



Distinguished Scientist

AWARDS CEREMONY

November 14, 2024
Durham Research Center Auditorium



“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.”

Ken Bayles, PhD

Vice Chancellor for Research, UNMC



Award Descriptions

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.

Award Winners

New Investigators

Eppley Institute

Suyong Choi, PhD

College of Medicine

Sara Bares, MD

Subhash Chand, M.Tech, PhD

Sujata Chaudhari, PhD

Lynda Harris, PhD

Harshraj Leuva, MBBS

Bethany Lowndes, PhD, MPH

Shibiao Wan, PhD

College of Nursing

Breanna Hetland, PhD, RN, CCRN

College of Pharmacy

Sean Avedissian, PharmD, MSc, PhD

College of Public Health

Jocelyn Herstein, PhD, MPH

Shireen Rajaram, PhD

Distinguished Scientists

College of Public Health

Edward Peters, DMD, SM, ScD

Lynette Smith, PhD

College of Dentistry

Sumit Yadav, BDS, MDS, MBA, PhD

College of Medicine

Keshore Bidasee, PhD

Rey Carabeo, PhD

Karen Gould, PhD, MEd

So-Youn Kim, PhD

Wasim Nasser, PhD

Research Leadership

College of Medicine

Kaleb Michaud, PhD

College of Pharmacy

Corey Hopkins, PhD, FRSC

Scientist Laureate

Eppley Institute

Hamid Band, MD, PhD



Agenda

Welcome

Ken Bayles, PhD

VICE CHANCELLOR FOR RESEARCH, UNMC

Remarks

H. Dele Davies, MD

INTERIM CHANCELLOR, UNMC

Presentation of Awards

New Investigator
Distinguished Scientist
Research Leadership

Presentation of Scientist Laureate Award

Remarks

Hamid Band, MD, PhD

2024 UNMC SCIENTIST LAUREATE



Poster Presentations

Please join us after the ceremony for a small reception and poster presentation in the DRC II, Commons. Posters to include:

Impact of cannabidiol (CBD) on HIV infection and methamphetamine abuse associated neuroinflammation – H.Fox, S.Chand

Unexpected roles of phosphoinositides in the nucleus – S.Choi

Assessing Melatonin's Potential in Mitigating Oxycodone-Induced Placental Changes In Pregnant Rats – I.Adediji, H.Kowash, P.Nouri Mousa, J.Ziegenbein, V.Schaal, G.Pendyala and L.K.Harris

A Research Agenda for Global Biocontainment Patient Care – J.Herstein, K.Stern, S.Shea, N.Willms, L.Sauer

Healing Beyond Medicine: Leveraging Technology to Empower Patients and Families During Critical Illness – B.Hetland

Comparing the efficacy of abiraterone and enzalutamide in United States veterans with metastatic castration-sensitive prostate cancer (mCSPC) by estimating rates of tumor growth (g-rate) – H.Leuva, M.Zhou, R.Stamatov, B.Teply, T.Rosenberg, C.Luhrs, P.Mundi, Y.Park, S.Bates, I.Faiena, A.Fojo

Feasibility of Integrating Electromyography and Computer Vision for Occupational Safety During Tractor Ingress and Egress – B.Lowndes, A.Pineda-Gutierrez, S.Pitla, S.RumuriNyacyesa, K.Siu, A.Yoder,

Wan Lab: Machine Learning and Bioinformatics (MLAB) for Biomedical Research – S.Wan

Cardiac Diastolic Dysfunction with Micro-Ischemia and Fibrosis in Female HIV-1 Infected Humanized mice treated with cART – K.Bidasee, P.Dash, Z.Venn, C.Zhang, S.Bidasee, R.Rock. T.Arias, B.Hackfort, L.Guo, S.Gorantla

Iron-dependent transcriptional regulation links pathogen recognition with nutritional immunity – M.Alla, N.Pokorzynski, A.Swoboda, J.Lee, S.Ouellette, R.Carabeo

Enhanced B cell proliferation in autoimmune-prone female mice requires ER alpha-dependent stimulation of SHP2-p 38 MAPK-MEF2c and cMyc pathways – J.Graham and K.Gould

Oocyte death is triggered by the stabilization of Tap63a dimers in response to cisplatin – A.Abazarikia, W.So, S.Kim

