

APRIL/MAY 2023

Campus news for faculty and staff

FINDING

HOPE THROUGH RESEARCH

AN EDUCATION IN SERVICE TO OTHERS

PAGE 4-5

INSIDE

Research is everything, everywhere, all at once

PAGE 6

New research building PAGE 8 Meet the incoming VP for research PAGE 3

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Briefs

NEWS BRIEFS

University News

RESEARCHERS SUCCESSFULLY PREVENT PEANUT ALLERGIC REACTIONS IN MICE

An allergen-specific inhibitor devised by researchers from Notre Dame and the Indiana University School of Medicine has successfully prevented potentially life-threatening allergic responses to peanuts.

"Our approach is unique because our inhibitor starts working before the allergen has a chance to trigger an allergic reaction," said **Başar Bilgiçer**, professor of chemical and biomolecular engineering.

Using a cHBI inhibitor that they designed in their previous work, the researchers prevented allergic reactions in mice with human immune cells. A single administration provided protection against peanut allergic reaction for more than two weeks. Moreover, when given shortly after the onset of symptoms, the inhibitor stopped the progression of the allergic reaction in its tracks.

The researchers developed inhibitors specifically for peanut allergy because it is the most common food allergy, with high prevalence especially in children. Nevertheless, the success of cHBI in this study paves the way for the development of other allergen-specific inhibitors.

The research will now advance to preclinical trials.

PHYSICIST MICHAEL HILDRETH APPOINTED VICE PRESIDENT, ASSOCIATE PROVOST AND DEAN OF THE GRADUATE SCHOOL

Michael Hildreth, professor of physics and astronomy and senior associate dean for research and grad-

uate studies in the College of Science, has been appointed vice president, associate provost and dean of the Graduate School.

A faculty member since 2000, Hildreth is widely recognized for his contributions to particle physics, its software infrastructure and the technology and policies of open data. He and other physicists at Notre Dame played a significant role in the Higgs boson discovery in 2012 by the ATLAS and CMS experiments at the Large Hadron Collider at CERN near Geneva. Hildreth is the co-coordinator of the software and computing research and development effort for the U.S. operations program of the CMS (Compact Muon Solenoid) experiment.

As senior associate dean for research and graduate studies in the College of Science, Hildreth directs the research and strategic planning efforts for the college and serves as its primary liaison to Notre Dame Research and the Graduate School. He has supervised more than \$2 billion in grant submissions from science faculty, the creation of two new graduate programs, the establishment of interdisciplinary and inter-college partnerships, and numerous other strategic initiatives. He has also played a significant role in the conception and planning of the new east campus research building.

"I am incredibly excited and humbled by this opportunity," Hildreth said. "I hope to build on strong existing programs to create a truly excellent set of opportunities for our graduate students and postdocs. I look forward to working with the other deans, the Graduate School team and faculty across the University to advance our research mission by bringing in the best young minds to campus while creating new initiatives to make graduate education at Notre Dame distinctive."

26 STUDENTS, ALUMNI AWARDED NSF GRADUATE RESEARCH FELLOWSHIPS

More than two dozen students — 16 undergraduates and 10 graduate students — have been named National Science Foundation (NSF) Graduate Research Fellows, the most since 2016. Another eight — six undergraduate alumni and two graduate students — were singled out for honorable mention for the award.

Established in 1952, the NSF Graduate Research Fellowship Program (NSF-GRFP) helps students in NSF-backed STEM disciplines pursue research-based master's and doctoral degrees at accredited U.S. institutions. Fellows receive more than \$40,000 in annual financial support. They also benefit from professional development and research opportunities through the program.

Tom Fuja, interim dean of the Graduate School, said, "The GRFP is one of the National Science Foundation's marquee programs. To have so many of our students succeed in such a competitive program says great things about the trajectory of Notre Dame's graduate programs and the reputation of our students, our research and our faculty."

To read the full list of fellows, find this story on news.nd.edu.







