PhD student-advisor pairs awarded HHMI Gilliam Fellowships for research, inclusion initiatives

August 24, 2021
Lisa Arendt, DVM, PhD

Two student-advisor pairs at UW–Madison have received Gilliam Fellowships for Advanced Study from the Howard Hughes Medical Institute (HHMI).

HHMI Gilliam Fellowships have a twofold mission: to support underrepresented PhD students to pursue scientific research and to foster more inclusive academic environments at institutions that are committed to advancing diversity and inclusion in the sciences.

UW–Madison PhD student Abbey Williams and advisor Lisa Arendt, and PhD candidate Aldo Arellano and advisor Kerri Coon, are 2021 fellows with HHMI. The students will join a strong community of early-career scientists, while the advisors will participate in mentorship development training. Both will receive funding to implement diversity and inclusion initiatives on campus.

David Beebe awarded D2P innovation development award

June 23, 2021
David Beebe, PhD

Congratulations to David Beebe, Professor of Pathology and Laboratory Medicine & Biomedical Engineering, and his students Duane and Terry Juang on receiving one of this year’s Discovery to Product (D2P) awards. D2P’s annual State Economic Engagement and Development (SEED) program helps to advance the innovative research and commercialization of technologies developed by companies founded by UW–Madison researchers. SEED program applications are evaluated on technical innovation, interest to a broad economic sector and potential to benefit Wisconsin’s industrial and economic development in the near-term. David Beebe will work with Flambeau Diagnostics to develop a rapid, point-of-care molecular diagnostic test for infectious diseases such as COVID-19.

UW-Madison researchers receive NIA funding to study gut health in relation to Alzheimer’s Disease

August 11, 2021
Barb Bendlin, PhD

The age-related processes that contribute to Alzheimer’s disease development remain largely unknown, but a team of University of Wisconsin–Madison researchers believes that the composition of an individual’s gut microbiome may contribute to brain changes that lead to neurodegenerative diseases. Barbara Bendlin, PhD, Federico Rey, PhD, and Tyler Ulland, PhD, recently received funding from the National Institutes of Health (NIH) to support their project, “Gut barrier function in Alzheimer’s disease.” The 5-year grant is expected to total $2,429,319.

Gut microbiome is a term used to describe the trillions of microorganisms that live in an individual’s intestinal tract. This includes mainly bacteria, but also viruses, protozoa and fungi.

Bendlin, Rey and Ulland have been studying the role of the gut microbiome in the development of Alzheimer’s disease for over five years. They previously found that people with Alzheimer’s disease dementia had reduced diversity, or fewer kinds of microorganisms, in their gut microbiota compared to people of the same age who were cognitively unimpaired. The researchers also found that the abundance of certain bacteria differ between people with and without dementia.

Stem cell project to create new model to study brain development and Down syndrome

October 11, 2021
Anita Bhattacharyya, PhD

University of Wisconsin–Madison Waisman Center researchers are creating a new approach to study how changes to brain development in the womb result in
intellectual disability in people with Down syndrome.

Their efforts, funded by an $11 million Transformative Research grant from the National Institutes of Health, may also reveal how brain development in individuals with Down syndrome differs from typically developing individuals, identify features that will help understand their intellectual disability, and find potential targets for therapy. They will also address questions that remain unanswered about brain development overall.

“Although Down syndrome is quite prevalent and we know a lot about individuals with Down syndrome — their characteristics, their features; we even know that they will develop Alzheimer’s disease — what we don’t have a good understanding of is how brain development in Down syndrome is different,” says Anita Bhattacharyya, professor of cell and regenerative biology. “We have surprisingly little information about this.”

Christian Capitini and team awarded UW research forward grant

June 22, 2021
Christian Capitini, MD

Congratulations to Principal Investigator Christian Capitini, MD, associate professor, Hematology, Oncology, and Bone Marrow Transplant, along with co-PIs Paul Sondel, MD, PhD, professor, Hematology, Oncology, and Bone Marrow Transplant, and Reinier Hernandez, PhD, assistant professor in the Department of Medical Physics, whose project, “Integration of a novel solid tumor immunotherapy platform: CAR T cells, targeted radiotherapy and cytokine therapy,” was selected for Research Forward’s inaugural round of funding. The Research Forward initiative is hosted by UW–Madison’s Office of the Vice Chancellor for Research and Graduate Education and is supported by the Wisconsin Alumni Research Foundation.

Capitini’s project is one of 11 chosen for funding out of 89 submitted from across campus. The two-year, $500,000 award brings together experts in chimeric antigen receptor (CAR) T cells, targeted radiation therapy, and in situ vaccination to develop a novel platform to generate curative CAR T responses against a pediatric solid tumor. Read more about this project.