Understanding the functional role and targeting potential of B7H3 in small cell lung cancer – M.Fatima, P.Khan, MA.Khan, A.Rehman, M.Zaidi, A.Ahmad, L.Anwar, S.Lele, A.Ganti, S.Batra, B.St.Croix, M.Nasser

Investigating PRG4 reexpression as a treatment for TMJ degenerative diseases – P.Chen, A.Tanguay, K.Wang, T.Schmidt

Further SAR of GIRK1/2 Activators: In Vitro Biological Characterization and Evaluation of Effects on Neuropathic and Inflammatory Pain in Rodents – S.Nahid, F.Rahman, Y.Du, B.Spitznagel, S.Singh, Y.Chonkker, D.Murry, N.Yan, K.Sharma, X.Xie, C.Weaver, and C.Hopkins

Targeting CBL and CBL-B Ubiquitin Ligases to Exhaust Cancer Stem Cells in Metastatic Breast Cancer – B.Mohapatra, A.Bhat, M.Raza, H.Luan, S.Shresta, M.Storck, L.Li, F.Kuo, S.Lele, F.Qiu, D.Ciccone, C.Loh, S.Wan, V.Band, H.Band.

Targeting the EHD2-Orai1 Axis in Triple Negative Breast Cancer – H.Luan, B.Mohapatra, T.Bielecki, A.Cerci, A.Bhat, M.Raza, M.Storck, S.Ramanathan, V.Band, H.Band

Targeting CBL and CBL-B Ubiquitin Ligases to Exhaust Cancer Stem Cells in Metastatic Breast Cancer – B.Mohapatra, A.Bhat, M.Raza, H.Luan, S.Shresta, M.Storck, L.Li, F.Kuo, S.Lele, F.Qiu, D.Ciccone, C.Loh, S.Wan, V.Band, H.Band.



New Investigator



Suyong Choi, PhD

Title: Assistant Professor, Eppley Institute

Joined UNMC: 2021

Hometown: Sacheon, South Korea

Research focus: Phosphoinositide signaling

Why is research important in the world today? Research on nature provides faint guidelines for an uncertain future. The exploration of life phenomena, which are part of nature, is very important because it presents a clue on how it can be used in a beneficial way for humanity.

My research will make a difference because: Phosphoinositides are a rare class of phospholipids and are thus canonically considered to be confined to cellular membranes. Unexpectedly, we discovered that a significant fraction of phosphoinositides and their metabolizing enzymes are present in the nucleus, distinct from nuclear membranes. We are conducting pioneering studies on the nature and functions of nuclear phosphoinositides, with a focus on their disease implications, particularly in cancer. We believe that our current research will provide fundamental knowledge that could lead to the development of new anti-cancer drugs.



Sara Bares, MD

Title: Associate Professor, Infectious Diseases, College of Medicine

Joined UNMC: 2013

Hometown: Mexico City, Mexico

Research focus: HIV comorbidities

Why is research important in the world today? Research is crucial in today's world because it drives innovation, informs evidence-based decision-making, and addresses pressing global challenges. Research allows us to discover new treatments, improve quality of life, and

address disparities. For example, in the field of HIV, research is vital for developing better therapies, understanding the long-term effects of aging with the virus, and addressing the unique challenges faced by different populations of people with HIV. By exploring these areas, research not only enhances healthcare but also helps shape policies and systems to create more equitable and informed solutions for diverse populations.

My research will make a difference because: More than half of people with HIV in the US are over the age of 50. Although the life expectancy of people with HIV is approaching that of people without HIV, they are twice as likely to experience a heart attack, stroke, and other non-infectious comorbidities. My research focuses on ways to reduce the burden of non-infectious comorbidities in people with HIV, and ultimately, to help improve not just the quantity, but the quality, of their lives.



Subhash Chand, M.Tech, PhD

Title: Assistant Professor, Anesthesiology, College of Medicine

Joined UNMC: 2018

Hometown: Azamgarh, UP, India

Research focus: HIV/AIDS, substance abuse, and neuroinflammation.

Why is research important in the world today? Research is crucial for advancing knowledge and is foundational to progress across all areas of life. In my laboratory, we are investigating the molecular mechanism of HIV/AIDS and substance abuse-associated neuroinflammation

and neurocognitive impairments and their possible treatments. We are also exploring the potential of extracellular vesicles (exosomes) in drug loading and targeted drug delivery.

