



Distinguished Scientist

AWARDS CEREMONY

February 24, 2022
Virtual Ceremony | 4:30 p.m.



“The Distinguished Scientist Award ceremony is an annual celebration of UNMC research and researchers, including their collaborators and supporters, and the impact we have regionally and around the world. My congratulations to all those being honored today.”

Jennifer Larsen, MD

Vice Chancellor for Research, UNMC



The Community Service to Research Award recognizes community members who have collaborated with UNMC researchers and have made important contributions to further the research impacting our community.

The New Investigator Award goes to UNMC scientists who have secured their first major, independent funding from a national source. New Investigators also have demonstrated their scholarship in published research.

The Distinguished Scientist Award recognizes faculty at UNMC who hold the title of Associate Professor or above, have worked for the University for at least two years and have a portfolio of extramurally funded research, collaborators, and impactful publications.

The Research Leadership Award is intended to honor scientists previously recognized as Distinguished Scientists who have a longstanding research funding history and also serve as research leaders and mentors on campus.

The Scientist Laureate is UNMC's highest award for research. Nominees must be a nationally and internationally recognized research leader in his or her field, previously recognized as a Distinguished Scientist, and contributed to the UNMC research community for at least five years.



Agenda

Welcome

Jennifer Larsen, MD
VICE CHANCELLOR FOR RESEARCH, UNMC

Remarks

Jeffrey P. Gold, MD
CHANCELLOR, UNMC

Presentation of Awards

Community Service to Research
New Investigator
Distinguished Scientist
Research Leadership
Honorary Scientist Laureate


Remarks

Deans & Directors

Presentation of Scientist Laureate Award

Remarks

Andre Kalil, MD, MPH
2021 UNMC SCIENTIST LAUREATE



Award Winners

Community Service to Research

Rev. Portia Cavitt
Kathy Karsting, RN, MPH

New Investigators

Jana Broadhurst, MD, PhD
Liliana Bronner, MHSA, MBA
Shannon Buckley, PhD
John Dickinson, MD, PhD
Diane Ehlers, PhD
Palsamy Periyasamy, PhD
Abbie Raikes, PhD
Karuna Rasineni, PhD
Christopher Shaffer, PharmD, PhD
Susmita Sil, PhD
Michael Wiley, PhD

Distinguished Scientists

Laura Bilek, PT, PhD
Rebekah Gundry, PhD
Peter Mannon, MD, MPH
Roslyn Mannon, MD
Russell McCulloh, MD
DJ Murry, PharmD
Aimin Peng, PhD
Moorthy Ponnusamy, PhD
Prakash Radhakrishnan, PhD
Joshua Santarpia, PhD
Paul Trippier, PhD
Matthew Zimmerman, PhD

Research Leadership

Risto Rautiainen, PhD
Polina Shcherbakova, PhD

Honorary Scientist Laureate

Courtney V. Fletcher, PharmD

Scientist Laureate

Andre Kalil, MD, MPH



Community Service to Research



The Rev. Portia Cavitt

The Rev. Portia Cavitt, pastor of Clair Memorial United Methodist Church in Omaha, has served her community and UNMC in many ways over the years. She has co-led a collaborative of health care workers and community members with Dr. Jasmine Marcelin, UNMC Department of Internal Medicine, Division of Infectious Diseases, since March 2021 to increase vaccine access in North Omaha and surrounding areas. Through this initiative, more than 5,000 vaccines were provided at a clinic held at Girls Inc.

In a different project but a related effort, Rev. Cavitt partnered with her other nominator, Dr. Keyonna King, UNMC Department of Health Promotion and member of the Center for Reducing Health Disparities at the UNMC College of Public Health, on a project to collect COVID-related information by surveying more than 1,100 North Omaha residents. Rev. Cavitt also has collaborated with other community partners and UNMC researchers on a grant to address obesity in Black residents of Omaha during the pandemic.



