Faculty Trainers in the News
CMP Trainer news, from Fall 2018 to Fall 2019 as published in the UW-Madison School of Medicine and Public Health News

The Melanoma Age of Enlightenment - UW Health News and Events
August 16, 2018
Nihal Ahmad, PhD

Melanoma medical oncologist Mark Albertini, MD, thinks we are in a "true age of enlightenment" when it comes to treating the skin cancer, especially with immunotherapy-based treatments.

Albertini’s research group takes the immunotherapy approach to studying melanoma. Immunotherapies have been incredibly successful in some patients, but other patients have shown no response. His group has already developed a way to take blood and biopsy samples from patients with advanced-stage melanoma and to isolate immune cells that were activated by the patient’s natural immune response to the cancer.

Now, in work funded by a UW Carbone pilot grant and melanoma philanthropy group Ann's Hope, Albertini is taking these activated immune cells and using them to look for markers that will help him and other clinicians predict who is going to respond to immunotherapy.

McArdle researchers suggest that skin might be more important to metabolic diseases than we think- McArdle Laboratory for Cancer Research
June 27, 2019
Caroline Alexander, PhD

Recent discoveries from Caroline Alexander and Ildiko Kasza suggest that skin might be a more important player in metabolism than previously understood. Loss of heat through skin, predominantly by evaporation, may throw a metabolic switch that determines whether mammals lay down body fat and become obese.

The researchers determined that higher rates of heat loss through skins of mice in cool housing increases the demand for bodily heat production, also known as thermogenesis. Thermogenesis is powered by the body’s fat tissues.

“These are early days,” said Alexander, adding, “our studies are turning to human subjects, who show dramatic differences in the amount of fat associated with their skins. We are testing whether this determines our susceptibility to becoming obese, or developing other diseases, including cancer.”

Screening with a high precision blood-based assay for Alzheimer disease- Neurology.org
August 1, 2019
Barbara Bendlin, PhD

The use of biomarkers for defining the pathobiology of Alzheimer disease (AD) has had a transformative effect on the field, facilitating disease detection prior to autopsy, as well as substantially altering clinical trial design.1 In the last 5–10 years, there has been a substantial shift toward using amyloid PET in human research, as well as clinically, to rule out AD (a negative scan meaning little or no plaque is present).

One in a Million: Single-Cell Genomics Enables Deeper Understanding of Cancer- UW Health News and Events
May 7, 2019
Emery Bresnick, PhD

Emery Bresnick, PhD, co-leader of the UW Carbone program on Genetics and Epigenetic Mechanisms and director of the Blood Research Program at UW-Madison, and senior scientist Kirby Johnson, PhD, are among the first who worked with the Biotechnology Center to perform experiments with this technology.

Bresnick researches a class of proteins called the GATA family and how mutations in the DNA that code for these proteins give rise to blood cancers.

Though the ability to do single cell genomics experiments at UW-Madison has come about only recently, it is already fueling innovative research.

For cancer research, it will be an enabling tool to “discover the molecular basis of disease and to leverage these insights to develop strategies to treat disease,” Bresnick says. “Let’s say you’re looking at population of 500 cells and five were triggered. In a population analysis, you’d never see the change. You have to look at the single cells, otherwise, you’ll miss the boat.”
Researchers probe cell division defects to gain insight into cancer-UW News

July 8, 2019
Mark Burkard, MD, PhD

From bugs to plants to animals, for all living things to grow they must create more cells. To do so, each existing cell, whether in an embryo or an adult, receives cues to copy its chromosomes — large pieces of DNA that contain each cell's entire genetic code. In a carefully and elegantly controlled process, each cell then divides into two.

“We don’t really understand how chromosome mis-segregation happens in cancer,” says Mark Burkard, a medical oncologist and researcher with the University of Wisconsin–Madison Carbone Cancer Center. “One of the big disappointments, and opportunities, is that we know all these other genes that are mutated in cancers, but no one has really found the smoking gun for how chromosome segregation goes wrong.”

Burkard and two of his UW Carbone colleagues — Beth Weaver, associate professor of cell and regenerative biology, and Aussie Suzuki, assistant professor of oncology — are leading efforts to better understand chromosome segregation and its contributions to disease.

Inflamed monkey guts produce Parkinson’s-related proteins-UW News

May 9, 2019
Marina Emborg, MD, PhD

The intestinal linings of monkeys with inflamed bowels show chemical alterations similar to abnormal protein deposits in the brains of Parkinson’s patients, lending support to the idea that inflammation may play a key role in the development of the degenerative neurological disorder.

A study published by University of Wisconsin–Madison researchers today in the Journal of Inflammation Research found phosphorylated alpha-synuclein — a modified version of a protein common to nerve cells — in samples from common marmosets kept in a tissue bank at the Wisconsin National Primate Research Center.