My research will make a difference because: HIV and substance abuse constitute a health syndemic and result in a significant economic burden. Treatment options for neuroinflammation in HIV patients with substance abuse are limited, and despite various advancements, existing treatments fall short of directly targeting neuroinflammation and associated neurocognitive impairments. HIV and substance abuse induce neuroinflammation through the upregulation of the inflammatory pathway. Cannabidiol, a component of cannabis, might serve as a potential treatment option by downregulating this pathway. Our research on cannabidiol has the potential to decrease neurocognitive decline associated with HIV and substance abuse. Developing these therapies will directly benefit vulnerable populations.



Sujata Chaudhari, PhD

Title: Assistant Professor, Pathology, Microbiology, and Immunology,

Joined UNMC: 2020

Hometown: Pune, India

Research focus: Arthropod vector biology

Why is research important in the world today? Arthropods such as mosquitoes and ticks can carry pathogens that cause life-threatening diseases. Understanding their biology is key to learning how they acquire and transmit pathogens to humans and animals. Uncovering

the mechanisms and pathways used by these disease-carrying arthropods could help reduce both the healthcare and economic burden they impose.

My research will make a difference because: My research aims to understand how physiological adaptations in arthropods enhance their role as vectors for transmitting diseases to humans and animals. We use advanced molecular biology and microscopy techniques to explore key aspects of arthropod biology, with the goal of identifying new targets for controlling these disease-carrying vectors.



New Investigator



Lynda Harris, PhD

Title: Associate Professor, Obstetrics and Gynecology, College of Medicine

Joined UNMC: 2022

Hometown: Sheffield, UK

Research focus: Placental (dys)function

Why is research important in the world today? Research has the potential to change things for the better, by generating new ideas and innovative solutions to the problems around us. We are able to make more informed and successful decisions when we take the time to really understand the world around us, and the needs and perspectives of the people in it.

My research will make a difference because: There are still no effective treatments for pregnancy complications other than monitoring and delivering the baby. Pre-eclampsia, fetal growth restriction, pre-term labor and stillbirth affect more than 10% of pregnancies in the USA, with significantly higher rates in historically marginalized communities. My research aims to develop new, safer medicines for use in pregnancy, by creating targeted nanoparticles to selectively deliver drugs to the placenta. This allows the placental abnormalities underlying these conditions to be treated, whilst preventing the potentially harmful transfer of drugs into the baby's circulation. As suboptimal development in the womb influences many aspects of health in later life, making healthier babies means creating a healthier society.



Harshraj Leuva, MBBS

Title: Assistant Professor, Hematology/Oncology, College of Medicine

Joined UNMC: 2022

Hometown: Ahmedabad, India

Research focus: Tumor growth rate

Why is research important in the world today? Our goal should be to improve patient care by providing more efficacious and less toxic treatment options. While we have made good progress in the last decade when it comes to cancer, we have a long way to go to be able to cure or treat all of our patients with minimal disruption of their lives.

My research will make a difference because: My research focuses on improving how we measure treatment efficacy and response via novel tumor growth rate measurement method. We will be able to individualize response assessment and precisely inform patients how they are responding to the treatment while the prostate cancer treatment is ongoing, which correlates with overall survival. I also focus on improving diversity in our clinical trials. Clinical trials should represent and enroll our community as a whole. When we conduct them correctly, the results are more applicable to our community than to a particular group.



Bethany Lowndes, PhD, MPH

Title: Associate Professor, Neurological Sciences, College of Medicine

Joined UNMC: 2018

Hometown: Gretna, NE

Research focus: Human-Centered Engineering

Why is research important in the world today? As medical treatments and healthcare practices advance, the systems supporting care delivery become more complex. This complexity leaves healthcare systems vulnerable to errors, high workload for clinicians, and functioning with

siloted procedures and practices. Research in healthcare delivery can take a principled approach to identify these vulnerabilities, develop human-centered solutions, and guide sustainable implementation. These research efforts are invaluable for informing the future of healthcare delivery and optimizing safety, patient experience, and clinician wellbeing.

