegenerative disorders. Under his leadership, the Fisher Center lab at The Rockefeller University is leading the way in Alzheimer's disease research and is poised for new discoveries in the field.

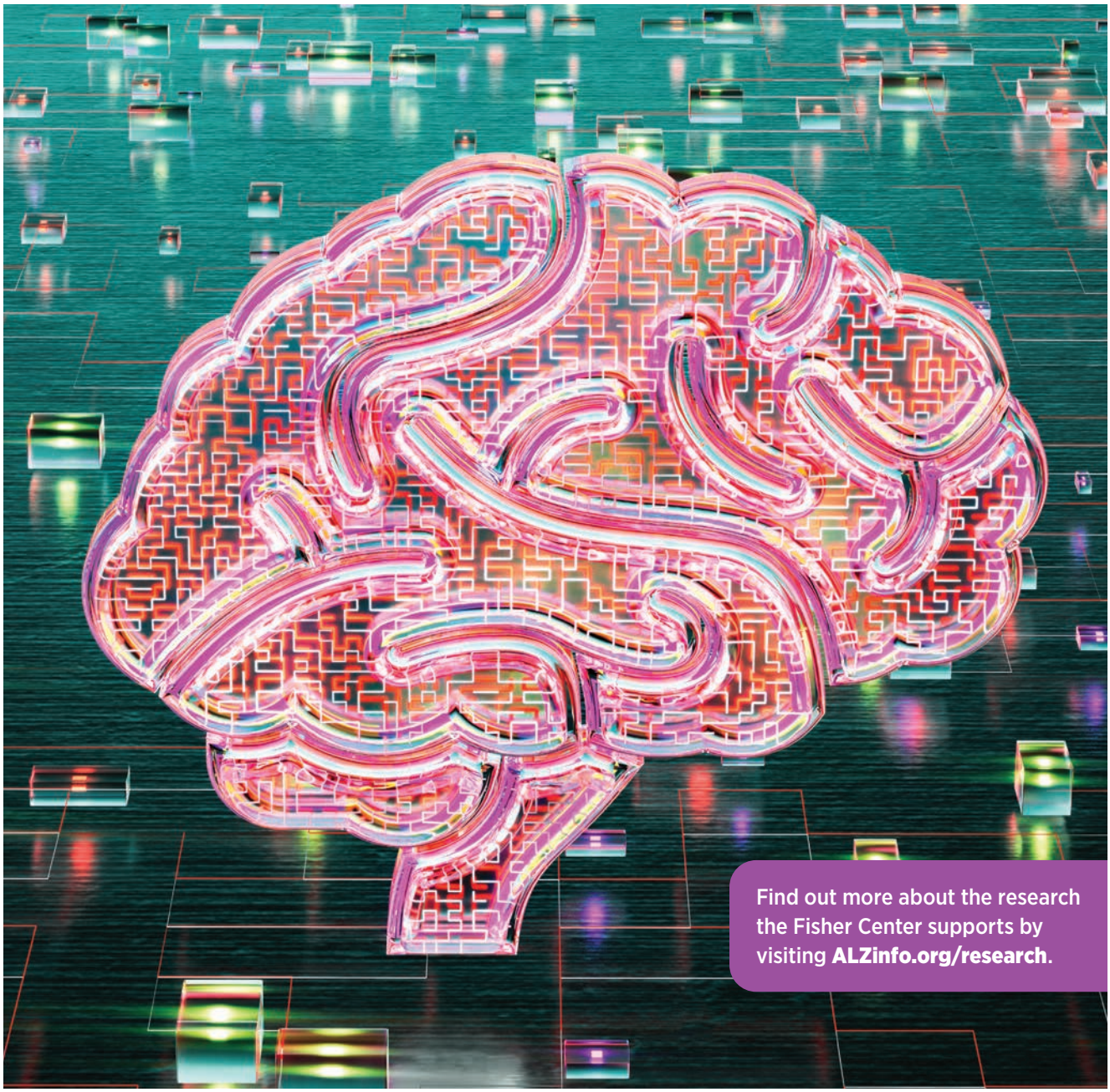
LOOKING FORWARD

The tribute panels, which can be viewed outside the laboratory doors, serve as a reminder for individuals who work day in and day out for the advancement of Alzheimer's disease research. Not only are they a reminder of the dedication and strength of those who have come before them, but of the advancements that have been achieved along the way. Although Alzheimer's disease is complex, the Fisher Center offers unlimited hope of new findings to come.

Research Targets Early-Stage Alzheimer's Disease

Nathaniel Heintz, PhD, leads the Fisher Center lab team in exploring a new frontier.

By Gina Garippo



Find out more about the research the Fisher Center supports by visiting **ALZinfo.org/research**.

It has been two years since Nathaniel Heintz, PhD, was appointed director of the Fisher Center lab at The Rockefeller University. He has developed a team of some of the brightest minds in neuroscience research. Under Heintz's direction, these scientists are diligently and patiently working to uncover the molecular properties—including specific cell types and their activities—that lead to early Alzheimer's disease.

"The human brain is incredibly complex, with billions of cells and complex circuits," explains Heintz. "Our lab is actively identifying and investigating potential mechanisms for Alzheimer's disease in early stages of the disease. We are waging a broad-based assault on Alzheimer's disease."

NEW FRONTIER IN RESEARCH

A key to the Fisher Center lab's research is access to an unprecedented depth of data on the human brain and a new methodology to analyze it. Together, they have opened a new frontier in Alzheimer's disease research.

In the past, researchers could only obtain detailed data on molecular properties of the brain using tissue samples from mice. Although mice and human brains share some similarities, the human brain is much larger and far more complex. Now, Heintz and his colleagues are able to analyze data collected from donated human brain tissue, thanks to a new methodology they developed called nuclear-enriched transcript sorting and sequencing (FANSseq).

FANSseq allows researchers to catalog detailed information regarding specific gene expression in the human brain. The methodology, which is now used throughout the scientific community, helps identify possible changes involved in the disease.

Christina Pressl, MD, PhD, Instructor in Clinical Investigation; Ines Ibanez-Tallon, PhD, Research Associate Professor and Esterlita Siantoputri, Graduate Fellow, are part of the team at the Fisher Center lab at The Rockefeller University.