When the Emborg research group heard from primate center pathologists that marmosets sometimes deal with inflamed bowel problems like colitis, they decided to test marmoset tissue samples for changes in alpha-synuclein. The researchers found that marmosets whose medical histories included inflamed colons had more of the phosphorylated alpha-synuclein in their intestines.

“It shows us the relationship between inflammation and Parkinson’s-like alpha-synuclein pathology,” says Emborg. “It doesn’t mean if you have inflammatory bowel disorder, you will get Parkinson’s. The development of a neurodegenerative disorder is multifactorial. But this could be a contributing factor.”

Wisconsin kidney transplant patients with virus will be studied in hopes of finding cure-Milwaukee Journal Sentinel

August 6, 2019
Arjang Djamali, MD

Researchers at University of Wisconsin Health announced Tuesday they will begin recruiting a small number of kidney transplant recipients for a new trial that will use specially designed white blood cells to treat a complication called severe cytomegalovirus infection.

The trial, which has received approval from the U.S. Food and Drug Administration, will enroll 20 adult kidney transplant recipients with the complication, probably starting in November, said Arjang Djamali, the trial’s lead researcher and a UW professor of medicine and surgery.

Djamali, who is also nephrology division chief at UW Health, said white blood cells will be extracted from a patient’s parent or sibling. Those cells will then be manipulated to make them effective at attacking and destroying cytomegalovirus infection.

This can be changed: Verona family carries on daughter’s fight to end vision diseases-Channel 3000 News

February 28, 2019
David Gamm, MD, PhD

VERONA, Wis. - When you talk about Kenzi Valentyn, no last name is really needed.

A Badger fan through and through, there’s maybe only one thing more notable than her fandom -- her smile.

Her parents say she was always full of laughs, even when life gave her a lot of reasons not to, like in dealing her a lifelong battle with Retinitis Pigmentosa, a disease that slowly stole her vision.

“It was a helpless feeling a lot of times, watching her go through that sort of slow, terrible progression," said Tim Valentyn, Kenzi’s dad. “Yet causes like Dr. Gamm gives us one way to feel like you’re fighting back.”

At the McPherson Eye Research Institute, Dr. David Gamm is finding the cure.

“We’re looking at ways in which we can stop that process from happening in children and young adults who have Retinitis Pigmentosa, as well as how to replace the cells that are lost in the course of the disease,” Gamm said.
Novel approach promises ready access to hard-to-study proteins - UW News

April 15, 2019

Ying Ge, PhD

A team led by University of Wisconsin–Madison associate professor of cell and regenerative biology and chemistry Ying Ge reports the development of a novel strategy capable of extracting and driving hard-to-reach proteins into water solution where they can be effectively studied using mass spectrometry, a powerful analytical technique. The new approach promises a trove of biological insights and, importantly, may help identify therapeutically relevant proteins and provide new disease diagnostic techniques.

“Approximately one-third of the proteome in living organisms are membrane proteins,” explains Ge, who works in the UW School of Medicine and Public Health. “They play important roles in many biological processes and account for about two-thirds of known ‘drugable’ targets in the cell.”

Ge’s team sought an agent that met three key criteria: It needed to be water soluble and rapidly degradable; it needed to be a strong surfactant; and it needed to be compatible with whole protein mass spectrometry.

To help extract membrane proteins from cells and tissues for analysis, Ge and her colleagues, including lead author Kyle Brown, a UW–Madison graduate student, postdoctoral fellow Tania Guardado, and chemistry Professor Song Jin, designed and screened a large number of chemical compounds and identified one that could be molded into a “photocleavable” surfactant called Azo.

Azo, notes Ge, functions much like conventional surfactants except that a chemical bond that can be broken by simple exposure to ultraviolet light is added to the middle of the surfactant molecule. When the bond is cleaved by exposure to light just prior to undergoing mass spectrometry analysis, Azo breaks apart, leaving only the protein molecules and eliminating the detergent that interferes with the ultrasensitive analysis.

Human respiratory viruses continue to spread in wild chimpanzees - UW News

January 18, 2019

James Gern, MD

Less than two years after the first report of wild chimpanzees in Uganda dying as a result of a human “common cold” virus, a new study has identified two other respiratory viruses of human origin in chimpanzee groups in the same forest.

Parainfluenza virus 3 is a common cause of croup in preschool children. In people, metapneumovirus (MPV) is a common cause of “wheezing illnesses” in infants, explains James Gern, a co-author of the new study and a professor of allergy and immunology in the UW School of Medicine and Public Health.