Disrupted biochemical pathway in the brain linked to bipolar disorder

April 1, 2021
Michael Cahill, PhD

Bipolar disorder affects millions of Americans, causing dramatic swings in mood and, in some people, additional effects such as memory problems.

While bipolar disorder is linked to many genes, each one making small contributions to the disease, scientists don't know just how those genes ultimately give rise to the disorder’s effects.

However, in new research, scientists at the University of Wisconsin–Madison have found for the first time that disruptions to a particular protein called Akt can lead to the brain changes characteristic of bipolar disorder. The results offer a foundation for research into treating the often-overlooked cognitive impairments of bipolar disorder, such as memory loss, and add to a growing understanding of how the biochemistry of the brain affects health and disease.

The Cahill lab and their colleagues at Michigan State University published their findings March 24 in Neuron.
Dr. Loren Denlinger named Vice Chair for Clinical and Translational Research

February 18, 2021
Loren Denlinger, MD, PhD

Loren Denlinger, MD, PhD, the inaugural William W. and Judith H. Busse Professor of Allergy and Asthma Research, was named Vice Chair for Clinical and Translational Research; a new position in the Department of Medicine.

In his new role, Dr. Denlinger will promote and support the mission of discovery and will help train the next generation of scientists who will contribute to those breakthroughs with a focus on clinical, translational and health service-oriented researchers. In doing so, he will serve as the primary departmental liaison to the Office of Clinical Trials and the Clinical and Health Informatics Institute at the UW School of Medicine and Public Health and guide the recruitment and professional development of our clinical, translational and health service-oriented faculty.

Treating Parkinson’s Disease with Individualized Brain Cell Grafts

March 2, 2021
Marina Emborg, MD, PhD

Parkinson’s disease is a progressive nervous system disorder that affects movement. The signs and symptoms can be different for everyone, but can include tremors, rigid muscles, and loss of automatic movements. Additional problems may include depression, cognitive difficulties, sleep problems, and more. Patients are typically treated with drugs like L-DOPA to increase dopamine production. However, the effect does not last, and patients are back to not having enough dopamine and facing side effects from the drug. Now, researchers at the University of Wisconsin (UW)-Madison report they have grafted neurons grown from monkeys’ own cells into their brains and relieved the debilitating movement and depression symptoms associated with Parkinson’s disease.

Their findings were published in the journal Nature Medicine in a paper titled, “Autologous transplant therapy alleviates motor and depressive behaviors in parkinsonian monkeys.”

“We evaluated through observation and clinical tests how the animals walk, how they grab pieces of food, how they interact with people—and also with PET imaging we measured dopamine production,” explained Marina Emborg, MD, PhD, a Parkinson’s researcher at UW-Madison’s Wisconsin National Primate Research Center. “We wanted symptoms that resemble a mature stage of the disease.”

David Evans, PhD, awarded NIH grant with Christian Capitini, MD

April 30, 2021
David Evans, PhD

David Evans, PhD, Department of Pathology and Laboratory Medicine, was recently awarded a new R01 grant from NIH along with Co-Investigator Christian Capitini, MD, associate professor, Hematology, Oncology, and Bone Marrow Transplant. This five-year award (with Year 1 funding in the amount of $764,536), is titled “Harnessing adaptive NK cell transfer to deplete viral reservoirs.” The proposed study, funded by the National Institutes of Health/National Institute of Allergy and Infectious Diseases, will reveal the extent to which viral peptides presented on the surface of HIV-infected cells stimulate natural killer (NK) cell responses through activating receptors. It will provide an important proof-of-concept for the development of NK cell-based therapies to eradicate HIV-1 reservoirs in chronically infected individuals.

UW-Madison leads DoD-funded effort to restore vision to injured service members and people with disease

December 11, 2020
David Gamm, MD, PhD

A team of researchers led by University of Wisconsin-Madison professors David Gamm and David Warra, a team of researchers led by University of Wisconsin-Madison professors David Gamm and David Warra, received a five-year grant from the United States Department of Defense’s (DoD) Ocular Regenerative Medicine Program (ORMP) to develop a therapy to recover vision for wounded combatants and for the millions of people in the US and around the world who suffer from blinding eye diseases.

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Madison professor David Gamm is developing a transplantable retinal patch intended to help restore vision to military personnel blinded in the line of duty and to treat individuals with degenerative eye diseases such as macular degeneration.

The technology, funded by a U.S. Department of Defense grant exceeding $5 million, will be based on a system in which human induced pluripotent cells are used to generate light-responsive eye cells called photoreceptors along with the cells that support them, called retinal pigment epithelium.