"The support and involvement of the Alzheimer's disease community is immeasurable," says Heintz. "We are so grateful to those who have donated tissue to brain banks. Without it, we cannot progress."

MULTIPRONGED ATTACK

Researchers have long understood that some brain cells die early in those with Alzheimer's disease—a process called selective vulnerability. However, teams of scientists within the Fisher Center lab are studying different targeted molecules or pathways that are affecting these cells before they die. They do this by comparing the brain circuitry of human donors without Alzheimer's disease with those who died in early stages of the disease. By understanding these early changes, Heintz and his team hope to make discoveries that could generate new approaches to drug therapies.

"Our work is complicated. There are tens of thousands of genes in each cell type and many of these are impacted in vulnerable cell types. As a result, we are using a multipronged attack to gain as much insight into these changes as possible," explains Heintz. "With Alzheimer's disease research, there is not one aha moment, but many small discoveries."

PROMISING FUTURE

Although the process of researching the mechanisms involved in Alzheimer's disease takes patience, precision and dedication, the Fisher Center lab at The Rockefeller University is making progress.

"Until five years ago, we didn't have the ability to analyze the human brain in this way," says Heintz. "Each day we take a step forward."

Within the lab, Dr. Heintz continues to refine current technology to expand molecular analysis within the brain. Also, he recruits additional neuroscience experts to help in his mission. The team, which uses a data-led, nonbiased approach to research, is optimistic for the future. In fact, Heintz compares Alzheimer's research today to what cancer research was just a few decades ago.

"Within my lifetime, cancer has largely become a manageable disease," says Heintz. "Twenty years ago, it was difficult to analyze cancerous tumors. Today, there are valuable therapies that make many types of cancer treatable. I believe Alzheimer's disease is moving in that direction."

Selective Neuronal Vulnerability

By Kert Mätlik with Eric F. Schmidt and Nathaniel Heintz

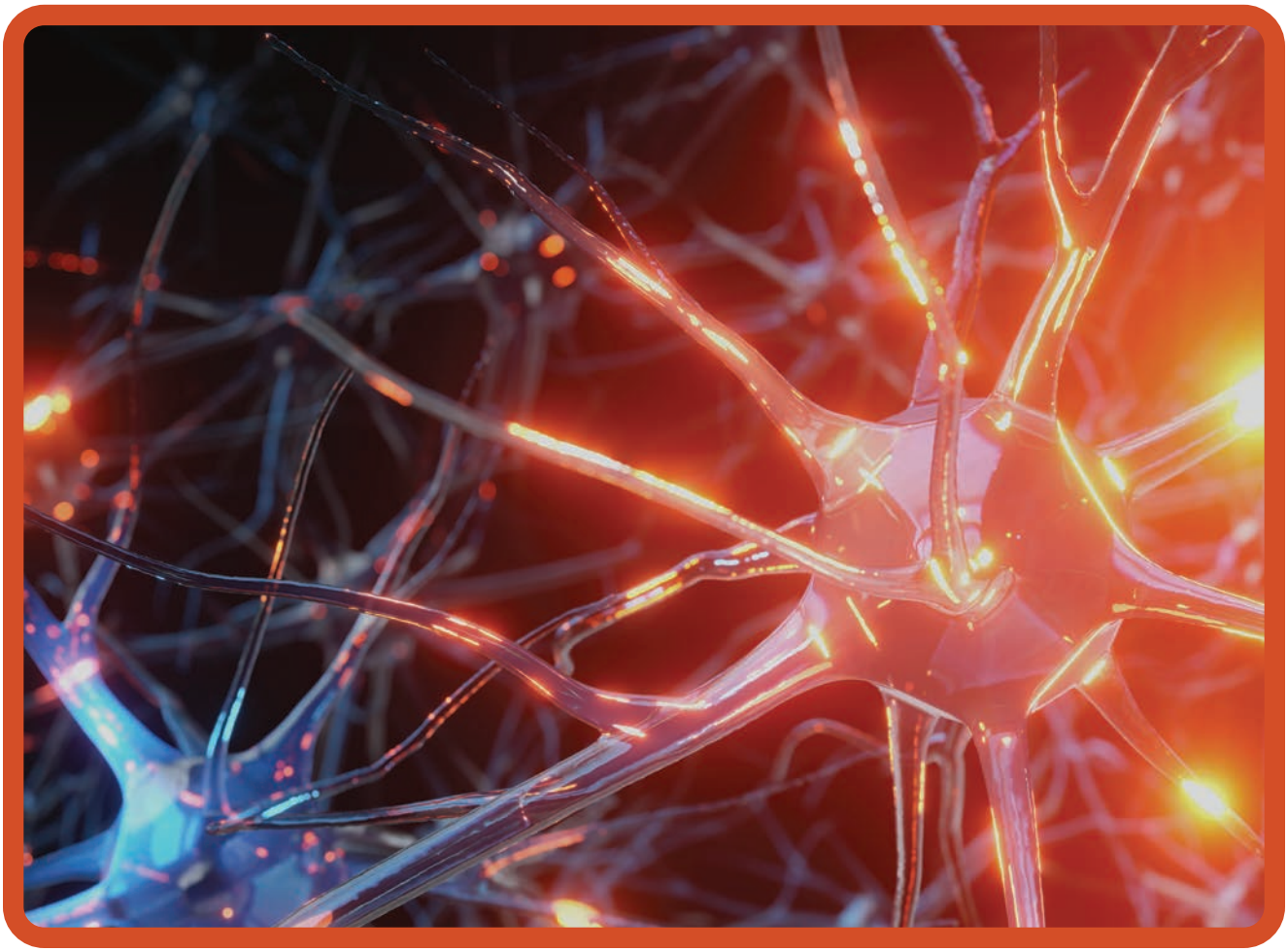
There are many different medical conditions that affect the brain and manifest later in life, often remaining unannounced for more than six decades of an individual's lifetime. Some of these conditions are extremely rare, while others, like Alzheimer's disease, are more prevalent. The way in which these conditions manifest depends on which cells inside the brain are affected the most and at the earliest time of disease onset. Notably, it is not always the same type of brain cell that is the first to die across different diseases.