“Mortality rates for MPV are very low in humans, so the chimps clearly had more severe illnesses than what is observed in humans,” says Gern, an authority on human respiratory viruses. “The parainfluenza virus 3 illnesses in chimps, while not associated with mortality, were on average more severe than what would generally be observed in humans. It is also remarkable that the majority of the chimp population was affected, suggesting that there was no preexisting immunity and that this virus was newly introduced, perhaps from a human source.”

Man with severe autoimmune disease gets stem cell transplant at UW-Madison - Wisconsin State Journal

June 5, 2019

Peiman Hematti, MD

Charles Beschta developed heartburn, and his breathing became so difficult he had to quit singing in his church choir. Then he came down with pneumonia. At his welding industry job winding coils, his hands started to lose their grip.

Doctors diagnosed him with systemic scleroderma, an autoimmune disease that hardens skin and tissue of internal organs — in Beschta’s case, mainly the lungs and digestive tract. Stem cell transplants, also known as bone marrow transplants, are generally used to treat certain cancers. For conditions like scleroderma, in which the body’s immune system attacks its own tissues, the goal is to wipe out the faulty immune system and replenish it with a new one.

First, doctors take blood from the patient and isolate stem cells. Then the patient gets chemotherapy and radiation to eradicate the immune system. The stem cells are later infused to grow new immune cells.

As in the national study, an extra step was taken at UW Hospital to purify Beschta’s stem cells. The cells were tagged with magnetic beads and passed through a machine that collected the stem cells and removed others, such as T cells that could cause problems, said Dr. Peiman Hematti, who runs the lab involved.
Investigation into fungal infection reveals genetic vulnerability in Hmong - UW News

July 15, 2019
Bruce Klein, MD

Ten years ago, in Marathon County, Wisconsin, 55 people were sickened by an uncommon fungal infection called blastomycosis. Thirty patients were hospitalized. Two people died.

The fungus, Blastomyces dermatitidis, found naturally in wet soil and in decomposing wood throughout the Great Lakes region and the Mississippi Valley, can cause flu-like illness and in severe cases, death. Wisconsin has among the highest incidence rates of the disease in the U.S. and outbreaks ranging up to 100 cases periodically occur in the state.

Now, a new study led by University of Wisconsin–Madison researchers Caitlin Pepperell and Bruce Klein has identified a specific genetic vulnerability among Hmong people that renders them more susceptible to the disease-causing fungus.

“We were struck by this because it hadn’t been described before … rates were 10-to-100 times greater than one might expect based on population numbers alone,” says Klein, an infectious disease physician and professor of pediatrics, internal medicine, and medical microbiology and immunology at the UW School of Medicine and Public Health (SMPH). “It’s really been a holy grail question — why are some people more vulnerable and what is the basis for this?” He appreciates the implications the findings have not just for individual patients, but also for public health more broadly. It also helps lay the groundwork for the future, particularly as plans are forged by UW–Madison to establish the SMPH Center for Human Genomics and Precision Medicine.

“This is a great example of the Wisconsin Idea,” Klein says. “This is something we should be doing — the state and the university working together for the benefit of public health and people in Wisconsin.”

Thanks to science, parasite can have sex in mice not just cats - UW News

July 29, 2019
Laura Knoll, PhD

Toxoplasma gondii, a single-celled parasite perhaps best known for its ability to trick mice into taking potentially fatal risks around cats and, in humans, as a serious threat to fetal health, has given up a long-held secret of its reproduction.

“We really have been limited in studying the sexual cycle of Toxo,” says Laura Knoll, the senior author of the new study and a professor of medical microbiology in the UW School of Medicine and Public Health.

Toxoplasma gondii, or Toxo in shorthand, is ubiquitous in the environment. Nearly one-third of the human population is chronically infected. Most people acquire Toxo through the consumption of undercooked meat, or water contaminated with cat waste. Humans can also get infected by handling cat litter, although simple exposure to cats themselves is not a known risk for infection.

But most people never know that they are infected as the parasite, although it resides in the brain, seems harmless to humans outside of the womb. “We’re a dead-end host,” says Knoll, noting that the parasite mostly resides in axons, the threadlike part of nerve cells that conduct impulses between cells.

However, if you are an infected mouse or rat, Toxo has a mind-controlling effect that makes the rodents less inhibited by the odor of cat urine, a potentially fatal attraction that helps the parasite infect new cat hosts.

Knoll hopes to address part of the issue by using CRISPR technology to make a knockout mouse that does not produce the D6D enzyme in its intestines. “We’ll basically be making a cat-mouse,” says Knoll. “It will help get around the issue of cost.”