My research will make a difference because: People come first. Patient-centered care is successful through multidisciplinary approaches. Through Human Factors and Ergonomics, I collaborate with clinicians to assess, co-develop, and implement solutions that meet the needs of all users on the team. I apply what we know about people—their abilities, characteristics, preferences, and limitations—to inform the design of equipment, environments in which they work and their workflow. Research and innovative development by my team will enhance safety and wellbeing.



Shibiao Wan, PhD

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

Joined UNMC: 2022

Hometown: Wuhan, China

Research focus: Machine learning, bioinformatics, and cancer research

Why is research important in the world today? With the avalanche of bulk, single-cell and spatial multi-omics data and the explosion of multi-modal medical imaging data and heterogeneous electronic

health records (EHRs), artificial intelligence (AI) and machine learning (ML) as well as bioinformatics have become essential to facilitate investigating various aspects of human diseases, such as cancer research, disease diagnosis, therapeutic design, and drug discovery.

My research will make a difference because: With an interdisciplinary training background in both data science and biology, my research explores machine learning and bioinformatics methods to develop efficient computational models for single cell analysis, multi-omics analysis, spatial multi-omics, cancer research, intelligent healthcare and precision medicine. By integrating multi-modal data from omics data, imaging data and electronic health records data, we can develop accurate and efficient AI/ML and bioinformatics models and tools for disease diagnosis and prognosis, treatment response prediction, health disparities reduction, drug design, and precision medicine.



New Investigator



Breanna Hetland, PhD, RN, CCRN

Title: Assistant Professor, College of Nursing

Joined UNMC: 2017

Hometown: Bartonville, IL

Research focus: ICU family engagement

Why is research important in the world today? Nursing research is crucial today as it addresses healthcare distrust while driving evidence-based practice. With nursing consistently ranked as the most trusted profession, nurse scientists bridge the gap between scientific

advancements and public perception. Our work improves patient outcomes, develops innovative care strategies for emerging health challenges, and informs health policy decisions.

My research will make a difference because: It modernizes healthcare by moving families from the periphery to the center of the healthcare team. This shift can reduce social isolation, improve care quality and safety, increase satisfaction, and decrease costs. By developing tools to transform passive family participation into active contributions, we can create a more inclusive, effective, and compassionate critical care environment. Ultimately, my research paves the way for a paradigm shift in healthcare, weaving the threads of love and clinical support into the fabric of whole person healing.



Sean Avedissian, PharmD, MSc, PhD

Title: Assistant Professor, Pharmacy Practice and Science,
College of Pharmacy

Joined UNMC: 2019

Hometown: Durate, CA

Research focus: Central nervous system (CNS) translational pharmacology; pharmacokinetics/pharmacodynamics

Why is research important in the world today? My research focuses on describing the CNS pharmacology of antimicrobial agents. My lab achieves this by utilizing both clinical and preclinical models. For example, we use state-of-the-art population pharmacokinetic modeling and physiologically based pharmacokinetic modeling to estimate drug exposure in patients. Additionally, we use both in vivo and in vitro models to explore drug penetration through the CNS. Recently, we have added the microfluidic chip model to explore drug penetration in a more dynamic manner.

My research will make a difference because: It can help describe CNS pharmacology to better understand how drugs can be utilized to treat CNS infections. For HIV, this means identifying potential viral reservoirs in the CNS and understanding how different antiretroviral therapy regimens can be used to maximize pharmacodynamic goals. If we can understand the pharmacology of various drugs in the CNS, we can better treat conditions related to CNS disorders. Since my focus is primarily on antimicrobial agents, the knowledge gained from our experiments is not limited to infectious diseases as it can be applied to various other CNS-related conditions.



Jocelyn Herstein, PhD, MPH

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

Joined UNMC: 2014

Hometown: Lincoln, NE

Research focus: High-consequence infectious diseases

Why is research important in the world today? Research provides an evidence base to inform sound decision-making and drives innovation and new and improved ways of doing things.

My research will make a difference because: The world is increasingly vulnerable to emerging infectious diseases. I have the opportunity to work with interdisciplinary teams to improve outbreak preparedness, enhance the protection of workers at higher risk of exposure to special pathogens, and use research to advocate for funding and resourcing of specialized capabilities for outbreak response.