Bilgiçer

Hild

Peasl



(From left to right) **Marc Müller**, assistant professor, Department of Civil and Environmental Engineering and Earth Sciences; **Diane Desierto**, professor of law and global affairs and LL.M. faculty director, Notre Dame Law School and Keough School of Global Affairs; **Leonardo Bertassello**, postdoctoral research associate, Department of Civil and Environmental Engineering and Earth Sciences; **Lizzie Dolan**, research associate, Pulte Institute for Global Development, Keough School of Global Affairs; and **Ellis Adams**, assistant professor of geography and environmental policy, Keough School of Global Affairs, attended the 2023 U.N. Water Conference this March.

Keough School initiative is making water central to climate action

In late March, the United Nations hosted the first conference on water in 46 years. The Pulte Institute for Global Development's Sustainability and Human Rights Initiative (SHRI) was one of 200 groups invited to present its efforts to combat water insecurity.

Water remains undervalued and mismanaged, and its role in tackling climate change, migration, poverty and inequality needs greater acknowledgment. Mining, for example, is a critical sector for energy transition and often operates on Indigenous land in areas of high water scarcity.

In response, SHRI provided a practical framework at the U.N. with insights into how water-intensive

industrial projects affect the environment and communities.

"There is growing momentum for states to push for improved, coordinated water management. But what about the private sector?" said Pulte Innovation and Practice Research Associate Lizzie Dolan. "Without their buy-in, this crisis will only accelerate."

SHRI's human rights-based approach leverages the expertise of Notre Dame faculty and researchers across disciplines — engineering, global affairs, law and business — to find solutions to promoting ethical stewardship practices among industry and government.

'Burned: Protecting the Protectors'

at the DeBartolo Perform- stances (PFAS), a toxic class of fluo-

BURNED Protecting the Protectors

On Saturday, April 29, Notre Dame hosted a screening of "Burned: Protecting the Protectors" — a short documentary exploring the link between perfluorinated substances, known as "forever chemicals," and decades of cancer in the firefighting community. The screening took place ing Arts Center's Browning Cinema.

The film follows the story of Diane Cotter, whose husband, Paul, a firefighter of 27 years at the time, was diagnosed with prostate cancer. Cotter's concern led her to question

the materials used in Paul's gear.

Her persistence led her to **Graham Peaslee**, professor of physics in the Department of Physics and Astronomy. Peaslee's research found fabric used for firefighter turnout gear tested positive for the presence of per- and polyfluorinated alkyl subrine compounds.

Peaslee and his lab have found PFAS in a growing list of industrial and consumer products including cosmetics, school uniforms and fast food wrappers. His research was further explored in Notre Dame's What Would You Fight For? series.

The screening was followed by a moderated Q&A discussing the issue of PFAS in firefighter gear and the making of the film with Peaslee alongside the film's director, Elijah Yetter-Bowman, and Rob Bilott, partner at Taft Stettinius & Hollister LLP. Self Service Center Hear what's new from HR

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Barbara Johnston Jennifer Laiber **Contact Us** Natalie Davis Miller Jenna Liberto **Brittany Kaufman** Elissa Chudzicki Matt Cashore Copy Editor Electronic Media Coordinator Managing Editor Editor, Director Senior Graphic Designer Senior University University Photographer Internal Communications 631-6335 631-4753 631-4632 484-889-6890 631-0445 Photographer nataliedavismiller@nd.edu 631-6646 collins.189@nd.edu laiber.1@nd.edu echudzic@nd.edu 574-220-7288 bjohnsto@nd.edu ndworks@nd.edu jliberto@nd.edu mcashore@nd.edu Visit ndworks.nd.edu



Incoming vice president for research driven by curiosity, student success

By Jenna Liberto, NDWorks



"Research is a complement to what happens in the classroom. And it's really those two things together that I think make a world-class university like Notre Dame."

I meet **Jeff Rhoads** and his wife, Janine, in front of the Basilica on an early spring day — the kind that demands both sunglasses and a sweater. Surrounded by extended family following their niece's baptism, it feels a bit as if University photographer **Matt Cashore** and I have been invited to a family reunion — more of a "catching up" than an initial introduction.



Jeff and Janine Rhoads with their sons (far right) and Janine's family following the baptism of their niece. (Photo by Matt Cashore/University of Notre Dame)

Purdue Institute for National Security and as a professor in the School of Mechanical Engineering.

I ask what drives his passion for research.