The science behind why women survive longer than men - Market Watch

April 19, 2019
Dudley Lamming, PhD

Understanding sex differences and aging also has implications for the future of drug interventions to extend health as we grow older. Six drugs have been shown by multiple research labs to make mice live and stay healthy longer. Five of these drugs either have this effect only in males or have a much bigger effect in males than females. Conversely, the sixth drug, rapamycin, has a bigger effect in females.

AFAR-supported investigator Dr. Dudley Lamming, an assistant professor at the University of Wisconsin-Madison, for example, has studied how a gene called “RICTOR” may be responsible for the differential effects of the drug rapamycin in males and females. The gene is involved in many bodily functions, including growth and development, as well as diseases such as diabetes and cancer.

Inactivating RICTOR in the liver alone has no effect on female longevity, but shortens the lives of male mice. Dr. Lamming is testing whether sex hormones, such as estrogen and testosterone, affect what RICTOR does in the liver, and whether these hormones are important regulators of mouse longevity. So, the more we understand sex differences and aging, the better we can understand which of these health-extending medications might be more beneficial to men versus women, or vice versa.
Dr. Josh Mezrich featured in numerous national news outlets- UW Department of Surgery News

J osh Mezrich, MD, appeared in numerous national news outlets recently in coverage of his new book, When Death Becomes Life, including an Atlantic article discussing the ethics of transplantation for patients with alcoholism, an interview on NPR’s Fresh Air, and an article in the Wall Street Journal about how xenotransplantation might change the role of donors in transplantation.

How Exercise Lowers the Risk of Alzheimer’s by Changing Your Brain- Time Magazine

Ozioma Okonkwo, PhD

More and more studies are showing how regular exercise benefits the brain, and in particular, the aging brain. What’s less clear is how exactly exercise counters the cognitive decline that comes with aging and diseases like Alzheimer’s.

To find out, for nearly a decade, Ozioma Okonkwo, assistant professor of medicine at the University of Wisconsin School of Medicine and Public Health and his colleagues have studied a unique group of middle-aged people at higher risk of developing Alzheimer’s. Through a series of studies, the team has been building knowledge about which biological processes seem to change with exercise. Okonkwo’s latest findings show that improvements in aerobic fitness mitigated one of the physiological brain changes associated with Alzheimer’s: the slowing down of how neurons breakdown glucose.

Okonkwo and his team also found that people with higher aerobic fitness showed lower amounts of white matter hyperintensities, brain changes that are signs of neuron degeneration and show up as brighter spots on MRI images (hence the name). White matter hyperintensities tend to increase in the brain with age, and are more common in people with dementia or cognitive impairment.

Given the encouraging results from his latest study of 23 people that showed intervening with exercise can change some of the Alzheimer’s-related brain changes of the disease, he plans to expand his small study to confirm the positive effect that exercise and better fitness can have in slowing the signs of Alzheimer’s.

‘Bad guy’ Fibrocytes Could Help Rebuild Damaged Tissue- UW News

Nathan Welham, PhD, CCC-SLP

A new study by a University of Wisconsin School of Medicine and Public Health researcher shows that someday, fibrocytes may be used for regenerative therapies for people who need to have their vocal folds or other tissues rebuilt after damage or loss.

“We were looking for a more versatile source of cells that can be easily obtained from people,” he says. “Fibrocytes are plastic — they can differentiate into different cell types and they can produce important components of tissue, such as collagen. So, we thought: ‘Wouldn’t it be easier to just draw blood, isolate the cells and direct them towards an engineered tissue target?’”

“This study shows their potential,” Welham says. “It’s a paradigm shift. Fibrocytes are not just bad guys that cause terrible fibrosis. The fact that they show desirable mesenchymal features in certain situations means we might use them for good. That’s a big shift in thinking.”

Zhao Published Research Reveals How Mutation contributes to Fragile X- UW Department of Neuroscience

Xinyu Zhao, PhD


“Fragile X syndrome has been studied as a model of intellectual disability because in theory it’s comparatively simple,” says senior author Dr. Xinyu Zhao, a professor of neuroscience in the Waisman Center at the University of Wisconsin–Madison.
Mario Otto, MD, PhD and Nicholas Pytel, DO, Each Awarded Grants from Hyundai Hope on Wheels- UW Madison Department of Pediatrics

September 30, 2019

Mario Otto, MD, PhD

Ten years ago, in Marathon County, Wisconsin, 55 people were sickened by an uncommon fungal infection called blastomycosis. Thirty patients were hospitalized. Two people died.

The fungus, Blastomyces dermatitidis, found naturally in wet soil and in decomposing wood throughout the Great Lakes region and the Mississippi Valley, can cause flu-like illness and in severe cases, death. Wisconsin has among the highest incidence rates of the disease in the U.S. and outbreaks ranging up to 100 cases periodically occur in the state. Now, a new study led by University of Wisconsin-Madison researchers Caitlin Pepperell and Bruce Klein has identified a specific genetic vulnerability among Hmong people that renders them more susceptible to the disease-causing fungus.