Shireen Rajaram, PhD

Title: Associate Professor, Health Promotion, College of Public Health

Joined UNMC: 2009

Hometown: Chennai (Madras), India

Research focus: Gender-based violence and brain injury

Why is research important in the world today? Public health research and practice enable us to take a systematic and scientific approach to better understand and address real-world problems that affect people, especially those in disenfranchised communities. Research helps us be collaborative, innovative, and open to new ways of thinking and solving problems. Through critical thinking, informed decision-making, and the advancement of knowledge, we can improve the lives of people, locally, regionally and globally.

My research will make a difference because: There is very little awareness of the fact that survivors of intimate partner violence (IPV) are at high risk for brain injury due to one or more hits to the head, neck and face and attempted strangulation. Brain injury can have short- and long-term consequences on IPV survivors' well-being and quality of life.

Using implementation science, this project will provide insights into how strategies to increase screening of brain injury and referral to support services can be effectively integrated into the workflow for IPV-serving community organizations using a participatory approach.

Comprehensive screening of brain injury among IPV-serving community-based organizations and timely neurorehabilitation interventions such as referral to and receipt of evidence-based approaches have the potential to mitigate the impact of IPV-related brain injury, and aid women in the recovery process.



Distinguished Scientist



Edward Peters, DMD, SM, ScD

Title: Professor and Chair, Epidemiology, College of Public Health

Joined UNMC: 2021

Hometown: New Haven, CT

Research focus: Cancer epidemiology disparities

Why is research important in the world today? It addresses health disparities, particularly in cancer and chronic diseases, by examining social determinants and environmental stressors. My transdisciplinary approach combines biological, social, and environmental factors to

enhance our understanding of complex health issues and is increasingly relevant to understanding the long-term consequences of technological and environmental disasters and their impact on chronic diseases. By bridging scientific discoveries with practical applications, our work informs public health policies and interventions to reduce health inequities and improve population health outcomes.

My research will make a difference because: It addresses a critical issue in public health: the persistent disparities in chronic disease outcomes, particularly cancer, among different populations. My work examines the complex interplay of biological, environmental, and social factors contributing to these health inequities. By investigating the impacts of environmental stressors, social support systems, and community resources, this research provides insights into why certain groups face higher risks of cancer and other chronic diseases.



Lynette Smith, PhD

Title: Associate Professor, Biostatistics, College of Public Health

Joined UNMC: 2000

Hometown: Culbertson, NE

Research focus: Cancer biomarker discovery and validation

Why is research important in the world today? Research, when appropriately carried out, is the best way to answer scientific questions due to its unbiased and systematic nature.

My research will make a difference because: My work as a statistician is to ensure rigorous study design and the most appropriate analysis methods are applied to address research questions. I also provide interpretations and assistance in results dissemination. Applying the best statistical practices to biomarker research, we hope to identify biomarkers that can detect cancer early when it can be resected, especially for pancreatic and ovarian cancers. We have found that single biomarkers do not have adequate performance for use in surveillance or screening, so as part of my biostatistics methodology development, we are working to determine combinations of biomarkers that have good performance upon validation. This requires robust methods for combining the biomarkers as well as protections against model overfitting.



Sumit Yadav, BDS, MDS, MBA, PhD

Title: Professor and Chairman, Growth and Development, College of Dentistry and Children's Nebraska

Joined UNMC: 2023

Hometown: Kanpur, India

Research focus: Osteoarthritis

Why is research important in the world today? Research plays vital roles in our lives and helps with advancement of our society. In my mind, research is synonymous with innovation.

My research will make a difference because: Aging, obesity and trauma are the major risk factors for joint disorders, including the Temporomandibular Joint. TMJ degeneration significantly impair the quality of life by causing acute and chronic pain, thus making this disease a global health issue. Cellular senescence has been implicated as a common mechanism behind aging, obesity and trauma associated TMJ osteoarthritis. High expression of p21 is a hallmark of cellular senescence. My research will eliminate p21Cip1-highly-expressing (p21high) cells in TMJ osteoarthritis in aging, obesity and trauma.