Kathy Karsting, RN, MPH

Kathy Karsting, program manager in the Lifespan Health Services, Division of Public Health at the Nebraska Department of Health and Human Services (DHHS) for the UNMC Community Service to Research Award, most recently has worked with UNMC on two federal grants and a series of impactful, widely circulated health reports based on the rich and extensive data collected from these projects. Ms. Karsting's vision and leadership have made it possible for UNMC and Nebraska to adopt a data-driven approach in empowering health agencies, communities, families, schools and Nebraska DHHS to develop evidence-based strategies for improving maternal and child health.

In addition, Karsting's emphasis on purposeful engagement with and oversampling of health care providers, communities, and families from underserved and underrepresented communities, as well as her expertise in developing culturally, linguistically, and age-appropriate programs serving diverse groups of children, has played a key role in the attempt to address inequities in mental health care access for children in Nebraska.



New Investigator



Jana Broadhurst, MD, PhD

Title: Assistant Professor, Department of Pathology and Microbiology,
College of Medicine
Joined UNMC: 2019

Research focus: Infectious disease diagnostics

Why is research important in the world today? Among the many values of research, and continuing to shape the way we do research, is the need to address vast inequities in access to the benefits of innovation and discovery.

My research will make a difference because: Diagnostic testing is an integral tool in protecting our communities from infectious disease threats. To make an impact, innovations in diagnostic technology must be driven by a clear understanding of gaps in clinical and public health systems of practice.



Liliana Bronner, MHSA, MBA

Title: Assistant Professor, Department of Family Medicine; Clinical Education Manager, Director of Medical Pathways, College of Medicine
Joined UNMC: 2003

Research focus: Interprofessional education processes and understanding medical pathways

Why is research important in the world today? Research is what propels bench science and social science forward. The foundation of science is asking questions about the world around you and then seeking answers to better understand those things that matter to you. Research promotes skills in critical thinking, reading, writing, analyzing, and sharing valuable tested information. No matter what career field you are in or how high up you are, there is always more to learn. The same applies to your personal life. No matter how many experiences you have or how diverse your social circle, there are things you do not know. Research unlocks those unknowns, lets you explore the world from different perspectives, and fuels a deeper understanding.

My research will make a difference because: Effective interprofessional teamwork processes are at the heart of health care. Promoting these collaborative concepts and health careers options to the next generation of healthcare providers is appealing to youth. The ultimate goal is improving the pool of providers that reflect our population, so they can improve the experience of care for individuals they treat.



Shannon Buckley, PhD

Title: Assistant Professor, Department of Genetics, Cell Biology and Anatomy, College of Medicine

Joined UNMC: 2015

Research focus: Leukemia and lymphoma

Why is research important in the world today? Scientific discovery impacts many aspects of our lives, and as a basic science researcher, understanding of the disease provides the knowledge of how to treat the disease as well as prevent disease.

My research will make a difference because: Obviously there is no guarantee, but the goal is to identify new targets for drug discovery to provide better therapeutic options for patients with leukemia and lymphoma.



John Dickinson, MD, PhD

Title: Assistant Professor, Division of Pulmonary, Critical Care and Sleep Medicine, Department of Internal Medicine, College of Medicine

Joined UNMC: 2014

Research focus: Airway disease exacerbations

Why is research important in the world today? In the last 20 years, scientists have discovered how changes to the human airway in the lungs develop with time leading to exacerbations in symptoms for those suffering with asthma or COPD. However, less is known about how these exacerbations resolve. Our recent findings identify a mechanism how airway epithelial cells eliminate excess mucin granules through the protein degradation pathway of autophagy. We also identified therapeutic approaches to accelerate this pathway of mucin degradation. We propose this is a novel approach to shorten the recovery time for patients who experience an exacerbation of their underlying asthma or COPD.

My research will make a difference because: COPD is the third leading cause of death in the United States. New approaches are needed to improve outcomes in this disease.