The loss of specific types of brain cells, or neurons, in the face of the sparing or resilience of others, is called selective neuronal vulnerability. The question of which neurons are selectively vulnerable in various brain diseases has been studied for decades through brain tissue samples collected after death, or postmortem. Some diseases have been well characterized in this respect; the ultimate diagnosis of some diseases might even rely on this type of analysis.

Microscopic and biochemical analysis of postmortem brain tissue has yielded invaluable insight into many neurodegenerative disorders. This includes the identification of toxic protein aggregates and their constituents, loss of neuronal protrusions, called neurites, and depletion of neurotransmitters, which convey chemical messages to other cells. The knowledge we have gained about these diseases has been complemented greatly by asking whether certain features of the genome occur more frequently in individuals who have the disease or presented symptoms especially early. Such genetic studies have identified some of the genes that must be playing a role in the molecular mechanisms that lead to clinical symptoms. But it is not always obvious how or what impact these genes have on selective vulnerability, especially when they are expressed in many cell types throughout the brain and body.

Part of the problem lies in the complexity of the human brain. While researchers have learned a lot by examining brain tissue samples through a microscope, the difficulty in isolating intact cells from postmortem brains has limited the ability to analyze them by other means. However, here at the Fisher Center, we have developed methods that use certain cell type-specific dyes to label the nuclei of the cell types we are interested in. This then enables us to separate these dye-labeled nuclei from the rest of the nuclei present in a piece of brain tissue.

The nucleus contains all of the cell's DNA and the messenger molecules, called mRNA, which instruct



the cell which proteins to make. Thanks to other technological developments, we can analyze the mRNA to determine which genes are active and to what level, revealing which proteins were present in these specific cell types. In addition, we can examine the DNA directly to see how certain genes are turned on and off within different cell types. We've started these experiments on different cell types in the hippocampus and cerebral cortex, two brain regions most impacted in Alzheimer's disease. Through this innovative procedure, we can tell how the vulnerable neurons are inherently different from the resilient ones and identify their unique responses within a brain that is affected by Alzheimer's disease. It helps us understand how disease alters normal changes in gene expression during aging. In some instances, this approach may allow us to link disease risk-modifying features of the genome to specific cell types, suggesting their causal role in disease progression. Ultimately, the mission of the Fisher Center is to utilize the understanding of selective vulnerability to develop novel therapeutics that more specifically target the underlying pathology in the most susceptible cells.

For reaching the goal of treating neurodegenerative diseases, there are no alternatives to studying human brain tissue, and this makes brain tissue donations extremely valuable. Due to constant technological innovation, there is no way to foresee the insight that the study of donated human brain samples can offer in the future.

CHANGING THE FUTURE OF ALZHEIMER'S DISEASE

For the first time, scientists are able to study brain cells on a large scale.

By Gina Garippo

Since he was about 8 years old, Junyue Cao, PhD, was fascinated with the aging process. Like many children, he asked his parents, "Why do people need to die?" But it was an intellectual—not emotional—question. He wanted answers. And he's spent his entire life pursuing them.

Cao leads the Laboratory of Single Cell Genomics and Population Dynamics at The Rockefeller University and was recently named the Fisher Center for Alzheimer's Research Foundation Assistant Professor. Although he hasn't tackled total mortality just yet, Cao has successfully advanced the research and understanding of dying brain cells.

And the results have changed the future of Alzheimer's disease research.

LOVE OF SCIENCE

The son of two middle school teachers, Genping Cao and Shuzhen Liu, Cao grew up in a small city near Beijing, China. Not only did his education-focused parents give young Cao intellectual curiosity, but unlimited access to libraries at a young age—a privilege of which he took advantage. As a mere kindergartener, Cao recalls exploring chemistry and mathematics.

In high school, Cao's interest in neurodegenerative disease took hold, leading him to study biology at

Peking University. After earning his undergraduate degree, he moved across the globe to join the Jackson Laboratory at Bar Harbor (Maine) as a research assistant studying cell protein degradation in aging and Alzheimer's disease. Then he moved to Seattle and finished a doctorate degree at University of Washington, broadening his focus from analyzing molecular dynamics to developing novel technologies for high-scale cellular research.

In 2020, at the height of the pandemic, Cao moved to New York to establish the Laboratory of Single Cell Genomics and Population Dynamics at The Rockefeller University. But he wasn't alone. As

a graduate student, Cao met fellow researcher Wei Zhou, who would not only become his partner in the lab but also in marriage. Since then, the two have worked side by side, conducting brain cell research in the laboratory at The Rockefeller University.

"I am so fortunate to work every day with my wife and closest friend," says Cao, who explores museums and libraries in New York City with his family when not in the lab. "We talk through ideas and challenges and inspire each other."

A NEEDLE IN A HAYSTACK

Analyzing the brain cell network is extremely complex. It contains billions of cells, which together carry out thousands of jobs. When disease occurs, the function of some cells changes a lot, while others remain less affected. And these changes can lead to a cascade of events in the brain. When Cao began his research, pinpointing which cells to target for further investigation was a near-impossible task.

"The number of cells in the brain is so large that the current technology offered no way to scan for the most vulnerable drivers of disease," explains Cao. "It was only possible to examine very few cell types and functions at a time."

This conventional technology, which is used in hundreds of labs across the world, involved a very expensive machine that is limited to analyzing the gene expression for a few cells—a way to identify the job of each cell and learn whether that job had changed. However, with millions to even billions of potential targets, scanning a few hundred cells at a time significantly limited research potential. It was, in a sense, like finding a needle in a haystack.

POWERFUL ADVANCES IN RESEARCH

Cao set out to address this problem in his lab at The Rockefeller University. By building on early technology, he developed a novel way to determine gene expression in each of millions of cells for the first time in history. Presented to the scientific community just one year ago, Cao's EasySci technique is capable of scanning millions of single brain cells simultaneously and across different regions of the brain. The discovery has opened up research possibilities that were never feasible before.