Keshore Bidasee, PhD

Title: Professor, Pharmacology and Experimental Neuroscience, College of Medicine

Joined UNMC: 2002

Hometown: San Juan, Trinidad and Tobago

Research focus: The dark side of glycolysis

Why is research important in the world today? Research is crucial for making our lives better. Without roadmaps we are forced to use our intellect to identify new foods to nourish our bodies, to discover new medicines to improve our health, and to develop new or better understand old practices and traditions to gain spiritual enlightenment. Research ensures that those that come after us are in a better place in the continuum of life.

My research will make a difference because: We think outside the "box"! Heart failure, kidney disease, and dementia are major causes of morbidity and mortality in people with diabetes mellitus and HIV-1 infection. Each of these end organ diseases are currently treated separately at enormous cost to the patient and health care system. Using a novel gene-transfer strategy, we recently discovered that these end organ diseases are linked to a common mechanism: damage to their microvasculature arising from accumulation of toxic levels of the glycolysis byproduct methylglyoxal. Currently, we are synthesizing and testing novel cell penetrant drugs to lower methylglyoxal and blunted end organ deficits in preclinical models. A single pill would be better than multiple pills!



Distinguished Scientist



Rey Carabeo, PhD

Title: Professor, Pathology, Microbiology, and Immunology, College of Medicine

Joined UNMC: 2019

Hometown: San Francisco, CA

Research focus: Host-pathogen interactions

Why is research important in the world today? Research pushes the boundaries of our understanding of nature, resulting in discoveries, innovation, and solutions.

My research will make a difference because: It is focused on a clinically relevant pathogen, Chlamydia trachomatis that globally, causes over 100 million new reported cases of the sexually transmitted infection chlamydia annually. Because Chlamydia infections are often asymptomatic, infected individuals do not seek treatment, and unknowingly transmit the pathogen to their sexual partners. If left untreated, infection can lead to more serious reproductive complications, including infertility. My research group is investigating how Chlamydia interacts with cells that line the genital tract and how the interaction leads to disease, with the hope that our contributions will help in the research community's efforts in identifying better treatments and developing a protective vaccine.



Karen Gould, PhD, MEd

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

Joined UNMC: 1999

Hometown: Chicago, IL

Research focus: Immunology and autoimmunity

Why is research important in the world today? Research is crucial because it drives innovation and change. It improves our lives through new technology and medicine, identifies solutions for complex challenges, and provide data to guide decision-making and policy. It also helps us to better understand ourselves, each other, and the world around us.

My research will make a difference because: My research addresses very basic questions about the immune system and autoimmune disease. In addition to expanding fundamental knowledge, our work has the potential to provide actionable insights that could lead to molecular therapies for autoimmune disease and strategies to enhance the efficacy of vaccines. This research also provides an opportunity to help train the scientists of tomorrow.



So-Youn Kim, PhD

Title: Associate Professor, Obstetrics and Gynecology, College of Medicine

Joined UNMC: 2018

Hometown: Seoul, Korea

Research focus: Cancer research

Why is research important in the world today? Each year, nearly 210,000 new cases of young adult cancer patients are diagnosed in the U.S., with the number rising to over 3 million globally. As cancer survival rates improve, there is growing awareness of the long-term

side effects of cancer therapies, particularly their impact on quality of life. One significant concern is the effect of these treatments on the ovaries, leading to the loss of endocrine function and fertility in young female cancer survivors.

My research will make a difference because: The ovary contains follicles at various stages, with non-renewable, quiescent primordial follicles that can remain dormant for months or decades. These follicles are vital for determining female reproductive lifespan, and cancer therapies significantly deplete them, affecting both endocrine health and fertility. My group's research has shown that TAp63alpha, an oocyte-specific molecule, regulates oocyte fate. We are now investigating the mechanisms of primordial follicle depletion through TAp63alpha during cancer treatments and developing adjuvant therapies to prevent this loss via TAp63alpha-specific signaling. Our goal is to protect the ovarian reserve by aligning fertoprotectants with cancer therapies.



Wasim Nasser, PhD

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

Joined UNMC: 2015

Hometown: Pilibhit, India

Research focus: Host-based therapeutics

Why is research important in the world today? Research in science leads to a better understanding of the world we view and capitalizes on this knowledge for the betterment of mankind. Research also teaches us

the concept of failure preceding success which holds true in daily chores.