"It's honestly a very simple answer," Rhoads says. "I'm a naturally curious person. I appreciate people who are curious about the world and want to understand it better. I think that is something inherent to the human spirit: trying to understand the world we live in, this beautiful place, and how we can make it better. And research is certainly one of the key avenues through which we can explore and make the world a little bit better place." Mechanical Engineering. His research interests include dynamics and vibration, energetic materials, additive manufacturing, micro- and nanoelectromechanical systems, and engineering education.

As we walk from the Basilica to McCourtney Hall, there's plenty of activity on campus, even on a Sunday afternoon. You can't help but sense the excitement of spring and the energy of the students enjoying it. "I would not be in academia if it wasn't for students," Rhoads shares. "Often when people think about research [in higher education], they think about a decision between whether you're going to be teaching-focused or research-focused. I find it to be a false narrative. Students are central to what we do with research at a university, whether that's undergraduate or graduate researchers. Research is part of the educational process, because research is about teaching people how to think and discover; how to be analytical and deductive and reasoned. Research is a complement to what happens in the classroom. And it's really those two things together that I think make a world-class university like Notre Dame."



Note from the Editor

Jenna Liberto, Director of Internal Communications

In our final edition of NDWorks Quarterly for the 2022-23 academic year, we sought to explore research through the eyes of scientists, engineers, project managers, artists, architects ... and children.

Research often conjures images of laboratories and microscopes. While that certainly is an important aspect, our hope is to offer you a perspective on research that strums the heartstrings as beautifully as it challenges the mind. Research, we've discovered, dazzles the eye like an artist and engages the ear like a musician. It inspires fashion and fights hunger. Research challenges our curiosity and invites us to not only explore the world around us, but make it better.

Our sincere thanks to guest writers **Jessica Sieff** (Media Relations) and **Brett Beasley**

Jeff and Janine's 6-year-old twin boys quickly make themselves at home, finding the best sticks to pick up and rocks to hop on. I find children effortlessly adapt to their surroundings, but maybe especially so on campus, where the sights, sounds and smells feel inviting and ready to be explored. Or, maybe it's because this isn't their first visit to the University.

Janine, a 2001 graduate of Notre Dame, points to her father, a 1969 graduate, as she introduces the family. Her three sisters and one brother-in-law are alumni, as well. She reminisces about her time in Farley Hall. A reunion, indeed.

Jeff, a leading mechanical engineering researcher, will begin his appointment as vice president for research on July 1. He holds three degrees from Michigan State University and joins Notre Dame from Purdue University, where he currently serves as executive director of the Rhoads will also hold an appointment as a full professor in the Department of Aerospace and

With \$244 million in research award funding last year, Notre Dame is one of the fastest-growing research institutions in the nation. Rhoads will succeed **Robert J. Bernhard**, who announced in September 2021 that he would step down from his role, a position he has held since 2007.

"I'm a naturally curious person. I appreciate people who are curious about the world and want to understand it better. I think that is something inherent to the human spirit: trying to understand the world we live in, this beautiful place, and how we can make it better. And research is certainly one of the key avenues through which we can explore and make the world a little bit better place." (Notre Dame Research) and collaborator **Joanne Fahey** (Notre Dame Research). Your stories and ideas gave us insight and inspiration.

Finally, if our cover piqued your curiosity, let us tell you more. The seemingly abstract designs are credited to Santiago Ramón y Cajal (1852-1934), widely considered the father of modern neuroscience. His collection of illustrations of the human brain are still in use today by scientists and researchers, including **Nancy Michael**, whose story you can read on pages 4 and 5.

Is art science? Or is science art? We'll leave that question to you. But, we would like to offer our certainty that the art of research is a beautiful story to tell. Research



An education in service to others

Researching the potential of trauma-informed care

live

now

ing for us, a place in the

world and a purpose," Michael said.

But the reality, she said, is too often

too many do not experience healthy,

consistent care, and cultural norms

in the United States around success

and rugged individualism can per-

help at any age is a sign of weakness

- "which is a complete contradic-

that all human nervous systems need

tion to a foundational imperative

for health and well-being across a

Adversity is embedded in the

human experience and there are dif-

ferent dimensions of experience that

can become traumas, Michael said.