“This patch would, in theory, replace the dead photoreceptors and RPE, and give the person another chance to see,” says Gamm, director of the McPherson Eye Research Institute and professor of ophthalmology and visual sciences at the UW School of Medicine and Public Health.

James Gern, MD, awarded U19 opportunity funds from NIAID

May 9, 2021
James Gern, MD

James Gern, MD, professor, Allergy, Immunology, and Rheumatology, was recently awarded U19 Opportunity Funds from the National Institutes of Health/National Institute of Allergy and Infectious Diseases (NIAID) via the University of California-San Diego. His project, titled “AADRC RNA sequencing core for airway epithelial cells,” is a collaboration with program members Nora Barrett, MD, of Brigham and Women’s Hospital and Steven Ziegler, PhD, of Benaroya Research Institute. The team hypothesizes that combining and analyzing bulk and single cell RNA sequencing data sets from multiple centers will identify a comprehensive epithelial cell transcriptome with multiple uses for AADRC investigators. The one-year project was funded in the amount of $46,539 total project costs.

Christian Capitini and Peiman Hematti awarded new R01 NHLBI grant

September 15, 2021
Peiman Hematti, MD

Congratulations to Principal Investigator Christian Capitini, MD, associate professor, Hematology, Oncology, and Bone Marrow Transplant, along with Co-PI Peiman Hematti, MD, professor, Department of Medicine, who were recently awarded a new NIH R01 grant from the National Heart, Lung, and Blood Institute (NHLBI) in the amount of $2.01 million. In this four-year project titled “Exosome educated monocytes for acute radiation syndrome,” they will use mesenchymal stromal cell-exosomes to generate and improve the efficacy of radioprotective cells and define their mechanism of radioprotection in preclinical models of acute radiation syndrome.

Study identifies how lung cells sense chitin, an allergen in fungi and shellfish

July 22, 2021
Bruce Klein, MD

Some of the world’s most common allergy-inducing critters, from dust mites to fungi to shellfish, have one thing in common: chitin, the polymer that makes tough cell walls in mushrooms, fungal spores and crunchy lobster exoskeletons.

A whiff of chitin triggers an immune response in the lungs, likely to prepare them to fend off fungal spores. But in some people, that reaction goes haywire, leading to dangerous inflammation and asthma. Despite these critical health consequences, scientists have not known just how the lungs sense and respond to chitin.

In a new study, University of Wisconsin–Madison researchers report discovering the first known receptor for chitin in mammals. Known as LYSMD3, the protein triggers an immune response in lung cells when it binds to chitin or chitin-bearing fungal spores.

“Chitin is ubiquitous in our environment. And it’s become apparent that chitin is a very potent allergic inflammatory stimulus,” says Bruce Klein, a UW–Madison professor of medical microbiology and immunology, who helped lead the new study. “But one of the unsettled questions has been what is the receptor that senses chitin? This has been something that the scientific community has been chasing for a long time.”
Fasting is required to see the full benefit of calorie restriction in mice

October 18, 2021
Dudley Lamming, PhD

Over the last few decades, scientists have discovered that long-term calorie restriction provides a wealth of benefits in animals: lower weight, better blood sugar control, even longer lifespans.

Researchers have largely assumed that reduced food intake drove these benefits by reprogramming metabolism. But a new study from University of Wisconsin–Madison researchers finds that reduced calorie intake alone is not enough; fasting is essential for mice to derive full benefit.

The new findings lend support to preliminary evidence that fasting can boost health in people, as trends like intermittent fasting continue to hold sway. These human and animal studies have added to the growing picture of how health is controlled by when and what we eat, not just how much.

The research was led by UW–School of Medicine and Public Health metabolism researcher Dudley Lamming, his graduate student Heidi Pak and their colleagues at UW–Madison and other institutions. The team published their findings Oct. 18 in Nature Metabolism.

Metabolic switch may regenerate heart muscle following heart attack

April 15, 2021
Ahmed Mahmoud, PhD

Research from the University of Wisconsin–Madison finds that a new therapeutic approach for heart failure could help restore cardiac function by regenerating heart muscle.

In a study recently published in the journal Circulation, the UW team describes its success in improving, in a mouse model, the function of heart muscle by temporarily blocking a key metabolic enzyme after a heart attack. This simple intervention, the researchers say, could ultimately help people regain cardiac function.