"The technology provides a master view of cell changes in all regions of the brain, comparing cell types and genes most vulnerable in disease," says Cao. "This global view helps identify gene pathways that may potentially lead scientists to develop therapies targeting Alzheimer's disease."

To create this technology, Cao tapped into the power of artificial intelligence (AI). Cao and his team developed AI programs, teaching machines to discern between cell types, systematically mapping each type and categorizing any changes.

"There are hundreds to thousands of genes expressed in a single cell. By using machine learning, we can efficiently analyze and understand cellular changes and their relationships on a large scale," explains Cao. "We have already used the technique to process more than 20 million single cells at once, resulting in the largest data set in aging and Alzheimer's disease to date."

A LAUNCHING POINT

With this new cutting-edge technology, Cao's team has identified more than 20 different cell types from diverse regions of the brain that strongly affect or are changed by Alzheimer's disease. These cell types, identified with mouse models, offer critical data regarding how abnormal cells interact. The team is collaborating with other scientists to verify these results in human brain tissue and further analyze individual cell structure and pathways that may contribute to the disease.

"Our technique offers a foundation on which other Alzheimer's disease research can grow," says Cao. "It's very exciting."

INSPIRING CHANGE

Now that Cao has developed this novel technology, he's focusing on advancing Alzheimer's research in other ways. Cao and his team plan to continue refining techniques in cell analysis, expand research to better understand how abnormal brain cells interact and learn how to rescue these vulnerable cells to prevent disease.

If that's not enough, he's also inspiring a generation of scientists to take on the challenge of solving Alzheimer's disease. Some are even close to home.

Cao's 5-year-old daughter, Sonia, and 9-year-old son, Jayden, regularly talk science around the dinner table in their Manhattan home. Both hope to one day work in their parents' lab. And they say they are excited to solve the aging problem. The apples don't fall far from the tree.

Whether it's his own children, the researchers currently on his team or those at work in the labs around the country, Cao is encouraged by the direction of Alzheimer's disease research.

"Every day I learn something new and get to work with brilliant people who are all focused on understanding and solving Alzheimer's disease," says Cao. "By applying new technology across the field of Alzheimer's research, I believe advances will happen faster than ever before."

What Is a Letter of Capacity, and Do You Need One?

Consider adding a letter of capacity to your legal documents to give you, and your loved ones, peace of mind.

By Cindy Kuzma; Edited by Bernard A. Krooks, JD, CPA, LL.M, CELA

Everyone deserves to have their wishes honored, even when they can no longer express them. If a loved one has a diagnosis of Alzheimer's disease or other dementia, doing so takes advance planning.

Documents like living wills and durable powers of attorney for health care protect a person when they can't speak for themselves. They put wishes about end-of-life care in writing and appoint a trusted friend or family member to oversee them.

But these documents are only valid if both people signing them are, in legal terms, "of sound mind." In

other words, everyone named must be aware enough to understand the agreement. That way, they fully acknowledge the benefits, risks and effects of what is being described in the documents.

One way to certify this is to include something called a letter of capacity. This can help prevent conflicts later, and enhance the likelihood that decisions are made with the person's priorities in mind.

TRUST IN THE FUTURE

As they progress, conditions like Alzheimer's disease and dementia decrease a person's ability to think clearly and make decisions. Talk with your loved one about their hopes and wishes for the future as soon as possible after a diagnosis. Discuss all the options, learn about their values, and agree on a plan for medical care, finances and other important matters.

As you draft documents to put these wishes into writing, consider asking a health care provider for a letter of capacity. This serves as a record that despite their diagnosis, your loved one could still make decisions at the time the documents were drafted.

To check for capacity, the provider might look at:

- Concentration and attention
- Short- and long-term memory
- How conscious or aware the person seems
- Whether they can use reason and logic
- How well they can understand quantities—for instance, amounts of money
- Knowledge of time, place and surroundings
- If the person recognizes familiar objects and other people
- How well they can communicate with others

These criteria help determine whether a person can enter into a contract. If the provider determines your loved one has capacity, ask them to write a letter saying so. Make sure it is signed and dated, then give it to your attorney and file it with other important paperwork. State laws vary on levels of capacity required to execute certain legal documents, so make sure you speak with a local elder law attorney who can advise you on the pros and cons of a letter from a health care provider.

SAFE AND SECURE

Why is this letter important? In a perfect world, no one would ever question your loved one's wishes. But, unfortunately, conflict can sometimes arise long after everyone signs on the dotted line.

For example, say you have a family member who lives far away and hasn't played a role in your loved one's care. After the person with Alzheimer's has more symptoms and cannot think clearly, this relative reappears. They may question your choices or even aim to control your loved one, their money or other assets.

This person might challenge your durable power of attorney. They may even produce a new document naming themselves or someone else, instead. Having a letter of capacity may be useful in these circumstances and could possibly assist in making sure your loved one's wishes are carried out.

To draft these documents, seek the advice of a competent elder law attorney, preferably one who has been certified as a CELA (Certified Elder Law Attorney) by the National Elder Law Foundation. An attorney can help you obtain the letter of capacity and other important items. That's especially important if you think there may be conflicts in your family in the future. But even if not, the letter offers peace of mind.

If your loved one has lost their ability to make decisions and you don't have a letter or other documents in place, don't panic. An attorney can also guide you toward the best options for protecting and caring for your loved one in the way they'd wish.

*Bernard A. Krooks is managing partner of the law firm Littman Krooks LLP (**littmankrooks.com**). A certified elder law attorney, he is a past president of the National Academy of Elder Law Attorneys and past president of the Special Needs Alliance.*

James "Murr" Murray with his dad, James P. Murray.

Comedian Reflects on Connecting with Dad Through Humor

Impractical Jokers star James "Murr" Murray built bridge through laughter.

By Alex Frank

When you're a caregiver to someone with Alzheimer's disease, you know there can be long days without laughter or good cheer. But for funny guy James "Murr" Murray—one of the stars of the hidden camera comedy show *Impractical Jokers*—humor was often a bridge to his dad, who suffered from Alzheimer's and passed away last year.