What often becomes trauma evolves

in the developing or developed brain when the expectations from the envi-

ronment — consistent, responsive

sional multi-sensory experiences -

The further one's experience is

from the brain's expectations, the

and compassionate care; regular fresh air; body movement; three-dimen-

lifespan."

go unmet.

petuate the belief that asking for

By Jessica Sieff, Media Relations

As central command of the human nervous system, the brain is a symphony of billions of neural connections - each inextricably linked to every facet of our being.

Genetic, environmental, cellular and molecular factors have a profound impact during development in early childhood through adolescence. Neuroscience has shown that the brain is as sensitive as it is captivating, as quick to learn as it is vulnerable to trauma.

According to the Centers for Disease Control, 61 percent of adults have experienced at least one adverse childhood experience (ACE) in their lifetime — incidents of physical, emotional or sexual abuse; neglect; witnessing acts of violence, substance abuse or mental health issues; natural disasters; grief and loss.

Understanding the needs and expectations of the developing nervous system and the neural architecture that guides everyone from early childhood through adolescence and into adulthood is at the core of the Developmental Neuroscience and Brain Health Community-Engaged Research courses, both taught by Nancy Michael, the Rev. John A. Zahm, C.S.C., Associate Teaching Professor and director of undergraduate studies in neuroscience and behavior.

As part of these courses, Michael's students work with area organizations such as the Robinson Community Learning Center, the South Bend Center for the Homeless, the Family Justice Center of St. Joseph County, Beacon Medical and the St. Joseph County Department of Health to apply the principles of neuroscience in programs that can impact children and adults at different stages of development.

By working with these partners, t

"I'm a neuroscientist, and I believe in data. But from an individual and community healing lens, when the person in front of me has experienced trauma and then feels hopeful that things can be different-that is also a valid and Michael said. reliable measure. A lot of this work "We have a is about hope—and igniting biological imperative to have peocourage to take ple consistently car-

action."



Nancy Michael. (Photo by Matt Cashore/University of Notre Dame)

goal is to create healthier communities, develop a better understanding of human resilience and help individuals and communities live closer to the way our human nervous systems expect for wellness — a paradigm shift to how we

Trauma prevention could result in:

- 21 million fewer cases of depression
- 1.9 million fewer cases of heart disease
- 2.5 million fewer cases of obesity, and annual health care savings of billions of dollars



A preschooler shows his excitement as he works and plays at the Robinson Community Learning Center. (Photo by Barbara Johnston/University of Notre Dame)

NDWorks | April/May 2023

Research



greater the vulnerability of the nervous system — what initially begins as an adaptation to a particular environmental experience can have a domino effect within our neural circuitry, damaging brain cells in the hippocampus, impairing cognition and memory, leading to an increased risk of anxiety, depression and chronic illness in adults. This is why positive relationships become so critical in tipping the scales, and protecting individuals across all periods of life.

With all people, and especially those of us who have had a harder go of it, Michael says, the opportunity is to take what we know about the "non-negotiables" for brain health, and do our best to care for ourselves and others, in ways that all brains expect.

Health care systems have identified childhood trauma as a primary community health concern, and ACEs have been linked to at least



Nancy Michael talks with students in her class. (Photo by Barbara Johnston/University of Notre Dame)

five of the top 10 leading causes of death in the country. Prevention could result in 21 million fewer cases of depression, 1.9 million fewer cases of heart disease and 2.5 million fewer

cases of obesity, and annual health care savings of billions of dollars.

Area health care workers, social workers and law enforcement officials recognize the problems associated with





Nancy Michael teaches Brain Health: Community-Engaged Research in DeBartolo Hall. (Photo by **Barbara Johnston/**University of Notre Dame)

ACEs. What they need are solutions.

"If we wait for the hospitals, the policymakers or the system to solve these problems, more likely than not, they're more likely to get worse because we are abdicating our personal responsibilities for our own and each other's well-being," Michael said. "We construct our sense of safety from the earliest stages through the care of others. We're completely dependent upon care from others, and while caregiving behaviors change and caregiving relationships change, we are never independent from how we are perceived and how we are integrated into the broader community. We grow from being dependent to interdependent. We are obligated to one another on a biological level, far beyond what most of us can fathom."

Through a combination of neuroscience, organizational change theory and community capacity building strategies, Michael and her students work with their community partners to develop organizational strategies promoting trauma-informed care - aimed at shifting perspectives so all people get the treatment they need with dignity, regardless of appearances.