“Our goal was to gain new understanding of how the heart can heal itself following injury at the molecular and cellular level and see if there was a way to restore cardiac function to an earlier state,” says UW–Madison’s Ahmed Mahmoud, professor of cell and regenerative biology in the School of Medicine and Public Health. “We know that a metabolic switch occurs in the heart following birth, which contributes to the loss of capacity for cardiac regeneration. But we didn’t know which mechanisms regulate that metabolic switch. So that’s where we started our research.”

UW surgeon invents one of kind operating room light

October 15, 2020
Josh Mezrich, MD

A top UW Health transplant surgeon might as well call Shark Tank. He’s invented something that can safely light up any operation.

“You know when we do surgeries we wear a headlight on our heads and the headlight does provide light into the field, which is good but it’s so painful to wear, it kills your neck and your back.” Dr. Josh Mezrich said. After decades of seeing his O.R. team walk around in pain, about two years ago, he began designing the Mezlight — a bed side-rail attached LED snake light.

Jamey Weichert, Zachary Morris leading a team to develop new way to help immune system fight against cancer

January 7, 2021
Zachary Morris, MD, PhD

Working in mice, the team led by Jamey Weichert, PhD, assistant professor of radiology, and Zachary Morris, MD, PhD, professor of human oncology, is using targeted radionuclide therapy, which delivers a low dose of cell-weakening radiation specifically to cancer cells, followed by immunotherapy, which helps the immune system to recognize and destroy cancer cells. This animal research is laying the foundation for future human and veterinary clinical trials.

“This has a huge advantage because we can target
tumors systemically, regardless of number and anatomic location,” explains Weichert. “I often describe it as scuffing up the tumor with this low amount of radiation to make it easier for the immune system to recognize it.”

**Pathology Faculty help Dane County schools to re-open during pandemic**

*June 14, 2021*

*David O'Connor, PhD and Shelby O'Connor, PhD*

UW-Madison researchers, including Shelby O'Connor and David O'Connor, taught local school nurses and personnel how to do rapid testing for the Covid-19 virus. Having a fast and reliable test on-site allowed schools to react quickly to possible cases and to prevent spread.

**Dave O'Connor and colleagues participate in COVID-19 virus variant surveillance**

*February 10, 2021*

*David O'Connor, PhD*

Pathology Professor Dave O'Connor and colleagues at the AIDS Vaccine Research Laboratory are keeping watch for the arrival of virus variants which may be more adept at infecting people or possibly making vaccines and common treatments less effective. They have sequenced virus from more than 3,200 infections and have posted their surveillance results on line as soon as the sequences are complete. Dr. O'Connor was one of several scientists consulted by Wisconsin Senator Tammy Baldwin prior to her introduction of a bill to fund an expansion of virus genome sequencing in the US.

**Professors Dave and Shelby O'Connor are key participants in 4th HIVR4P Conference**

*February 1, 2021*

*David O'Connor, PhD and Shelby O'Connor, PhD*

Dr. Dave O'Connor is one of five global co-Chairs of the 4th HIV Research for Prevention (HIVR4P) Conference, and Dr. Shelby O'Connor is co-Chair of a session on Unconventional Immunity. HIVR4P is the world’s only scientific meeting dedicated exclusively to biomedical HIV prevention and is organized by the International AIDS Society (IAS). The conference focuses on the latest in biomedical HIV prevention research and implementation and includes the world’s leading HIV prevention researchers, implementers and advocates, along with the latest science in 29 research categories. The virtual conference being held between Jan. 27 – Feb. 4, 2021.

**Ozioma Okonkwo appointed to multiple committees**

*October 12, 2021*

*Ozioma Okonkwo, PhD*

Ozioma Okonkwo has been appointed to serve on numerous committees over the last few months:

- The NIH-NINDS Multiple Etiology Dementias (MED) committee for the 2022 NIH Alzheimer’s Disease-Related Dementias (ADRD) Summit. When approved by the NINDS Council and accepted by the NAPA Council, recommendations by the MED committee and the ADRD Summit become implementation milestones in the National Plan to Address Alzheimer’s Disease.
- The Chair of the Diversity Committee for the UW Cellular & Molecular Pathology Graduate Program
- A member of the new SPMH Research Professor Title Track Appointments and Promotions Committee. This is a 3-yr term.

**The identities of enzymes: study further defines the function of a potential target for Alzheimer’s therapy**

*April 20, 2021*

*Luigi Puglielli, MD, PhD*

A new study from the lab of UW-Madison professor
of medicine Luigi Puglielli, MD, PhD, opens a door to potential treatments for diseases of age, such as Alzheimer’s disease, by defining the roles of two enzymes that are imperative to protein production. “Endoplasmic reticulum acetyltransferases Atase1 and Atase2 differentially regulate reticulophagy, macroautophagy and cellular acetyl-CoA metabolism” was published in April in the journal Communications Biology.