New Investigator



Diane Ehlers, PhD

Title: Assistant Professor, Department of Neurological Sciences,
College of Medicine
Joined UNMC: 2018

Research focus: Exercise and cancer

Why is research important in the world today? The current climate illustrates that science may be more important than ever to ensure evidence-based health information conquers the dangerous misinformation driving many people's health choices. Related to my research, scientists

know the importance of exercise as part of the standard of cancer care, but, in order to achieve this, we are likely required to provide stronger scientific evidence of exercise's role in slowing tumor progression, improving treatment efficacy, and reducing mortality and recurrence. We need more research to warrant exercise as a component of cancer rehabilitation within clinical care.

My research will make a difference because: Quite a bit is known about exercise benefits in cancer prevention and control. However, one area recognized in the most recent exercise guidelines for cancer survivors as promising, but requiring more evidence, is exercise's neurocognitive benefits. Our research aims to fill this knowledge gap by testing the effects of exercise training on neurocognitive function in women with breast cancer. The exercise program uses a community-based model, which we hope will accelerate the translation of our primary findings into community practice. My favorite thing about this research is that exercise isn't a hard sell – patients want resources to support their adoption of physical activity, oncologists want their patients to move more. We get to answer important scientific questions while improving patients' quality of life. It's a win-win.



Palsamy Periyasamy, PhD

Title: Assistant Professor, Department of Pharmacology and Experimental Neuroscience, College of Medicine
Joined UNMC: 2010

Research focus: Epigenetics, HIV and drug abuse, neuroinflammation

Why is research important in the world today?

Because scientific research is the mean of the developments of human societies. Also, research empowers us with knowledge, drives onward progress, and increases the quality of life.

My research will make a difference because:

Drug abuse among HIV-infected individuals poses a significant health burden to society. One of the hallmark features of drug abuse is increased glial cells activation in the setting of HIV-1 infection. My research goal is to investigate the molecular and epigenetic mechanisms involved in HIV-1 (viral proteins) and drug abuse-mediated neuroinflammation. Information gleaned from these studies will form the basis for the future development of novel therapeutic approaches to mitigate central nervous system complications of NeuroHIV.



Abbie Raikes, PhD

Title: Assistant Professor, Department of Health Promotion,
College of Public Health
Joined UNMC: 2016

Research focus: Early child development, domestically and globally

Why is research important in the world today? Getting children off to a great start leads to lifelong health, wellbeing and learning. Even though we have incredibly strong evidence on the importance of early childhood, as a society, we still fail to invest early, and we all pay for it later on. Early inequities in health care and family support lead to long-term gaps consequences for children, families and communities.

My research will make a difference because: To do better for kids, we have to know what's going well and what's not. Having data helps build better environments for young children and families around the world. My team and I are working to identify the strengths and limitations of young children's environments including home environments, childcare and preschool, so we can identify how environments affect young children and what we can do to improve them.



Karuna Rasineni, PhD

Title: Assistant Professor, Division of Gastroenterology and Hepatology,
Department of Internal Medicine, College of Medicine
Joined UNMC: 2010

Research focus: Alcohol-associated fatty liver disease, non-alcoholic fatty liver disease, aging and its effects on alcohol-associated fatty liver disease

The goal of my research is: To employ metabolism-centric approaches to gain a more complete understanding of metabolic hormone (ghrelin, insulin, liver expressed antimicrobial peptide-2 and adiponectin) mediated alterations in multiple pathways and organ-interactions (gut, pancreas, adipose and liver axis) to promote the development of fatty liver diseases.

My research will make a difference because: Fatty liver (characterized by the accumulation of fat in the liver) is the earliest and most common pathology during the development of the two most common chronic liver diseases, alcohol-associated liver disease (ALD) and non-alcoholic fatty liver disease (NAFLD). Both ALD and NAFLD are emerging public health issues globally. Ninety-100% of alcohol consumers develop fatty liver. Additionally, about 100 million individuals in the United States are estimated to have non-alcoholic fatty liver as a result of consumption of a high fat/high sugar diet. Since fat accumulation is regarded as the "first hit" that leaves the liver more vulnerable to develop progressive liver injury, it is considered as a prime target for therapeutic intervention. We hope that a better understanding of the role of hormone-mediated organ interaction in pathogenesis of fatty liver could help us to identify new therapeutic targets and strategies.