“We were struck by this because it hadn't been described before ... rates were 10-to-100 times greater than one might expect based on population numbers alone,” says Klein, an infectious disease physician and professor of pediatrics, internal medicine, and medical microbiology and immunology at the UW School of Medicine and Public Health (SMPH). “It's really been a holy grail question — why are some people more vulnerable and what is the basis for this?” He appreciates the implications the findings have not just for individual patients, but also for public health more broadly. It also helps lay the groundwork for the future, particularly as plans are forged by UW-Madison to establish the SMPH Center for Human Genomics and Precision Medicine.

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Mario Otto, MD, PhD, Receives St. Baldrick’s Research Award- UW Madison Department of Pediatrics

September 1, 2018

Mario Otto, MD, PhD

Congratulations to Mario Otto, MD, PhD, who was recently awarded a 2018 Research Award from the St. Baldrick’s Foundation. This one-year grant, in the amount of $100,000, will support his project entitled, “Improving anti-cancer immune responses to targeted radionuclide therapy.” The goal of this project is to combine molecular-targeted radiotherapy with immunomodulatory agents to facilitate radiation-damage induced anti-tumor immune responses. Other UW investigators include Bryan Bednarz, PHD (Medical Physics) and Jamey Weichert, PhD (Radiology).

Judith Smith Awarded American Lung Association Grant- UW Madison Department of Pediatrics

July 5, 2019

Judith Smith, MD, PhD

Congratulations to Judith Smith, MD, PhD, who was recently awarded an Allergic Respiratory Diseases Award from the American Lung Association (ALA) for her project entitled, “Regulation of rhinovirus by the asthma-associated 17q21 locus gene ORMDL3.” This 2-year grant, in the amount of $75,000 per year, was selected through the highly competitive research program, and her application was considered outstanding by the ALA Research Committee. The project aims to determine which function of ORMDL3, a gene implicated in asthma development, controls rhinovirus replication using drugs and genetic approaches, and begin to address which step of the viral lifecycle is affected by ORMDL3. Greater understanding of how ORMDL3 regulates rhinovirus replication will also have therapeutic ramifications.

Congratulations to Dr. Donna Peters whose RO1 has been renewed for another 5 years

Donna Peters, PhD

Congratulations to Faculty Trainers
Rupa Sridharan Elected to Serve on the SCRMC’s Executive Committee- UW Madison School of Medicine and Public Health
February 22, 2019
Rupa Sridharan, PhD

Congratulations to Rupa Sridharan on her recent election to the Stem Cell and Regenerative Medicine Center’s Executive Committee! Rupa will be joining the SCRMC’s leadership for the next three years. Thank you to Rupa and the rest of the SCRMC executive committee for giving their time and effort to help advance stem cell and regenerative medicine on campus.

Paul Sondel, MD, PhD and Team Awarded U54 Subaward from NIH/NCI and Children’s Hospital of Philadelphia- UW Madison Department of Pediatrics
November 1, 2018
Paul Sondel, MD, PhD

Congratulations to Paul Sondel, MD, PhD, Subaward Principal Investigator, and UW Team Members, Amy Erbe-Gurel, PhD, Jacquelyn Hank, PhD, Zachary Morris, MD, PhD, and Alexander Rakhmilevich, MD, PhD, for their recent subaward through the Children’s Hospital of Philadelphia and supported by the National Institutes of Health/National Cancer Institute (NIH/NCI). This U54 award was made through the Pediatric Immunotherapy Discovery and Development Network, as part of the Beau Biden Cancer Moonshot Initiative, and will provide ~$2.1 million to the UW over 5 years. This collaborative multi-institutional consortium, entitled, “Discovery and Development of Optimal Immunotherapeutic Strategies for Childhood Cancers,” has a total award of $12.1 million and is led by overall Principal Investigator, Dr. John Maris at the Center for Childhood Cancer Research at Children’s Hospital of Philadelphia, the Lead Institution, and Co-PI Dr. Crystall Mackall at Stanford University. Dr. Sondel and his team will lead Project 3, “Discovery and development of pediatric cancer antigen targets recognized by adaptive immune response,” as well as support two additional projects of the cooperative agreement.

Dr. Wei Xu Awarded 2019 AACR-Bayer Innovation and Discovery Grant- McArdle Laboratory for Cancer Research/Department of Oncology
April 15, 2019
Wei Xu, PhD

Atlanta, GA – The AACR 2019 Annual Meeting – Awardees during AACR Grants Reception and Dinner at the American Association for Cancer Research Annual Meeting here today, Tuesday April 2, 2019. More than 20,000 physicians, researchers, health care professionals, cancer survivors and patient advocates are expected to attend the meeting at the Georgia World Congress Center. The Annual Meeting highlights the latest findings in all major areas of cancer research from basic through clinical and epidemiological studies.