In Puglielli’s present study, he focuses on the differences between these two enzymes in hopes of identifying one over the other as a potential therapy target. “In this work, we have shown that targeting ATase1 alone can help prevent Alzheimer’s disease in a mouse model,” says Puglielli, who is a professor in the Department of Medicine and an investigator at the Waisman Center and the Madison VA Medical Center. “This is helpful because it may allow us to target just one enzyme instead of both for therapeutic benefit in Alzheimer’s disease and other diseases of age.”

Dr. Miriam Shelef: Banking on patient samples to advance COVID-19 research

November 20, 2020
Miriam Shelef, MD, PhD

In the spring of 2020, when instruction moved online and most research became remote, efforts picked up at the UW Carbone Cancer Center Translational Science Biocore BioBank. Researchers across campus began pivoting their studies to address the SARS-CoV-2 virus, which causes COVID-19. To do their research, they needed samples from patients.

They could find those samples at the TSB BioBank.

UW School of Medicine and Public Health immunologist Miriam Shelef, who focuses on better understanding rheumatoid arthritis to inform clinical care and treatments, was one of those researchers.

To support COVID-19 research efforts on campus, she started sending emails in late March to see if anyone at UW–Madison was banking plasma or other blood products from patients recovering from the virus. Her group had previously established a biobank, or biological repository, of serum, plasma and other blood products from rheumatoid arthritis patients.

New CBE chair plans to focus on infrastructure, expansion and faculty diversity

July 9, 2021
Eric Shusta, PhD

In July 2021, the Department of Chemical and Biological Engineering at the University of Wisconsin-Madison welcomed Howard Curler Distinguished Professor Eric Shusta as its new chair. He will be the second person to hold the Robert Byron Bird Department Chair (the first being the outgoing chair, Kreuz-Bascom Professor Regina Murphy).

Shusta spent his early academic career at UW-Madison, where he received his bachelor's degree in chemical engineering in 1994. He then returned to UW-Madison as an Assistant Professor in 2001. Over time, he's watched the department continuously evolve and adapt to a changing and expanding field of study. As chair, he plans to help the department maintain its world-class standards and continue to push into new territory.

The Lab Report: UW researchers eye neural circuits in retina to treat blindness

March 10, 2021
Raunak Sinha, PhD

Studies on the retina at Sinha Lab at the University of Wisconsin could provide valuable insight for blindness treatment, UW senior and Undergraduate Research Intern Paul Derr said.

Raunak Sinha, who is the principal investigator at the Sinha Lab, said macular degeneration is the most common form of blindness and other diseases causing blindness also come with major living impairments.

Professor Igor Slukvin and colleagues use gene-editing technologies to advance studies on HIV cure

November 18, 2020
Igor Slukvin, MD, PhD

Pathology and Lab Medicine Professor Igor Slukvin and colleagues at UW-Madison’s Wisconsin National Primate Research Center and Schools of Veterinary Medicine and Medicine and Public Health have employed CRISPR to
edit the DNA in newly fertilized embryos of cynomolgus macaque monkeys. The group studied a mutant form of the CCR5 gene that has been associated with resistance to HIV infection in humans.

Dr. Judith Smith recognized for immunology research

FEBRUARY 6, 2020
Judith Smith, MD, PhD

CMP Trainer Judith Smith, MD, PhD (Associate Professor, Division of Allergy, Immunology & Rheumatology) was recently recognized for her ongoing research in immunology and selected for the highly competitive Vilas Associates Award by the University of Wisconsin Office of the Vice Chancellor for Research and Graduate Education. Recipients of the award are chosen by divisional Research Committees and granted a flexible research fund for each of two fiscal years.

Paul Sondel, MD, PHD, wins ACTS ’Distinguished Investigator Award’

April 7, 2021
Paul Sondel, MD, PhD

Paul Sondel, MD, PhD, professor, Hematology, Oncology & Bone Marrow Transplant, has been named the 2021 Edward H. Ahrens Junior Distinguished Investigator Award for Patient-Oriented Research by the Association for Clinical and Translational Science (ACTS). ACTS, a non-profit membership association of translational scientists from the nation’s leading academic medical centers, honored Sondel and fellow award recipients at Translational Science 2021 on April 2.

Sondel, a physician-scientist, has been a prominent part of the pediatric cancer program at the University of Wisconsin for decades. Among other leadership positions, he was the head of the pediatric hematology, oncology, and bone marrow transplant program for 26 years. He’s also lent his expertise to numerous national cancer organizations, and he is an internationally recognized expert in the field of cancer immunotherapy.