New Investigator



Christopher Shaffer, PharmD, PhD

Title: Associate Professor, Associate Dean, College of Pharmacy;
Director, Pediatric Clinical Pharmacology Program
Joined UNMC: 2010

Research focus: Pediatric clinical pharmacology

Why is research important in the world today? Treating pediatric patients with medications can be complex. As a child grows and develops, these bodily changes (along with genetics) can influence how they respond to medications. The Pediatric Clinical Pharmacology program is focused on optimizing medication doses and response while limiting adverse events in this patient population.

My research will make a difference because: We will be able to translate pediatric pharmacologic research directly to patient care, resulting in better treatment outcomes.



Susmita Sil, PhD

Title: Assistant Professor, Department of Pharmacology and Experimental Neuroscience, College of Medicine
Joined UNMC: 2016

Research focus: HIV & substance abuse-induced neurological disorders

Why is research important in the world today? Research is the only way to develop protection/cure from diseases. Additionally, it helps to propel humanity forward while broadening our knowledge.

My research will make a difference because: With different viral infections (HIV, COVID, etc.) setting in, and even after containment, “neurological complications” are the most common symptoms observed in patients. Adding the component of substance abuse triggers the latent viral reservoir, as well as worsens the neurological disorders. Our research is invested in identifying novel pathogenic functions of non-coding RNAs, considered as junk RNAs for long, that can be targeted to develop therapeutics for these neurological disorders. Our overall goal is to establish multipurpose RNA- based therapeutics in neurological disorders. Apart from my research goals, I aim to motivate the youngsters to take up research as their career. Some of the previous summer interns, who had no idea about their prospective future when they came into the lab, are now pursuing PhDs.



Michael Wiley, PhD

Title: Assistant Professor, Department of Environmental, Agricultural and Occupational Health, College of Public Health
Joined UNMC: 2015

Research focus: Infectious disease genomics

Why is research important in the world today? When you think about it, even with all the knowledge we have, we still know so little about this world. Research slowly gives us more insight on our understanding of the world.

My research will make a difference because: My research really focuses on bringing useful technology, in my case DNA/RNA sequencing, to every lab in the world. It is so exciting to see the scientists in the labs that we have deployed equipment and provided training make important contributions to the field of infectious disease.



Distinguished Scientist



Laura Bilek, PT, PhD

Title: Associate Professor, Division of Physical Therapy;
Associate Dean for Research, College of Allied Health Professions
Joined UNMC: 1992

Research focus: Exercise, osteoporosis

Why is research important in the world today? My research currently focuses on the role of exercise in maintaining bone health across the lifespan. There are many processes or diseases that predispose people to unhealthy bones, for which exercise could be an effective mitigation strategy. For example, women lose 1-2% of bone density during the menopause transition, leading to an increased risk for osteoporosis. We typically begin to worry about bones after a fracture or after a person has lost bone density and is osteoporotic. However, because of the nature of bone physiology, strengthening bones earlier in life is the most effective way to prevent fractures in advanced age.

My research will make a difference because: My goal is to conduct research that informs the most effective exercise for bone health across the lifespan. Our recent clinical trial identified that exercise strengthens bones of early post-menopausal women by changing the size and structure of the bones, rather than increasing bone density. I am part of a research team investigating if exercise can restore bone health in children after cancer therapy and in persons with bone loss due to weight-loss surgery.