"My best memories were of he and I watching *Airplane!* together. He was hysterical, the life of the party, where I get my sense of humor from," Murr remembers. "And to the day he died, my father could still complete a quote from *Airplane!*. If I said, 'Surely, you can't be serious.' My father would say, 'I am serious—and don't call me Shirley.' Isn't that amazing how the brain works?"

RAISING AWARENESS AND MONEY

Murr and his wife, Melyssa, have been avid fundraisers and supporters of the Fisher Center for Alzheimer's Research Foundation for the past three years.

"We gravitated toward Fisher because they are trying to stop the disease before it takes hold, as opposed to finding a cure after the fact," says Melyssa.

Murr agrees: "As a family, every time we would bring my father to a different neurologist, it felt like we were just throwing darts at the board, trying different things, hoping that one of them would slow the disease. And it is frustrating to deal with; because, as it progresses, it just doesn't get better. That's why we support Fisher so much: to tackle it

before it starts, rather than try to treat it after it's already taken hold."

For the past two years, they've hosted an annual fundraiser for the Fisher Center Foundation in New Jersey, where they live, and are prepping for the next one on November 9 at 18 Label Studios in Montclair. In the past, they've auctioned goods, like a guitar signed by Taylor Swift, vineyard trips, Marvel movie posters autographed by entire casts, exclusive dinners and more.

The fundraiser will also be live streamed, so fans can buy virtual tickets to the event, even if they can't make it in person. All virtual guests can still participate in the auctions and prizes.

Visit **95Charity.net** for more information on the event.

Murr and his wife, Melyssa, are hosting their third fundraiser this year.

BRIDGING THE DIVIDE WITH MUSIC AND HUMOR

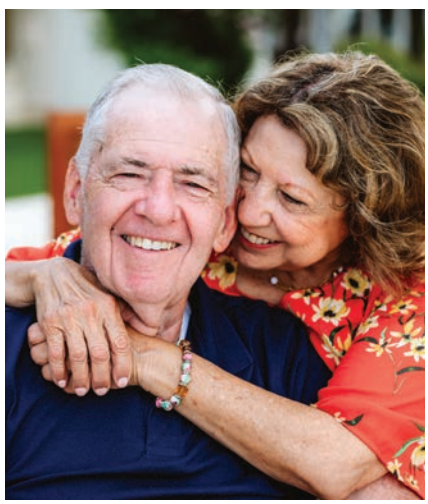
Melyssa also knows Alzheimer's well: She's a trained nurse who specialized in geriatric care. "By watching and listening to Melyssa, I learned a new language to speak to my Dad—give him choices, ask him questions, let him opt in to things you need him to do, help him still feel in control," says Murr. "That switch in tone is a game changer. It would bring him down, in terms of anger."

Her empathy and expertise were something that brought them closer as a couple. "You go through so many phases caring for a family member with Alzheimer's. Denial. Dealing with them being combative," says Murr. "And Melyssa was able to, from the beginning to the very end, communicate with my father in a way that none of us could. It's one of the things I love most about her."

Murr's dad loved music, so the couple came up with the idea of bringing a portable record player to his assisted living facility. "He still knew every Frank Sinatra lyric!" Murr remembers. "That was a trick Melyssa taught us: If we wanted to calm my father down, we'd put on Sinatra."

Even in the darkest days, Murr and Melyssa found ways to be heartened by the funnier side of life: Murr's father had been a guest star on various episodes of *Impractical Jokers* before Alzheimer's had affected him so deeply, and one of those episodes was playing at his care facility shortly before he died.

"He didn't recognize himself, but he was laughing out loud, not realizing it was him on TV. And I will never forget that moment: seeing my dad laugh out loud," Murr says. "The person you love is still in there. The disease takes away so many memories, but the innate person is still there. Humor is a great way to bring them back."



James P. and Maryann Murray.

No matter how big or small, you can make a difference! Help us raise awareness and research funding by participating in our summer fundraising campaign. (See **page 32** for more info.)
Visit **ALZinfo.org/fundraising/getting-started**.

Build a Better CHARCUTERIE BOARD

This tasty trend can be light and healthy, too.

It's hard to resist a colorful charcuterie board. These fun, flavorful platters are ideal for a light summer meal. And they're so easy to make, using fruits, crackers, and precut or presliced veggies and cheeses. Just select your plate, board or platter, and start building! Here are some healthy options.

FILL IT UP WITH FRUIT

Start out with seasonal fruits, like berries, cherries, grapes, peaches and melons.

BRING ON THE VEGGIES

Pile your platter with fresh crudités, like carrots, bell peppers and pink radishes. Or try snap peas, green beans and cucumber.

PICK YOUR PROTEINS

For healthier fare, limit deli meat and instead choose:

- Hard-boiled eggs
- Sliced leftover chicken or turkey breast
- Nuts, such as almonds, pecans and walnuts
- Grilled shrimp

CHOOSE YOUR CHEESE

With cheese, moderation is key. While it provides protein and calcium, it's often high in unhealthy saturated fat and sodium.

Limit saltier options, like Brie, in favor of lower sodium Swiss. Look for low-calorie, reduced-fat or fat-free cheese. Avoiding dairy altogether? Try dairy-free cheeses.

GO-TO WHOLE GRAINS

Easy options include whole-grain bagel chips, crackers or pita wedges.

Are you gluten-free? Look for alternative grains, like buckwheat, flax or quinoa.

Lemon Herb Yogurt Dip

This five-ingredient dip comes together in a snap. Consider adding it to your charcuterie board. Serve with crudités or use it as a dressing for salad or a spread for sandwiches.

INGREDIENTS

- 1 cup nonfat Greek yogurt
- 2 tbsp. minced fresh thyme
- 1 tbsp. fresh lemon juice
- 1 tbsp. lemon zest
- 1 tbsp. honey

DIRECTIONS

Whisk all the ingredients together and enjoy!

NUTRITION INFORMATION

Serves eight; serving size is 2 tablespoons. Per serving: 20 calories; 0 g fat (0 g saturated fat, 0 g trans fat); 0 mg cholesterol; 10 mg sodium; 3 g carbohydrate; 0 g fiber; 3 g sugar; 2 g protein.

5 Stretches You Can Do **IN BED**

Do these stretches in the morning or anytime.