Professor Wei Xu Receives Kellett Mid-Career Award- UW Madison Molecular and Environmental Toxicology
May 28, 2019
Wei Xu, PhD

Professor Wei Xu was recently honored with a prestigious Kellett Mid-Career Award! This five year award was created to provide needed support and encouragement to faculty at a critical stage of their careers. The award is named for the late William R. Kellett, a former president of the WARF board of trustees and president of Kimberly-Clark Corp.

Weixiong Zhong Awarded Department of Medicine’s “Extra Mile Faculty Award”- UW Madison Department of Pathology and Laboratory Medicine
October 8, 2019
Weixiong Zhong, MD, PhD

Congratulations to Pathology Associate Professor, Weixiong Zhong, who was recognized by the Department of Medicine for his exceptional pathology services in Renal Pathology and for his mentoring of nephrology Fellows. The “Extra Mile Faculty Award” was presented to Dr. Zhong as part of Medicine’s annual recognition and new faculty reception, on October 2, 2019. The award is made to a UW faculty member outside of the Department of Medicine who has made significant contributions to the Department of Medicine.
Mrinalini Hoon, PhD  
Department of Ophthalmology & Visual Sciences  
Research focus: Molecular and activity-dependent mechanisms that establish and maintain synaptic connections in the mammalian retina during developmental stages and during disease states through a combination of genetic, morphological and functional assays.

Krishanu Saha, PhD  
Department of Biomedical Engineering  
Research focus: Utilizing quantitative and bioengineering methods to advance the next generation of cell and gene therapies.

David Beebe, PhD  
Department of Biomedical Engineering  
Research focus: Novel and simple use of microscale physics and phenomena to create tools and methods to further biological and medical goals ranging from basic science to research tools to diagnostics, and applying the lab’s technologies to cancer, global health and multi kingdom interactions.

Donna Neumann, PhD  
Department of Ophthalmology & Visual Sciences  
Research focus: How epigenetic mechanisms control the establishment of latency and how disruption of these epigenetic mechanisms lead to HSV-1 reactivation and ocular pathogenesis.

Jing Zhang, PhD  
Department of Oncology  
Research focus: The mechanisms underlying the normal as well as oncogenic self-renewal of stem cells using the hematopoietic compartment as a model system.

Robert Redfield, MD  
Department of Surgery  
Research focus: Improving the health and wellbeing of transplant recipients by optimizing the care of transplant recipients through basic, translational and clinical research. A major focus of the lab is on alloantibody directed against graft major histocompatibility (MHC) antigens which is a significant barrier to transplantation for allo-sensitized patients, and a significant barrier to improving long-term allograft survival. Further, the extension of these observations in the field of xenotransplantation. A major barrier for the clinical application of xenotransplantation is the xenoantibody response.

Yun Liang, PhD  
Department of Medical Microbiology & Immunology  
Research focus: Sex differences in immunity, inflammatory and autoimmune diseases.

Allan Brasier, MD  
Department of Medicine  
Research focus: Mucosal diseases in the airways, focusing specifically on: innate signaling in viral induced airway disease, systems level studies of the NFKB-BRD4 pathway, and the role of NFKB-BRD4 in airway remodeling.

Colleen McDowell, PhD  
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Research focus: Determining the molecular pathway involved in the development of elevated intraocular pressure (IOP) which is the most important risk factor in the development of glaucoma, develop novel mouse models of glaucoma to further advance the field of glaucoma research, and elucidate specific retina ganglion cell (RGC) subtype susceptibility to glaucomatous damage.

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Awards and Presentations

**Lindsey Block:** Attended the 66th Annual Meeting for the Society for Reproductive Investigation in Paris, France with financial assistance in the form of a Student Research Grants Travel Award through the UW Graduate School. Lindsey also attended a 6-week Frontiers in Reproduction (FIR) course in Woods Hole, Massachusetts (received a scholarship to attend through FIR).

**Anil Chokkalla:** Attended Functions of Epitranscriptome Meeting at University of Chicago, and the International Society for Neurochemistry Meeting in Montreal. Anil’s travel was assisted by the receipt of the CMP Travel Award as well as a second travel award from the Center for Human Genomics and Personalized Medicine (CHGPM).

**Phu Duong:** Attended The International Society for Neurochemistry and the American society for Neurochemistry Conference in Montreal in 2019. Phu is also the recipient of a NIH supplement.