Distinguished Scientist



Rebekah Gundry, PhD

Title: Professor and Vice Chair, Department of Cellular and Integrative Physiology; Professor and Assistant Chief of Basic and Translational Research, Division of Cardiovascular Medicine; Director, CardiOmics Program, College of Medicine
Joined UNMC: 2019

Research focus: Heart, cell surface glycoproteins, mass spectrometry

Why is research important in the world today? Today's discoveries propel tomorrow's cures.

My research will make a difference because: We make discoveries of the human heart not previously known, transforming our understanding of what molecules are present in the human heart and how they change in disease. This new insight fuels our understanding of disease processes and reveals untapped therapeutic targets. We are also developing new tools and reagents to promote the use of stem cell technologies for improved drug testing and disease modeling.



Peter Mannon, MD, MPH

Title: Professor and Chief, Division of Gastroenterology and Hepatology; Director, Frederic F. Paustain Inflammatory Bowel Disease Center; Ruth and Bill Scott Endowed Presidential Chair of Internal Medicine, College of Medicine
Joined UNMC: 2020

Research focus: Inflammatory bowel diseases (Crohn's disease and ulcerative colitis)

Why is research important in the world today? Research is the only way to create the knowledge that fills the gaps to allow us to progress in our mission to improve life on Earth.

My research will make a difference because: My work is patient-centered and uses clinical models to test questions whose answers can be directly applied to medical practice. The interactions of the human immune system with the environment is a universal model for factors that are important to underwriting health and driving disease.



Roslyn Mannon, MD

Title: Professor and Vice Chair of Research Mentoring and Academic Development, Department of Internal Medicine; Associate Chief of Nephrology for Research, Division of Nephrology, College of Medicine
Joined UNMC: 2020

Research focus: Kidney transplantation

Why is research important in the world today? Medicine, as a field, has evolved dramatically over the last decades, and these improvements have occurred through the work of many scientists. A great example are the mRNA vaccines for COVID-19, and the astounding speed in which they were developed. Without the fundamental question, “why” and understanding the mechanisms behind different diseases, medical care would devolve into the same algorithm and the notion of personalized care a far-off dream.

My research will make a difference because: Late failure of the kidney allograft, the subject of my research, remains a clinical challenge. Our work doesn’t point to a single solution but identifies the numerous syndromes – both immunological and non-immunological – that may occur years post-transplant. These studies have impacted the field, with small, steady improvements in graft outcomes for our patients.



Russell McCulloh, MD

Title: Associate Professor and Chief, Division of Pediatric Hospital Medicine, College of Medicine
Joined UNMC: 2018

Research focus: Infections and implementation science

Why is research important in the world today? Research is the key to empowering communities and individuals to improve their lives. Now more than ever we are facing challenges to our health and well-being. The new knowledge we create through research is the best way for us to tackle these challenges, from developing new treatments and preventatives to defining new approaches to help individuals and health care providers make the best decisions. Research is a partnership – a compact – with the community, where scientists who have expertise work side by side with individuals and communities to identify and address complex problems together.

My research will make a difference because: My research helps health care providers, individuals, families, and communities make the best decisions possible in the heat of the moment and over time. Day to day, we are all drowning in information; finding ways to use the right information at the right time to take the best action possible helps make that information less overwhelming and more useful. I also work to engage communities in clinical trials research based on their needs and concerns. My goal is to provide novel solutions to the problems that communities say are important. Clinical trials are a crucial way that scientists and communities partner to generate new knowledge for everyone’s benefit.



Distinguished Scientist



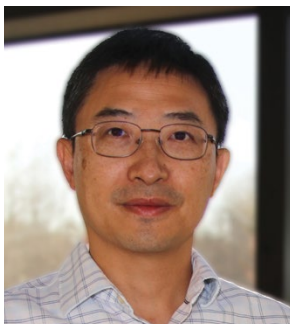
DJ Murry, PharmD

Title: Professor, Department of Pharmacy Practice and Science,
College of Pharmacy
Joined UNMC: 2015

Research focus: Personalized therapeutics, pharmacology

Why is research important in the world today? Research is critical in the world today to help us generate new knowledge to improve all aspects of society. For every breakthrough, there are new, unanswered questions that must be researched.