By Cindy Kuzma

Start your day off right before you even shake off the covers. How? By doing a few simple stretches in bed. These easy movements can wake you up, clear your mind and jump-start your morning, all in just a few minutes. Aim to hold each stretch for about 30 seconds. Repeat, if it feels good.

TRICEPS STRETCH

Sit up and raise your right arm over your head. Bend your elbow so your hand reaches down toward your left shoulder blade. Then, reach your left hand up to grasp the elbow, gently pulling it toward the left shoulder to stretch the back of your right arm. Hold, lower your arms, then repeat on the other side.

BANDED HAMSTRING STRETCH

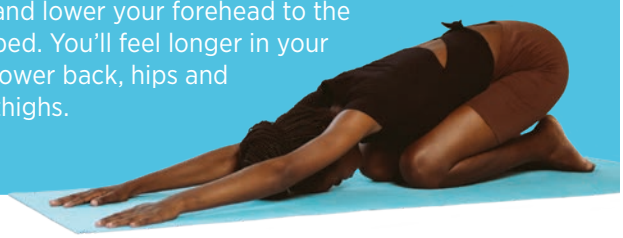
Stay on your back. Grab a towel, band or strap, and place it around the bottom of your right foot. Keeping your right knee straight, lift your leg toward the ceiling. Gently pull on the towel or strap until you feel a stretch along the back of your right thigh, which is your hamstring. Hold, lower your leg, then repeat with the left leg.

COBRA

Start by lying face down. Place your hands, palms down, underneath your shoulders. Push them down into the bed and straighten your arms to lift your chest and torso as your back arches. As you do this, keep your shoulders relaxed, your legs stretched out behind you and the tops of your feet against the sheets.

CHILD'S POSE

Flip over onto all fours, with your knees on the bed shoulder-width apart. Drop your glutes toward your heels, stretch your arms forward and lower your forehead to the bed. You'll feel longer in your lower back, hips and thighs.



UPPER BODY AND ARM STRETCH

From the seated position, raise both hands overhead, fingers clasped together. Flip your palms toward the ceiling and push your hands up, lengthening your arms and your entire upper body.

FISHER CENTER Scientist Spotlight

Dr. Kert Mätlik

Postdoctoral Associate

HOMETOWN:
I grew up in a small town near Tallinn, the capitol of Estonia, one of the Baltic states.

EDUCATION:
I completed my bachelor's and master's degrees at Tallinn University of Technology, Estonia, and have been experimenting in a laboratory almost daily since I was 19 years old. I defended my doctorate at the Institute of Biotechnology, University of Helsinki, working on preclinical models of neurological disorders. For postdoctoral training, I joined the Laboratory of Molecular Biology, headed by Dr. Nathaniel Heintz at The Rockefeller University, developing methods to analyze the properties of specific cell types found in the human brain.

FUN FACT:
My wife is a neuroscientist, too, so I suspect our two daughters will experience a pretty deep immersion into molecular biology and neuroscience as an unintentional side effect of their upbringing.

RESEARCH DISCOVERIES:
Cells grown in a test tube and laboratory animals used to model human disease do not exhibit all the complex phenomena that take place in human tissue. That is why I have been especially excited about working with new tools that allow us to gain insight into what is happening specifically in cells of a human brain affected by neurodegenerative disease. It took a lot of trial and error for me to adapt a method of isolating cell type-specific nuclei, called FANS, to the study of specific nerve cells residing in the human striatum—a brain region that degenerates in Huntington's disease. Our success with the FANS approach enabled me to characterize gene expression changes in striatal projection neurons, a type of cell that is among the most vulnerable in this disease condition. My work points to the difficulty these cells have in keeping certain portions of their genome stable, even in people not carrying the mutation that causes Huntington's disease. This has led me to appreciate even more how rather small differences in the innate characteristics of different neurons can influence their fate over their decades-long lifetime, especially in the presence of disease-predisposing genetic factors or lifestyle. I suspect this will be a recurring theme as we apply this approach to studies of selective neuronal vulnerability in Alzheimer's disease.

Thank you, Dr. Mätlik,
for working hard every day in the quest to find a cure.

The exceptional work of the Fisher Center's world-renowned scientists is bringing us closer to a cure for Alzheimer's disease. You can read more by visiting **ALZinfo.org/research**.

USE IT OR LOSE IT.

The message is simple. If you don't use your muscles, they will no longer be as effective as they should be. Of course, the brain is not a muscle; however, it has recently come to light that "mental workouts," such as solving crosswords and other puzzles, can help ward off Alzheimer's. In these pages, we offer a variety of different types of puzzles that will work out your various skills involving memory, deduction, and letter manipulation, and, we hope, also provide you with a ton of fun!

(ANSWERS ON PAGE 31)

Match These

Can you match each famous TV character to the actor who played the role?

1. _____ Elaine Benes
2. _____ Phoebe Buffay
3. _____ Perry Mason
4. _____ Remington Steele
5. _____ Steve Urkel
6. _____ Grace Adler
7. _____ Tony Soprano
8. _____ Michael Scott
9. _____ Lou Grant
10. _____ Christine Cagney
11. _____ Niles Crane
12. _____ Tyrion Lannister

a. Raymond Burr
b. James Gandolfini
c. David Hyde Pierce
d. Sharon Gless
e. Lisa Kudrow
f. Peter Dinklage
g. Ed Asner
h. Julia Louis-Dreyfus
i. Jaleel White
j. Steve Carell
k. Debra Messing
l. Pierce Brosnan

Dropline

Take the letters in the top half of each column below and distribute them in the blanks of the bottom half so that the letters read from left to right spell out a short witticism. The black squares are the spaces between words. One letter has been dropped in place to start you off.