Building a safer version of SARS-CoV-2 for research

February 12, 2021
William Sugden, PhD

When the state-wide Stay-At-Home order for Wisconsin was issued back in March of last year, all of us in the Sugden Lab had to pause our experiments and shut down all lab activities.

The Sugden Lab is no stranger to viruses. Before the pandemic, our research focuses on Epstein-Barr Virus (EBV), a virus most well-known for causing infectious mononucleosis (mono) as well as several types of cancers. When the pandemic hit, our mentor, Bill Sugden, proposed that we pivot the skills we have been using in studying EBV to contribute to the worldwide effort on SARS-CoV-2 research. All of us agreed, and we spent our time in lockdown reading up on coronaviruses and discussing experiment ideas. When the university allowed research activities to resume, we came back to lab with a new project dealing with the new, pandemic-causing virus.

CMT biomarkers for future treatments

October 19, 2021
John Svaren, PhD

A new test may spur advances in drug discovery for a rare and debilitating neurological disorder. Charcot-Marie-Tooth disease, a rare inherited neurological disorder, affects more than 2.8 million people around the globe. While the condition is not as severe as the related ALS, its range of symptoms – muscle pain, hand tremors, nerve pain, numbness and muscle atrophy in the arms and legs – worsen slowly over time. There is currently no cure or direct treatments for CMT. The treatments available are supportive in that they help relieve symptoms rather than address the condition’s root cause. Because of CMT’s slow progression and
the need for long and expensive clinical trials, it is a challenge for pharmaceutical companies to invest in new treatments when they become available. John Svaren, PhD, a professor of comparative biosciences and a Waisman investigator, is working on ways to change that trajectory for CMT research and possible treatments.

**UW researchers work amidst coronavirus pandemic to develop vaccine**

April 7, 2020

Adel Talaat, MVSc, PhD

Alongside many other labs and researchers working to combat the coronavirus pandemic, UW researcher Adel Talaat is working on converting the lab’s experimental vaccine for chicken coronavirus into a viable vaccine for humans.

“We’ve been doing this work for the last three years trying to develop a vaccine against chicken coronavirus,” Talaat said.

Recently, the lab switched their focus to the human coronavirus, as some of the main features of the chicken and human coronaviruses are the same.

“**Individualized brain cell grafts reverse Parkinson’s symptoms in monkeys**

March 1, 2021

Su-chun Zhang, MD, PhD

Grafting neurons grown from monkeys’ own cells into their brains relieved the debilitating movement and depression symptoms associated with Parkinson’s disease, researchers at the University of Wisconsin–Madison reported today.

In a study published in the journal Nature Medicine, the UW team describes its success with neurons made from induced pluripotent stem cells from the monkeys’ own bodies. This approach avoided complications with the primates’ immune systems and takes an important step toward a treatment for millions of human Parkinson’s patients.

“This result in primates is extremely powerful, particularly for translating our discoveries to the clinic,” says UW–Madison neuroscientist Su-Chun Zhang, whose Waisman Center lab grew the brain cells.
CMP WELCOMES NEW TRAINERS:

Adam Bailey, MD, PhD
Research focus: The goal of the Bailey Laboratory is to make meaningful contributions to the fight against global infectious diseases.

Lisa Barroilhet, MD, MS
Research focus: My primary research interests focus on the prevention of ovarian cancer in a high-risk population by altering cellular energy metabolism.

Michael Cahill, PhD
Research focus: The role of synaptic plasticity in brain-based disorders. The neural underpinnings of complex behaviors, including cognition and social behavior. Mechanisms by which prenatal risk factors contribute to psychiatric outcomes.

Robert Kirchdoerfer, PhD
Research focus: We examine molecular events in viral lifecycles particularly those of coronaviruses. We use biochemistry and structural biology to study virus entry and RNA replication.

David Kosoff, MD
Research Focus: Translational cancer research, Tumor microenvironment, Novel therapy development and Microfluidic technologies.

Jessica Lang, PhD
Research Focus: Our work on translational ovarian cancer research focus on how mutations and alterations to epigenetic regulator genes leads to therapeutic vulnerabilities.

Nathan Sandbo, MD
Research Focus: Dr. Sandbo’s research focuses on fibroblast biology and signaling in the context of tissue remodeling and pulmonary fibrosis.

Dhanansayan Shanmuganayagam, PhD
Research Focus: Dr. Shanmuganayagam’s research focuses on the development and utilization of pigs as homologous models to close the translational gap in human disease research, taking advantage of the overwhelming similarities between pigs and humans in terms of genetics, anatomy, physiology, and immunology.