My research will make a difference because: My research will increase our knowledge of patient-specific factors that influence drug response, toxicity and outcome and lead to the development of strategies to optimize drug use across disease states.



Aimin Peng, PhD

Title: Associate Professor, Department of Oral Biology, College of Dentistry
Joined UNMC: 2010

Research focus: DNA damage responses

Why is research important in the world today? Radiotherapy or chemotherapy kills cancer cells primarily by inducing DNA damage. Accordingly, mechanisms that allow cells to repair DNA damage and recover from the DNA damage response are critical for tumor recurrence and ideal targets for cancer therapy. Furthermore, cancer cells often exhibit

dysregulated DNA damage responses, as a necessary step toward tumor initiation and progression. Based on that, the DNA damage response pathway is of strong interests for cancer prevention, and for development of specific therapeutics that exploit the intrinsic DNA damage response deficiencies in cancer.

My research will make a difference because: Our research reveals new mechanisms of DNA damage responses and tumor resistance. We identify and characterize new drug targets and therapeutic agents that will potentially improve the efficacy of cancer therapy.



Moorthy Ponnusamy, PhD

Title: Associate Professor, Department of Biochemistry and Molecular Biology, College of Medicine

Joined UNMC: 2006

Research focus: Cancer stem cells, pancreatic and ovarian cancers, therapeutic targets

Why is research important in the world today? My research is focused on the identification and characterization of cancer stem cell populations in pancreatic and ovarian cancers. Over the last several years, it has been

evident that a small population of cancer cells, referred to as cancer stem cells, is responsible for the disease aggressiveness, resistance to therapy, and spread of the tumor. Cancer stem cells are difficult to target using conventional therapies because they are drug-resistant. We have identified a novel biomarker, pancreatic differentiation 2 (PD2), involved in the maintenance of drug resistance and self-renewal of cancer stem cells in ovarian and pancreatic cancers. Our current research is focused on investigating the impact of PD2 in the self-renewal and drug-resistance of cancer stem cells for this lethal disease.

My research will make a difference because: Cancer stem cells, a small subset of the tumor population, play a central role in tumorigenesis and metastasis in different cancers. Metastasis is the primary cause of cancer-related deaths; therefore, identifying specific molecular mechanisms contributing to metastasis is highly prioritized. Therefore, my research focuses on understanding the stemness properties in heterogeneous cancer stem cells and how these populations contribute to the metastasis of aggressive cancers. Identifying a biomarker for the maintenance of cancer stem cells would provide critical information for the long-term goal of developing novel targeted therapy against lethal cancers. Furthermore, my other goal is to establish a 3D organoid culture to understand therapy response, since it mimics tumor biology and physiology better than monolayer culture and provides scope for personalized treatment.



Distinguished Scientist



Prakash Radhakrishnan, PhD

Title: Associate Professor, Eppley Institute

Joined UNMC: 2005

Research focus: Pancreatic cancer, tumor glycobiology

Why is research important in the world today? To understand the cause of disease progression, identify novel targets, and develop targeted therapeutics to improve patients' survival and quality of life.

My research will make a difference because: Pancreatic cancer is a highly lethal disease. Chemotherapies remain the mainstay for advanced-stage pancreatic cancer; they produce incomplete responses and high toxicities. Thus, our research seeks to understand the molecular basis of disease progression and develop new tumor glycobiology-based targeted therapy for pancreatic cancer.



Joshua Santarpia, PhD

Title: Associate Professor, Department of Pathology and Microbiology,
College of Medicine

Joined UNMC: 2018

Research focus: Infectious Bioaerosols

Why is research important in the world today? The coronavirus pandemic has brought scientific research even more into the mainstream thinking, and people have seen that research can help them improve their lives more than ever before. From developing new technologies, like vaccines and medical

devices, to advising people on the best ways to protect themselves, science has improved the lives of many during this pandemic.