"The community work is about communicating neuroscience clearly enough so that everyone develops an understanding of what all human nervous systems expect," said

Michael. "When we have a better understanding of what the

"In this work, you can't follow a plan step by step," junior Tom Krapfl said. "You can't make a plan for the community based on your perceived needs for them. You have to listen to what they really need. It's different than any other work."

This semester, Krapfl is working with Self-Healing Communities of Greater Michiana, a coalition focused on building strategies and implementing community change models driven by neuroscience to address trauma, healing and human resilience in area communities and organizations such as South Bend's Center for Hospice Care.

Krapfl provides information about services available through hospice care, bridging what he called a "knowledge gap" between what people know and what resources are actually available to them. He said he has been genuinely moved by his coursework with Michael, working with individuals going through the grieving process.

"It's emotional work, seeing the kind of support caregivers need," he said.

Senior Lydia Liang works with the Robinson Community Learning Center's preschool program, interacting with children ages 3-5, and said she's seeing a lot of children dealing with ACEs. They come to the RCLC with different experiences. Some are children of refugees, some are immigrants and others are from within the local community.

"They're so young and already they have gone through so much," she said. "But there's an opportunity to rewrite the stories these communities are used to. Seeing how many people live such a different life, it has put an emphasis on how important this work is. Every little thing contributes in some way." Michael said: "Liang's project this semester involves incorporating neuroscience learnings into informational materials sent home to parents to educate them on neuroscience and early childhood brain development. "There's not a single strategy that's going to be universally adoptable. I'm a neuroscientist, and I believe in data. But from an individual and community healing lens, when the person in front of me has experienced trauma and then feels hopeful that things can be different—that is also a valid and reliable measure. A lot of this work is about hope-and igniting courage to take action."



Senior Lydia Liang plays with children at the Robinson Community Learning Center. (Photo by Barbara Johnston/University of Notre Dame)

nervous system needs, we do a better job meeting those expectations for ourselves and for the people in our lives."

Frank Spesia, PACEs (positive and adverse childhood experiences) coordinator for the St. Joseph County Department of Health, said students taking part in Michael's courses are a "valuable resource."

"People are poorly educated in causality," Spesia said. "Neuroscience, and this work with Nancy's students, helps to connect the dots and show how things don't happen in a vacuum. The thing we're selling is so obvious when you hear it. We're asking people to be nicer to each other."

The course teaches students how to apply neuroscience to real-world issues in communities with varying needs, but the education goes much deeper: teaching them how to use their education in service to others.

Research is everything, everywhere, all at once



Matt Hawkins, left, founder and creative producer of Notre Dame's New Works Lab, and Jorge "Jay" Rivera-Herrans pose together. (Photo provided)

New musical: 'My Heart Says Go'

"My Heart Says Go" premiered at the South Bend Civic Theatre on April 14. The musical is the collaboration of 2020 graduate Jorge "Jay" Rivera-Herrans and Matt Hawkins, associate professor in the Department of Film, Television, and Theatre and founder and creative producer of Notre Dame's New Works Lab. What started as a class project in 2018 and became the musical "Stupid Humans" eventually morphed to the new musical production with the help of Notre Dame Research and a Faculty Research Support Program grant. Hawkins wrote the dialogue and Rivera-Herrans wrote the music and lyrics. The grant supported a professional workshop and

the development of a National Spectrum Strategy, which will provide a long-term plan to meet both commercial and federal spectrum needs.

Notre Dame, Sierra Space sign agreement to advance space research and exploration

Notre Dame and Sierra Space signed a memorandum of understanding to facilitate future collaborations that advance space research and exploration.

A leading commercial space company, Sierra Space is building "the first end-to-end business and technology platform in space to benefit life on Earth." The company is developing the transportation sys tems and in-orbit infrastructure that will enable researchers and engineers to manufacture breakthrough products and innovations only made possible in microgravity. Tengfei Luo, the Dorini Family Professor of Energy Studies in the Department of Aerospace and Mechanical Engineering, said the partnership will lead to innovative and applicable discoveries. Luo, who is currently leading a project in collaboration with the International Space Station, emphasized that some research conducted in space is not possible in Earth-based labs.

of faculty fellows, top doctoral candidates and undergraduate scholars to study questions that require a joint focus, benefit from sustained research and discussion, and advance our understanding on core issues that affect our ability to lead valuable, meaningful lives.