Susan Thibeault, PhD, CCC-SLP
Research Focus: Dr. Thibeault is the Vice Chair of Research in the Department of Surgery. Her NIDCD funded research efforts are primarily in the areas of vocal fold mucosa biology encompassing regenerative medicine, immunology and development.

Dan Matson, MD, PhD
Research Focus: Disorders of the blood and bone marrow are of great public health significance. During development and in the adult bone marrow, a relatively small number of critical transcription factors promote complex and diverse cellular processes to bring about faithful and timely hematopoiesis. The mechanisms by which these factors interface with chromatin to modulate gene expression, and the partner factors that are critical for this function, are the primary research focus of the Matson Laboratory.

Fei Zhao, PhD
Research Focus: Our lab aims to understand cellular and molecular mechanisms underlying sexual differentiation of reproductive tracts.
CMP Student News

REGIONAL, NATIONAL & INTERNATIONAL CONFERENCE ATTENDANCE; AWARDS & PRESENTATIONS

Josh Brand:
Presented virtually at ISMB ECCB (Intelligent Systems for Molecular Biology – European conference on computational biology), poster, July 25th- July 30th 2021

Caleb Dillingham:
Virtually attended the cold spring harbor Eukaryotic mRNA Processing conference

Billy Erazo:
Virtually attended both SACNAS and ABRCRMS 2021
Member of UW Madison’s Bio-JET Leadership Team

Bio-JET Leadership Team:
The purpose of the Bioscience Graduate Student Justice and Equity Team (Bio-JET) is to amplify the concerns and needs of bioscience graduate students (BSGS), particularly in the area of justice, diversity, equity, and inclusion. In the process of making it official and registering the organization with UW-Madison

Selected by UW-Madison to be nominated for the HHMI Gilliam Fellowships for Advanced Studies

Evan Flietner:
Presented virtually at ASH, oral presentation, December 5th-8th, 2020

Julia Gambardella:
Presented virtually at Alzheimer’s Disease Research Day on March 18, 2021
Presented virtually at the Society for Neuroscience Annual Conference on November 8, 2021

Trey Gilpin:
Attended Virtual American Association of Immunologists (AAI) virtually in 2020

Olivia Harwood:
Presented virtually, Keystone Symposia: HIV Pathogenesis and Cure, poster and Sci-Talk, June 1-4, 2021
Presented virtually at Wisc-e-Sota, talk, October 14-15 2021

Margo Heston:
Poster presentation: CTAD 2020 (Virtual: Nov 2-6, 2020)
Poster presentation: ADRD Research Day 2021 (Virtual: Mar 17-18, 2021)
Margo Heston cont.:  
Oral presentation: AD/PD 2021 (Virtual: Mar 9-14, 2021)  
Poster presentation: AAIC 2021 (Denver, CO: Jul 25-29, 2021)

Anna Hoefges:  
Presented virtually at SITC, November 11th -14th, 2020

Anna Marie Hugon:  
2021 Public Service Fellow  
(The Public service Fellows program is a three-semester professional development sequence for graduate students in STEM who care about the social impact of their work and is part of WISCIENCE. The WISCIENCE Public Service Fellows Program is funded in part by the University of Wisconsin-Madison and the National Science Foundation grant #1806908)

Rebecca Hutcheson:  
Member of UWCCC Trainee Society, September 2020 – Current  
Virtual talk to undergraduate bio/biochem students about graduate school and research, Mercer University Oct 29, 2020, “Development of a safe derivative of SARS-CoV-2 & Everything you wanted to know about getting a PhD”  
Poster presentation “Epstein-Barr Virus-Positive Tumor Evolution”  
19th International Symposium on Epstein-Barr Virus and associated diseases July 29-30, 2021, Virtual/hybrid conference  
Recorded and broadcast on Wisconsin PBS TV channel  
Presentation, Wednesday Night at the Lab, “Making the virus causing COVID-19 safe for research” February 24, 2021, 7:00pm – 8:15pm

Andrew Lynch:  
Poster: Computational modeling of CIN and analysis of phylogenetic topology enables inference of-
Andrew Lynch cont.:
-chromosome mis-segregation rates

Biorxiv pre-print
Quantifying chromosomal instability from intratumoral karyotype diversity using agent-based modeling and Bayesian inference

Jenna Nagy:
Presented virtually at Retinal Circuits Symposium, poster, July 2021.
Vision Research Spotlight Student (Selected by the European Vision Institute as one of four students annually to be Researcher’s View webpage: http://www.vision-research.eu/index.php?id=1299), September - December 2021