My research will make a difference because: My research investigates the spread of infectious disease and develops new technologies for that purpose. We also identify ways to mitigate the spread of those diseases both through novel antimicrobials and new protective technologies. With this work, we hope to help understand the best ways to identify the spread of diseases and limit peoples exposure to them.



Paul Trippier, PhD

Title: Associate Professor, Director for Graduate Studies, Department of Pharmaceutical Sciences, College of Pharmacy
Joined UNMC: 2019

Research focus: Drug discovery

Why is research important in the world today? Finding new knowledge has always been ingrained in humans right from birth. I see it every day in my daughters. I just use cutting edge technology while they use whatever is in their toy box. Scientific research has the ability to address some of the most

significant problems facing humanity: our environment, space exploration, new ways to treat and prevent disease. The pandemic has highlighted the importance of science to everyone. My own research is focused on developing new ways to combat disease. Ultimately, that is the importance of research to improve human life and UNMC is a world leader in that.

My research will make a difference because: We have a number of projects in my lab trying to understand how diseases work and developing new potential drugs to offer therapeutic options to improve patients' lives. We work on cancer, stroke and neurodegenerative diseases such as Alzheimer's and ALS. We have an interest in applying our science to pediatric diseases and have just received funding to design new compounds as possible therapeutics for Batten disease, a rare disease in children. My research will make difference by hopefully allowing people to live longer and better-quality lives.



Matthew Zimmerman, PhD

Title: Associate Professor, Department of Cellular and Integrative Physiology, College of Medicine
Joined UNMC: 2007

Research focus: Hypertension, redox & antioxidants

Why is research important in the world today? To continue to improve the quality of life of all humans, we must continue to explore and investigate basic, clinical, and population sciences. As a global research community, we have made so many great advances to improve the lives of millions of

people. However, there are still millions of people that struggle every day to thrive. More research will result in more discoveries, which will contribute to the betterment of all humans.

My research will make a difference because: Hypertension is a significant risk factor for stroke, heart failure, and kidney disease. More than one-third of the U.S. adult population is hypertensive, and nearly half of those individuals are unable to control their high blood pressure despite being prescribed multiple anti-hypertensive drugs. The primary goal of my research program is to develop novel antioxidant-base therapeutics for the improved treatment of hypertension that will also improve patient medication adherence.



Research Leadership



Risto Rautiainen, PhD

Title: Professor, Department of Environmental, Agricultural and Occupational Health,
College of Public Health

Joined UNMC: 2009

Research focus: Health and safety in agriculture

Why is research important in the world today? Research is needed to create unbiased information that can be used as a foundation for a sustainable development of health and wellbeing of the mankind.

My research will make a difference because: Farmers, ranchers, agricultural workers, and their family members have high rates of injury and illness that can be prevented with targeted research, intervention, and outreach.

The best advice I could give a beginning researcher is: Find the research area that you really care about, build your expertise by training and work experience, and become a good marketer of your research expertise.



Polina Shcherbakova, PhD

Title: Professor, Eppley Institute

Joined UNMC: 2003

Research focus: Mechanisms of mutation

Why is research important in the world today? Research has always been and will be important. It is the way to gain knowledge. Progress in most areas, from manufacturing to education to medicine to international relations, and, I dare to say, the world's sanity relies on people who value knowledge.

My research will make a difference because: It helps people understand how disease-causing mutations arise in our bodies. Cancer treatment choices are already guided to some extent by the information on the mutation patterns of tumors. Our research helps physicians determine what therapy is more likely to work for a particular patient. We also help determine which people are more likely to get cancer and would benefit from appropriate medical surveillance. A large part of our activities is training younger generations of researchers to ensure the high quality of future science.

The best advice I could give a beginning researcher is: Have your life revolve around a scientific question that you are truly passionate about, not the requirements you need to fulfill or the next career move. Find an environment that values you as a scientist. Connect with others in your field.