Research

Strong Suits is led by **Meghan Sullivan**, NDIAS director and the Wilsey Family College Professor of Philosophy, and **Michael Schreffler**, associate professor of art history and the associate dean for the fine arts in the College of Arts and Letters.

Throughout the semester, students analyzed a single case study — Thom Browne — from many different disciplinary lenses. Topics of discussion included how garments go from design to construction, how journalists cover developments in fashion, how design generates its own distinctive philosophical and cultural language, the business model behind growing a major luxury brand, and the symbiosis among athletics, celebrity and the runway. Students also had the opportunity to travel to New York City for Fashion Week and attended a Thom Browne fashion show.

The course's final project challenged students to produce their own creative work inspired by something they discovered — a design, an article on fashion, a business plan, a performance — and turn their curiosity into something that can contribute to the public conversation.

Using data to feed the world

At the end of 2022, according to the United Nations, the world's population reached 8 billion people. One in 10 of those people suffers from hunger and one in three lacks regular access to adequate food.

Jaron Porciello, an associate professor of the practice at the Lucy Family Institute for Data and Society, said: "We already grow enough food to feed the world. It is possible to end hunger. But people have to eat every day, and hunger intersects with complex issues like poverty and climate change. This means there is no direct path. What we need is not a one-sizefits-all solution. We need a broad set of interventions, and we need the data to make those decisions possible."

Thanks to a grant of nearly \$5 million from the Bill & Melinda Gates Foundation, Porciello is assembling the right team and the right tools to capture that data.

Part of the new funding will support the Juno Evidence Alliance, an effort to foster collaboration among nonprofits doing agricultural data collection, data analysis firms and governments funding development work. Juno will make it possible to make higher-quality, more evidence-based decisions about agriculture.

Purifying water with the power of the sun

The World Health Organization reports that today nearly 2 billion people regularly consume contaminated water. It estimates that by 2025 half of the world's population could be facing water scarcity. Many of those affected are in rural areas that lack the infrastructure required to run modern water purifiers, while many others are in areas affected by war, natural disasters or pollution. László Forró, the Aurora and Thomas Marquez Professor of Physics of Complex Quantum Matter in the Department of Physics and Astronomy, and his lab are addressing this problem.

They created a water purifier, described in the Nature partner journal Clean Water, that is powered by a resource nearly all of the world's most vulnerable people have access to: the sun.



Nick Laneman, director of SpectrumX, co-director of Notre Dame's Wireless Institute and professor of electrical engineering, in a SpectrumX lab. (Photo by Matt Cashore/University of Notre Dame)



presentation as well as other professional artists who collaborated with Rivera-Herrans and Hawkins.

Notre Dame hosts a listening session on national radio spectrum strategy

The National Telecommunications and Information Administration (NTIA) held a listening session on campus April 11 to garner broad input about future spectrum allocations. Radio frequencies are allocated to broadcasting, navigation (GPS) services and public safety networks, but the increasing demands of commercial wireless, especially 5G and Wi-Fi networks, as well as the greater needs of other applications, require paradigm shifts in the management of the radio spectrum and in coordination of research and development around it. The April 11 listening session, and another held on March 30 in Washington, D.C., informed the NTIA in

NDIAS offers Thom Browne class

The Notre Dame Institute for Advanced Study (NDIAS) offered a spring 2023 class on Thom Browne, the 2022-23 artist-in-residence at the institute and one of the world's leading fashion designers. The NDIAS convenes an interdisciplinary group

Undergraduate student Ian Coates poses with designer and alumnus Thom Browne. (Photo by Barbara Johnston/University of Notre Dame)



Meet Notre Dame's new team of research project managers

The University is building a new kind of support team to work alongside principal investigators throughout the research lifecycle.

By Brett Beasley, Notre Dame Research

The University of Notre Dame is building a new kind of support team to work alongside principal investigators (PIs) throughout the research lifecycle.

"If you're a researcher, a growing list of grants and projects is a great thing. It means more funding and more resources. But it also means more tasks to manage and more rules to comply with - especially since the regulatory landscape is always changing," Nicole Quartiero said. "As researchers' portfolios grow, they often find a need for additional resources to support and sustain that growth. Previous approaches may no longer be effective at this stage."