A	E	B	E	E	E	E	E	N	D	A	I	M	A	O	I	D
O	T	H	E	R	T	H	I	S	W	A	L	N	E	O	N	E
		I	S	T	W	I	R			O	O	W	G	Y	S	T
		L	T				S			S	Y		T			
■	T					■			■							■
	■							■				■			■	
	■			■					■							
■					■			■						■		

Leapfrog

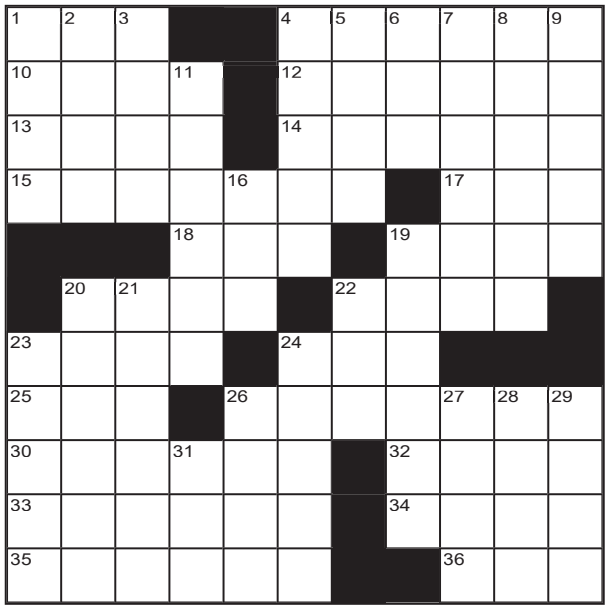
Here's a list of parts of houses—two terms for every number. The letters of the two words are in the correct order, but they overlap. All you have to do to find the terms is separate the letters.

Example: BREOAOMM — BEAM ROOM

1. GEAABLVEES _____
2. WIDNDOOOWR _____
3. CDHOIMRNMEEYR _____
4. HLIANLTELWALY _____
5. CLOVASNIETTY _____
6. SHETARATIRSH _____
7. VEGUTRATENDAR _____
8. RAMAFNTETRELS _____
9. BACESILEMINENGT _____

Crosswords

We have provided two crosswords here to sharpen your puzzle skills. Start with the one on the left, which is the easier puzzle. In this one we have provided solving aids, such as the number of words in multi-word clues. The puzzle on the right is a medium-level puzzle and the number of words in the answers have been eliminated. The second puzzle is also a thematic puzzle: the title "Smart Moves" is a hint. Have fun testing your knowledge while doing something that's good for you!



ACROSS

1. "Just as I thought!"
4. Written code
10. McKellan and Fleming
12. On land
13. El ___ (weather phenomenon)
14. Decorated anew
15. Difficulty
17. Baby goat
18. Sticky mess
19. Golf gadgets
20. Eight, in Spain
22. Auction offers
23. Religious offshoot
24. ___-advised
25. Stop ___ dime (2 wds.)
26. Whenever
30. Grate harshly
32. Author Bagnold
33. Short film trailer
34. Game cubes
35. Give support
36. Prepare leather

DOWN

1. "Am not," slangily
2. Barber's concern
3. ___ Domini
4. Monte ___
5. "Understood!" (2 wds.)
6. Advanced degree (abbr.)
7. Caught a fish on a line
8. Pyle and Banks
9. Marsh plants
11. Searched for
16. Halloween holler
19. Tipped
20. Pound's 16
21. Barton et al.
22. Journalist Nellie ___
23. ___ Rica
24. Not active
26. Primates
27. Monogram part (abbr.)
28. Flaky mineral
29. Genesis site
31. "Take Me ___ Am" (2 wds.)

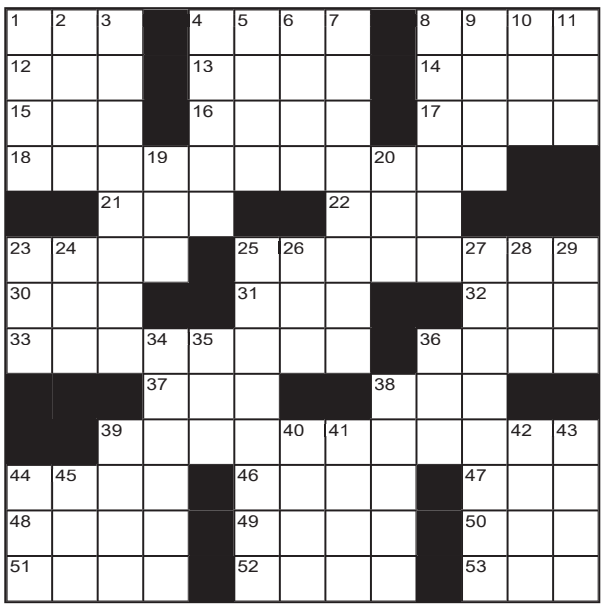
Smart Moves

ACROSS

1. Work at the checkout
4. Use an oven
8. Word with Don or San
12. Not well
13. Smithwick's and Newcastle Brown
14. Muffs it
15. Progressive Insurance spokeswoman
16. Detail, briefly
17. Weekend-preceding letters
18. SMART
21. Editor's notation
22. Shade of green
23. Like Miss Manners
25. SMARTING
30. Dyer's selection
31. Ring victories: abbr.
32. With it
33. SMART
36. Dupes
37. Aunt or uncle, e.g.: abbr.
38. Janitor's tool
39. SMART
44. He beat Maris's record in '98
46. Ness et al.
47. Actress Peeples
48. Held onto
49. Authors Hood and Beattie
50. Like Yeller
51. Caboose, to Eliza
52. Glance
53. Red Rose product

DOWN

1. "Back to the Future" bully
2. "It's ___ blur"
3. Certain photo prints
4. Fundamental
5. Dog food brand
6. Perceptive
7. Like some fantasies
8. Flight aftermath
9. Goad
10. "Entourage" agent
11. Inits. on a rubber check
19. That fellow
20. Actor Stiller
23. ___ Beta Kappa
24. Broadway stay
25. Bony
26. Whole lot
27. "That would be unfortunate"
28. Author Anaïs
29. Navigation tool: abbr.
34. Rococo
35. Rent
36. Clockwork component
38. Belarus city
39. AOL and Yahoo, e.g.
40. Alphabetic quartet
41. Letterman's onetime rival
42. Setting for an Agatha Christie mystery
43. Triumphant interjection
44. Reggae's kin
45. Not 'neath



Hidden Message Word-Find

All the words in this list, which are about thinking, can be found in the letter grid reading across, up and down, and diagonally.