Honorary Scientist Laureate



Courtney V. Fletcher, PharmD

Professor, Department of Pharmacy Practice and Science,
College of Pharmacy

Courtney V. Fletcher, PharmD, is presently Professor and Director of the Antiviral Pharmacology Laboratory, and Dean-emeritus of the UNMC College of Pharmacy.

Dr. Fletcher became dean in 2007 and stepped down from the role in 2018. He oversaw a phenomenal period of research growth at the college. Under his tenure, the college saw a 99.5 percent increase in NIH funding. When he left the role in 2018, the UNMC College of Pharmacy ranked 10th in total NIH funding out of the more than 145 colleges and schools of pharmacy in the U.S. The College ranked third out of all U.S. colleges and schools of pharmacy in NIH research funding per FTE faculty and had been in the top 10 in this measure for the past nine years. Additionally, annual grant submissions had increased 162 percent since 2007.

As dean, Dr. Fletcher developed the proposal and oversaw the 2016 opening of the UNMC Center for Drug Discovery-Lozier Center for Pharmacy Sciences and Education, a \$35 million building entirely constructed through private giving.

As a researcher, Dr. Fletcher has been continually NIH-funded since 1987, receiving more than \$16 million as a principal investigator and \$64 million as a co-investigator. His research has been focused on finding more effective drugs and approaches to treat, and potentially cure, infection with HIV.

Dr. Fletcher has authored or co-authored more than 205 manuscripts in peer-reviewed scientific journals and more than 190 research papers for presentation at national and international scientific meetings. He has directed the training of 14 post-doctoral fellows and 13 graduate students.

Dr. Fletcher is an elected fellow of the American Association for the Advancement of Science (AAAS); he is the second faculty member in the history of UNMC to achieve this recognition. He is also a fellow of the American College of Clinical Pharmacy. Dr. Fletcher has been a member of the FDA Antiviral Drug Advisory Committee, the Panel on Clinical Practices for the Treatment of HIV Infection for the US Department of Health and Human Services, the AIDS Discovery and Development of Therapeutics (ADDT) Study Section for the National Institutes of Health, and a member of the Organizing Committee for the Conference on Retroviruses and Opportunistic Infections.

Prior to joining UNMC, Dr. Fletcher served as chair of the department of clinical pharmacy at the University of Colorado Health Sciences Center in Denver for five years. Prior to going to Colorado, Dr. Fletcher held academic pharmacy positions at the University of Minnesota (1983-2002) and Drake University (1982-83). At Minnesota, he served as professor in the College of Pharmacy's Department of Experimental and Clinical Pharmacology. He began his academic pharmacy career at Drake, where he held the position of clinical assistant professor.



Scientist Laureate






Andre Kalil, MD, MPH

Professor, Department of Internal Medicine;
Director, Transplant Infectious Diseases, College of Medicine

Andre Kalil, MD, MPH, is a professor in the UNMC Division of Infectious Diseases and director of transplant for the division. A native of Brazil, Dr. Kalil finished medical school and residency there before completing another residency at University of Miami, a critical care fellowship and later a research fellowship at the National Institutes of Health (NIH) and an infectious diseases fellowship at Harvard. He joined the UNMC faculty in 2003. He has published more than 200 papers, including two of UNMC's top six cited papers last year. His NIH, Department of Defense and commercially sponsored research are focused on identifying, understanding, preventing and treating the infectious diseases in immunocompromised patients, particularly transplant patients. During the pandemic, Dr. Kalil was an integral contributor to a series of NIH- sponsored trials at UNMC/Nebraska Medicine to determine the effectiveness, risks and role of new COVID-19 therapeutics, that were lifesaving to so many. This included a \$1.4 million NIH-funded Adaptive COVID-19 Treatment Trial (ACTT) which led to the FDA approval of remdesivir, which is now an integral part of COVID inpatient treatment. He also led a national discussion on the importance of conducting randomized controlled trials of potential new therapies even during the pandemic.





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