That is why Notre Dame Research recently added a team to offer customized support and help to facilitate the research administration processes. And Quartiero, who joined in May 2022, leads the team as Notre Dame's first-ever director of research project management.

The RPM team is part of Notre Dame Research's larger operations and facilities team led by Melanie **DeFord**, assistant vice president for research. DeFord explained that "new ideas and groundbreaking discoveries require an

"Regardless of the stage you think you will need the RPM team's support, the best results come from engaging with the team early and often." **Nicole Quartiero**

array of administrative and operational tasks. These include procuring equipment, staffing a lab, storing and managing data, gaining approvals and complying with regulations, just to name a few.

The RPM team brings a wealth of added skill to the research team. Research project managers can facilitate these tasks to ensure they are done and done well — while keeping the administrative burden as far as possible from the researchers, and keeping the projects on schedule."

How the **RPM** team helps researchers

Quartiero said that the mention of "project management" may conjure up images of Gantt charts, process maps and RACI matrices. But the RPM team focuses not on a set of tools but on "getting things done." "We never say 'I don't know' or 'that's not my job," she said. "If we encounter something we truly cannot do, we will find someone who can. Faculty members are subject matter experts in their field of research. RPMs complement that expertise with their expertise in research administration and their can-do attitudes."

Quartiero offered a few examples of when a researcher might seek out support from a research project manager.

"Maybe a PI received a new award and needs to hire or set up infrastructure. Or maybe they are unfamiliar with new rules or reporting systems," she said. "They don't need to suffer in silence. We are available to give them as much or as little help as they want. We bring an array of options and let them pick what level of support would help remove the unwanted noise from their research."

The RPM team can be hired at any point during a research project's lifecycle. But Quartiero said it is best to engage the team at the proposal development and planning stage when possible.

"Working with us from the beginning means it might be possible to integrate the RPM team directly into a proposal plan and to define the scope and costs early on," she said. "Regardless of the stage you think you will need the RPM team's support, the best results come from engaging with the team early and often."

A trusted delegate

One RPM recently filled the gaps and helped a PI rehire when he lost a key staff member. Another stepped in to help when a researcher was dealing with an issue related to sub-award funding with partner universities.

Recently, Michael Ferdig, a professor in Notre Dame's Department of Biological Sciences, sought help from the RPM team when a big grant deadline was looming.

"It was down to the wire," he said. The mood was "very tense and it took a heroic effort from a lot of folks."

He said of his RPM, Katie Cybulski: "She is truly 'gold' to me for her knowledge of all the moving parts and ability to connect with folks ... to keep the hundreds of pieces flowing from various institutions and PIs into the final document."

For Quartiero, these examples show that the key to a RPM's work is trust.

"In order for us to remove PIs' worries, we have to act as their delegate," Quartiero said. "And that's really about trust. It's not something we build by following just one process. We build it by meeting PIs where they are and by making their unique needs and challenges our own."

Quartiero said the best way to request help from the RPM team is to email ndrpm@nd.edu. A member of the team will reach out to schedule an introduction and a feasibility discussion.



Nicole Quartiero Director of Research Project Management

Katie Cybulski Research Project Manage

Kathy Knoll Research Project Manage



The new research facility, McCourtney Hall Building II, will be completed in late 2024



RESEARCH IN THE FOLLOWING AREAS WILL OCCUR IN THE BUILDING:





Genomics



Environmental (water, soil, plants, etc.)



Tissue

Translational

research-fighting

rare diseases, promoting global

health, preventing

lead poisoning, etc.



Vector-borne disease

The various spaces of the building were configured based on discussions with researchers who work in the areas. The building will provide research space that is flexible and collaborative, yet specific enough so that those who work in any of the areas noted here have what they need to be successful.

OTHER KEY FEATURES OF THE BUILDING:

41

The building is equipped with 41 fume hoods

The building contains 11 temperature-controlled cold rooms for the storage of various types of samples 30%

ng east of McCourtney Hall. (Photos by Matt Cashore/University of Notre Dam

The building contains 30 percent shell space so that as the needs change and more researchers are hired, new lab space can be created