My research will make a difference because: My research focuses on the basic biology behind the pathogenesis of brain metastasis and small cell lung cancer (SCLC), both of which look to be unassailable for now. My lab uses multiple models that include unique cancer cell lines isolated from the brain and lungs, ex-vivo organoids and genetically engineered mouse models to understand the intricacies at various aspects of tumors that surpass immunology, metabolism, and tumor microenvironment. We are striving to develop novel and innovative therapies that can be employed for clinical management of brain metastases and recalcitrant SCLC patients.



Research Leadership



Kaleb Michaud, PhD

Title: Professor, Internal Medicine, College of Medicine

Joined UNMC: 2007

Hometown: Mount Hope, KS

Research focus: Measuring health experiences

Why is research important in the world today? Quality research is vital for maintaining and growing our understanding of how everything works. Without constant research, we would quickly find that our prior knowledge would be inadequate to help our patients maintain and improve their health. Our world is constantly changing and what worked a decade ago may not work today – we keep ourselves ahead of this wave of change through research. Research is required for us to provide the best care.

My work will make a difference because: We capture more of the full experience of those with these disabling conditions. While interviews and panels help us here, we are developing better questions to ask and other biomarkers that require less time of volunteers to contribute. There is more to a person than just their health conditions – and recognizing this leads to improved treatments and measures resulting in better care and quality of life.

The best advice I could give a beginning researcher is: Explore. Take breaks. Get regular literature updates, and don't be afraid to follow rabbit holes, just give yourself reasonable limits on time spent working without an outcome (e.g. a paper, grant, or new method). Have multiple mentors (internally and externally) and meet regularly – don't take them for granted and don't let them do the same.



Corey Hopkins, PhD, FRSC

Title: Professor, Pharmaceutical Sciences, College of Pharmacy
Director, UNMC Center for Drug Design and Innovation

Joined UNMC: 2016

Hometown: Mitchell, IN

Research focus: Discovering new drugs

Why is research important in the world today? Research is crucial in today's world as it drives innovation, solves complex problems, and expands human knowledge. It enables evidence-based decision-making in fields like medicine, technology, and policy. Research fosters economic growth by developing new products and industries. It helps address global challenges such as climate change and disease. Moreover, research promotes critical thinking, challenges assumptions, and encourages lifelong learning.

My work will make a difference because: My work in drug discovery has the potential to make a significant impact on human health and quality of life. By discovering new medications, we are contributing to the fight against diseases that currently have limited or no treatment options. These efforts could lead to more effective therapies with fewer side effects, improving patient outcomes and reducing healthcare costs.

Drug discovery also drives scientific innovation, often uncovering new biological pathways and mechanisms that expand our understanding of human physiology. This knowledge can spark further research and applications beyond the original target disease. We are also training the next generation scientists that will help to drive the next round of innovations.

The best advice I could give a beginning researcher is: Figure out when to say no (and actually do it).



Scientist Laureate





Hamid Band, MD, PhD

Elizabeth Bruce Professor of Cancer Research,
Eppley Institute for Research in Cancer and Allied Diseases,
Director of the Center for Breast Cancer Research

Hamid Band, MD, PhD, is the Elizabeth Bruce Professor of Cancer Research with the UNMC Eppley Institute for Research in Cancer and Allied Diseases and director of the Center for Breast Cancer Research. A native of Chachkoot, Kashmir, in India, he graduated from medical school at Medical College Srinagar in Kashmir, India, and became a physician in pursuit of his first love in his career – patient care.

Driven by questions about the unknowns in caring for his patients, Dr. Band became a medical researcher, finding joy and excitement in scientific discovery and solving biological puzzles. In becoming a researcher, he realized a second love in his career – being a research mentor. He joined UNMC in 2007.

Dr. Band and his laboratory have a research focus on mechanisms that control normal and cancer cell signaling. The research is geared toward understanding and potentially targeting the intracellular traffic of cell surface receptors coupled to activation of tyrosine kinase signaling. The research has been instrumental in therapeutics companies developing next-generation drug candidates that have reached the clinical trials stage as anti-cancer agents.

As a research mentor, Dr. Band has interacted with well over 100 trainees, from high school students to undergraduates, grad students and postdocs, along with junior faculty. As with scientific discovery, Dr. Band finds excitement in guiding his trainees through their research and helping them find their own calling in their careers.



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