**Philip Emmerich:** Received the 2019 GI DOT Trainee Pilot Project Award in August of 2019 with funding until July 2020. Phil was also funded by the CMP T32 for the 2019-19 academic year. Phil presented posters at the following conferences: AACR Meeting in Atlanta, GA 2019, ASCO annual meeting in Chicago, IL 2019, and AACR Meeting in Atlanta, GA 2019.

**Evan Flietner:** Attended the American Society of Hematology Meeting in San Diego.

**Trey Gilpin:** Presented his talk titled “Dendritic Cell-Induced Dissemination of Mycobacterium into the CNS” at AAI 2019 in San Diego, California. He also presented a poster at this conference.

**Athena Golfinos:** Awarded a $1,200 travel grant from the UW Graduate School to visit the Kirby Institute at the University of New South Wales, Sydney, Australia to learn bioinformatics from members of the Infection Analytics Program.

**Olivia Harwood:** Presented a poster at the Wisc-e-Sota joint virology conference in La Crosse Wi. Olivia also was the recipient of a UW Graduate School Student Research Travel Grant which allowed her to visit Mario Roederer’s Lab at the NIH in Bethesda, where she learned a new research technique.

**Margo Heston:** Recipient of a Pathology Research Day Poster Award.

**Anna Hoefges:** Recipient of CMP travel award which helped her attend the Society of Immunotherapy of Cancer Conference in DC, where she presented a poster.

**Caity Holmes:** Pathology Research Day poster award recipient. Caity also received a Student Achievement Award from the Rheumatology Research Foundation to present two posters at the American College of Rheumatology annual conference in Chicago, IL.

**Rebecca Hutcheson:** Attended the American Society for Virology Conference 2019 in Minneapolis, MN as well as the Wisc-E-Sota Virology Symposium 2019, in La Crosse WI.

**Nicole Lane Starr:** CMP Travel award recipient attended the Keystone Symposia, Lipidomics and Functional Metabolic Pathways in disease in Steamboat Springs, Colorado in 2019 where she gave a 10-minute talk and presented a poster.
Awards and Presentations cont.

**Andrew Lynch**: Presented a poster “Assessing CIN caused by treatment with paclitaxel via single cell sequencing and agent-based stochastic modeling” at the American Society for Cellular Biology and European Molecular Biology Organization in December 2018 in San Diego, CA.

**Eileen Lynch**: Making a poster presentation at the Biomedical Engineering Society Conference in Philadelphia after which she will be heading straight to a Society for Neuroscience in Chicago where she will be giving a 10 minute Nano symposium. Last December Eileen also attended Cell Therapy Asia in Kobe, Japan. Eileen is also a Pathology Research Day Poster award recipient.

**Steven Mayerl**: Presented a poster at the ARVO (The Association for Research in Vision and Ophthalmology) 2019, in Vancouver Canada.

**Gage Moreno**: Winner of the three minute thesis competition at the Re-emerging Arboviruses in Global Health Symposium, Madison WI. Gage also presented a poster at this conference.

**Hemanth Potluri**: Presented a poster at the Society of Immunotherapy of Cancer in November 2019.

**Anna Marie Rowell**: Anna Marie won a travel award to attend IFPA (International Federation of Placenta Associations) 2019 in Tokyo, Japan, where she presented a poster. Anna Marie also attended ISOPOL 2019 (International Symposium of Problems of Listeria and Listeriosis) in Toronto Canada, where she won a poster award.

**Eli Wallace**: Recipient of a Pathology Research Day Poster Award.


Congratulations to:
- **Hemanth Potluri**: Recipient of ICTR TL1 training award for 2019-20.
- **Caity Holmes**: Recipient of third year of funding on Hematology T32.
- **Margo Heston**: Recipient of CMP training award for 2019-20.
- **Morgan Mann**: Recipient of CMP training award for 2019-20.
- **Andrew Lynch**: Recipient of the Genomic Sciences Training Program T32 funding.
- **Phil Emmerich**: Recipient of the 2019 GI DOT Trainee Pilot Project Award in August of 2019.
- **Lindsey Block**: Recipient of NICHD F31 award.
- **Anil Chokkalla**: Recipient of 2 year pre-doctoral fellowship from the AHA.
**CMP Graduates - Academic Year 2018-19**

**Julia Kemis:** Accepted a postdoc with Merck Pharmaceuticals

**James Romero-Masters:** Accepted a posdoc position in Paul Lambert’s lab here at UW Madison. Additionally, has become the Co-/chair of the Diversity and Inclusion Committee in the UW Postdoc Association

**Jeanette Metzger:** Accepted a post doc at UW Madison, Emborg Lab

**Mengxue Zhang:** Accepted a post doc at Ohio state with the intention of applying for a Pathology Residency during the fall 2019 recruitment season