When you have found them all, read the leftover letters to discover an apt quote from Tom Stoppard.

You are looking for a 43-letter phrase

I N R D E L I B E R A T E
F A O E F O R M U L A T E
M R E S D N I T D E A A S
E W E Z A I H O R R E E E
D T H C I E S H T E T T N
I P A V O S R N V I A A V
T N L R G L E A O R L N I
A O I A N C L H B C U I S
T Z C E N U I E T T C M I
E S W O A O R R C O E U O
T H C T H E A V I T P R N
N G E T C E L F E R S Y T
W I C E T A T I G O C E H

CEREBRATE
COGITATE
CONCENTRATE
CONSIDER
DELIBERATE
ENVISION
EVALUATE
FORMULATE
HYPOTHESIZE
MEDITATE
PLAN
REASON
RECOLLECT
REFLECT
RUMINATE
SPECULATE
THEORIZE

Sudoku

To complete the puzzle below, fill in the squares so that each digit 1 through 9 appears exactly once in each row, in each column, and in each enclosed nine-unit block.

	1				2		4	
8			1	7				
					6		8	1
		2	4	8		5		
9								4
		5		3	7	8		
6	4		9					
				5	8			7
	2		7				6	

3		7				4	8	
			3					
			4	5	7			1
	2	5		9		8		
		3	7		8	5		
		4		3		9	6	
1			5	2	4			
					6			
	4	9				2		6

ANSWERS

Match These

1h, 2e, 3a, 4l, 5i, 6k, 7b, 8j, 9g, 10d, 11c, 12f.

Dropline

There is always a better way to do it when someone else is doing it.

Leapfrog

1. Eaves, gable; 2. Window, door;
3. Chimney, dormer; 4. Hallway, lintel;
5. Closet, vanity; 6. Hearth, stairs;
7. Veranda, gutter; 8. Rafters, mantel;
9. Basement, ceiling.

Hidden Message

If an idea's worth having once, it's worth having twice.

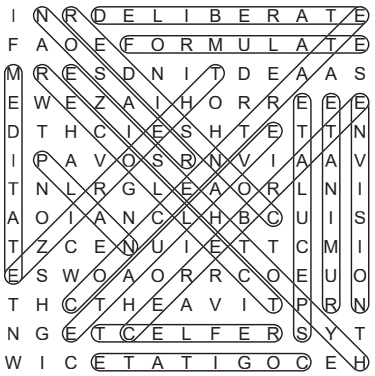
Crossword 1

A	H	A	■	■	C	I	P	H	E	R
I	A	N	S	■	A	S	H	O	R	E
N	I	N	O	■	R	E	D	O	N	E
T	R	O	U	B	L	E	■	K	I	D
■	■	■	G	O	O	■	T	E	E	S
■	O	C	H	O	■	B	I	D	S	■
C	U	L	T	■	I	L	L	■	■	■
O	N	A	■	A	N	Y	T	I	M	E
S	C	R	A	P	E	■	E	N	I	D
T	E	A	S	E	R	■	D	I	C	E
A	S	S	I	S	T	■	■	T	A	N

Crossword 2

B	A	G	■	B	A	K	E	■	J	U	A	N
I	L	L	■	A	L	E	S	■	E	R	R	S
F	L	O	■	S	P	E	C	■	T	G	I	F
F	A	S	H	I	O	N	A	B	L	E	■	■
■	■	S	I	C	■	■	P	E	A	■	■	■
P	R	I	M	■	S	T	I	N	G	I	N	G
H	U	E	■	■	K	O	S	■	■	H	I	P
I	N	S	O	L	E	N	T	■	C	O	N	S
■	■	■	R	E	L	■	■	M	O	P	■	■
■	■	I	N	T	E	L	L	I	G	E	N	T
S	O	S	A	■	T	M	E	N	■	N	I	A
K	E	P	T	■	A	N	N	S	■	O	L	D
A	R	S	E	■	L	O	O	K	■	T	E	A

Hidden-Message Word Find



Sudoku 1

7	1	6	8	9	2	3	4	5
8	3	4	1	7	5	6	9	2
2	5	9	3	4	6	7	8	1
1	7	2	4	8	9	5	3	6
9	8	3	5	6	1	2	7	4
4	6	5	2	3	7	8	1	9
6	4	7	9	2	3	1	5	8
3	9	1	6	5	8	4	2	7
5	2	8	7	1	4	9	6	3

Sudoku 2

3	5	7	1	6	2	4	8	9
4	6	1	3	8	9	7	2	5
9	8	2	4	5	7	6	3	1
7	2	5	6	9	1	8	4	3
6	9	3	7	4	8	5	1	2
8	1	4	2	3	5	9	6	7
1	7	6	5	2	4	3	9	8
2	3	8	9	7	6	1	5	4
5	4	9	8	1	3	2	7	6

Zachary & Elizabeth M. Fisher Center
for Alzheimer's Research Foundation
FDR Station, P.O. Box 220
New York, NY 10150-0220

FUNDRAISE FOR ALZHEIMER'S

Create a virtual or in-person fundraiser, go to:
ALZINFO.ORG/FUNDRAISING

A SUMMER TO REMEMBER

Fundraising Outside the Box

Arcadia (CA) High School Dance Department's annual benefit features dancers of all levels. In choosing a beneficiary, dance directors research charitable organizations and present their recommendations to be voted on. One director, a caregiver to her late mother who passed from Alzheimer's, nominated The Fisher Center Foundation.

Since 2022, James "Murr" Murray (from the show *Impractical Jokers*) and his wife Melyssa have hosted an annual fundraising event on behalf of the Fisher Center Foundation. Auctioning items such as a signed NY Giants helmet and a signed Marvel Avengers poster. See their article inside this issue of *Preserving Your Memory*® magazine.

Jamie Brock, owner of the "Coffee Rescue" food truck in Kalamazoo, MI, roasts her own coffee to raise money for her favorite charities. Proceeds from the sale of each blend benefit everything from anti-bullying programs to animal shelters. This year, she has created a vanilla roast for the Fisher Center Foundation. Read more of her story on the inside front cover of this issue.