Presented virtually at Young Researcher Vision Camp (European Vision Institute), Talk, June 2021

Hemanth Potluri:
Presented virtually at Radiation Research Society 2021, poster, October 3-8, 2021

Trent Prall:

Hunter Ries:
Virtually attended the 2021 American Society for Virology meeting, 7/19–7/23

Author on “Comparison of infection dynamics and antibody repertoire in rhesus macaques with serial flavivirus exposures” by Crooks et al. to be presented as a poster by Chelsea Crooks at the Keystone Symposia Viral Immunity: Basic Mechanisms and Therapeutic Applications. This work is currently being prepped for publication submission

Katie Ryan:
Attended Virtual Molecular Helminthology conference (MolHelm2021)

CMP STUDENT AWARDS

Josh Brand: Received scholarship for free registration, ISMB ECCB (Intelligent Systems for Molecular Biology – European conference), July 2021

Beniah Brumbaugh: CMP T32GM135119 Award

Caleb Dillingham: Received the UW-Madison Stem Cell and Regenerative Medicine Center’s Graduate Training Award
Billy Erazo: CMP funding awarded for both SACNAS and ABRCRMS 2021 registration

Trainee in the School of Veterinary Medicine in the Parasitology and Vector Biology (PVB) Training Program beginning on September 1, 2021 and continuing through August 31, 2022 (T32 AI007414)

Nominated by UW-Madison for the HHMI Gilliam Fellowships for Advanced Studies

Evan Flietner: Assisted with writing successful grants for a UWCCC DT Pilot Award and a UWCCC Immunotherapy Pilot Award

Julia Gambardella: Received the ICTR TL1 award for two years of funding (September 1, 2020 through August 31, 2022)

Olivia Harwood: Received scholarship for free registration, Keystone Symposia: HIV Pathogenesis and Cure, 2021

Margo Heston: Received CMP travel award, 2020

Christopher Lee: CMP T32GM135119 Award

Andrew Lynch: Awarded NCI F31 training grant — Frequency and consequences of chromosome missegregation in breast cancer

Olivia Harwood: Received scholarship for free registration, Keystone Symposia: HIV Pathogenesis and Cure, 2021

Hunter Ries: CMP T32GM135119 Award

Kjell Sandstrom: CMP T32GM135119 Award

Lauren Sarko: CMP T32GM135119 Award

Mason Shipley: CMP T32GM135119 Award
Congratulations to CMP Graduates!

Congratulations to our 2021 Graduates as their predoctoral careers come to a successful conclusion. We say goodbye - you will be missed. Onward and Upward!

**Lindsey Block, PhD:** Postdoctoral, UPenn, Dr. Simmons lab  
**Ryan Donahue, PhD:** Postdoctoral, Boston Children’s Hospital, Zhigang He’s lab  
**Aisha Mergaert, PhD:** Postdoctoral, UW-Madson, Huy Dinh’s lab  
**Gage Moreno, PhD:** Postdoctoral, Harvard, Pardis Sabeti’s lab  
**Thanos Papadas, PhD:** Internal Medicine Resident, Albert Einstein Jacobi Hospital in NY  
**Nick Van Sciver, PhD:** Postdoctoral, Brigham and Women’s Hospital, Kenneth Kaye’s lab

**Coming soon:**
Anil Chokkalla and Phu Duong final defense set for December 2021

Welcome to Our New 2021 Students!

- **Beniah Brumbaugh**  
  BS, University of Vermont

- **Christopher Lee**  
  BS, University of California, Los Angeles

- **Sara Maloney**  
  BS, University of California, Riverside

- **Hunter Ries**  
  BS, University of Wisconsin – Madison

- **Mason Shipley**  
  BS, University of Idaho

- **Soniya Tamhankar**  
  MS, Pennsylvania State University

- **Vaibhav Vemuganti**  
  MS, Biotechnology, Jawaharlal Nehru Tech. University, India

- **Mayra Alejandra Betancourt Ponce**  
  BS, University of Puerto Rico, Río Piedras Campus
CMP ORIENTATION

New student orientation this year looked a lot more like previous events with a nod toward newly discovered flexibility. CMP turned to a hybrid orientation model this fall accommodating faculty trainers who preferred face to face talks and those who preferred to meet with students via zoom. We held a traditional student poster session, with masked participants, and our annual new and current student gathering outdoors on the Union Terrace.

HOLIDAY BOWLING EVENT RETURNS!

Students enjoyed themselves as our annual holiday bowling gathering with conversation, pizza, and bowling of course!

CMP students catch up after a 2020-21 year without in person social events