**Kirsti Walker:** Accepted a post-doc in Bruce Blazar’s lab at the University of Minnesota

**Fen Zhu:** Accepted a post doc in Lixin Rui’s lab, UW Madison

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**Rotating Students**

*This year’s incoming class hails from across the US. Many of them are committed to pursuing research rotations in specific focus areas. However, this year more than ever before, we have a number of students so intrigued by the research presented by CMP trainers on orientation day, they have decided not to limit themselves to a specific focus area but instead, leave themselves open as they engage in each rotation experience in search of that perfect fit!*

**Bohan Chen, BS**
Pharmaceutical Science, Northeastern University
August, 2019

**Julia Gambardella, BS**
Biology, Salve Regina University
May, 2019

**Stephen DaRodda, BS**
Microbiology, UC Davis
June, 2019

**Marienela Heredia, BS**
Cell and Molecular Biology, CUNY
June 2019
Rotating Students cont.

Nicole Muench, BS  
Biochemistry, UW Stevens Point, May 2018

Corelle Rokicki, MS  
Microbiology, UMass Amherst, August

Jenna Nagy, BS  
Microbiology, Ohio State University, May 2017

Szu-Tsen Yeh, MS  
Biology, University of California San Diego March, 2017

Direct Admission Students:

Kimberly Edwards, BS  
Anthropology, Indiana University May 2017

CMP Program News

CMP T32 Submission: We are waiting to hear if our new T32 submission will be funded. The council’s next scheduled meeting is in January of 2020. We hope to have more news after that meeting.

CMP Curriculum: The Department of Pathology, along with the CMP Program, is taking the SMPH lead in developing a new Rigor and Reproducibility Course. Dr. Tyler Ulland, with the support of the CMP Curriculum Committee, will be serving as course director. We expect this course to be available to students in the Fall 2020 semester.

CMP Diversity and Inclusion Committee: The CMP Diversity and Inclusion Committee has had an active year. CMP Student member Anna Marie Rowell represented our CMP Program at SACNAS in 2018 and will again represent us at both SACNAS, Los Angeles, CA and ABRCMS, Honolulu, Hawaii this fall. Additionally, Anna Marie Rowell, Gage Moreno and Katie Zarbock all offered to represent CMP at the summer biosciences fair on campus last July. This fall the DIC committee hosted Dr. Celina Kleer on November 14, for the Pathology/CMP Seminar Series. Dr. Kleer is from the University of Michigan and is the Harold Oberman Collegiate Professor and Director of the Breast Cancer service.
Annual Michael N. Hart, MD, Pathology and Laboratory Medicine Research Day: This year’s Pathology and Laboratory Medicine Research Day was held on Tuesday, August 27th with Keynote speaker, Rachel Caspi, PhD, Head, Immunoregulation Section and Chief, Laboratory of Immunology, National Eye Institute, NIH. This year, along with a TRIP lab introduction, faculty and resident talks, and our traditional poster session, CMP hosted a student only trivia session on UW-Madison and the City of Madison. Students were organized into 9 competitive groups, staggering years of entry into CMP. The session served as a fun way to introduce our incoming students to their new UW and Madison communities.

Congratulations to our Research Day Poster Winners: Margo Heston, Eli Wallace, Caity Herndon, and Eileen Lynch!

Andrew Lynch presents his poster to 2019 incoming students, Stephen DaRodda, Corelle Rokicki and Nicole Muench

Caity Holmes discusses her poster with incoming student Corelle Rokicki

Congrats to our CMP Student Trivia Winners - Anna Hoefges, Phu Duong, Ryan Donahue, Julia Gambardella and Cole Gilsdorf
July's Bonfire Event: Thanks to Lindsey Block who, for that last two years, has worn the mantle of CMP event planner, coordinating CMP group events. In 2018 students kayaked on lake Mendota. This year they gathered around a bonfire….well, maybe around a bonfire pit would be more accurate. Rainy summer conditions left them with very wet wood - fire was not cooperative but the evening was pleasant enough conversing with peers lakeside, between bites of Jimmy Johns!

August's Student Organized Camping Event: For approximately 5 years CMP students have organized an end of summer camping trip with CMP student Aisha Mergaert leading the charge, creating an event that has now become a CMP tradition. In the beginning, it was a small independently organized event with a handful of campers. Now, CMP student Rebecca Hutcheson co-coordinates with Aisha, managing an ever growing contingent of attendees (2019 was largest group to date)! In the last two years many of our incoming students have joined in –meandering on nature trails, making s’mores around the campfire, dining al fresco, sleeping under the stars – overall, a wonderful and unique way to welcome new students to our program and our great state!

Below are images from these overnight adventures! The camping locations vary but fun and comradery never does.