

Research Excellence Award

Maher Abdalla

I am writing to nominate myself, **Dr. Maher Abdalla**, for the **Research Excellence Award** in recognition of my contributions to basic, translational, and collaborative research. My career reflects consistent achievements of research and scholarly activity, as outlined below.

In 2018, I transitioned to independence and established my own research program focused on pancreatic and prostate cancer, with an emphasis on oxidative stress, free radicals, and Heme Oxygenase-1.

My **portfolio of peer-reviewed publications** demonstrates my ongoing scholarly productivity, with corresponding and co-authorship across multiple impactful journals. My work has been supported by competitive extramural funding, including a prestigious **American Cancer Society Research Grant (2025–2029)** and a **University of Nebraska Collaboration Initiative/Team Seed Grant** to establish a multi-institutional team investigating microbiome-driven chemotherapy resistance in pancreatic cancer. Since then I was awarded in 2026 two other grants from Nebraska Department of Health & Human Services (DHHS), and Fred and Pamela Buffett Cancer Center (FPBCC) and the Cancer Biology Program (CBP).

In addition to funding success, I have **developed collaborative, interdisciplinary programs**, partnering with colleagues at UNMC, UNO, and external institutions such as North Dakota State University. These collaborations have produced peer-reviewed publications, NIH grant submissions, and valuable research training for undergraduate and graduate students.

I have also received recognition as a **reviewer and evaluator** for research at the local, national, and international levels. My service includes ad hoc participation in review panels for the **NSF Cellular Dynamics & Function Panel**, the **NCI/NIH Loan Repayment Program**, and international funding agencies in the UAE, France and Netherlands. Furthermore, I regularly review manuscripts for indexed journals, including *Cancers*, *Antioxidants*, *PLOS ONE*, and *Scientific Reports*.

I currently serve as an **Editorial Board Member for *Biomedicines*** and have co-organized scientific meetings, including the SfRBM Regional and Oberley Symposium. I have also been invited to present my research at regional, national, and international forums, most notably as an invited speaker at the **International Society of Antioxidant in Nutrition and Health (ISANH) meeting in Amman, Jordan (2018)**.

In summary, my research program is marked by sustained scholarly productivity, competitive extramural funding, international recognition, and meaningful collaboration across disciplines. My contributions to understanding oxidative stress and cancer biology are advancing the field and helping shape future cancer therapies.

For these reasons, I respectfully submit my self-nomination for the **Research Excellence Award**. I am honored to be considered for this recognition of my ongoing research and scholarly contributions.

Sincerely,

Maher Abdalla, PhD Associate Professor University of Nebraska Medical Center

List of Grants since 2018

Title: Disrupting Heme Homeostasis to Overcome Radioresistance in Prostate Cancer

Funding Agency: Nebraska Department of Health & Human Services (DHHS) (LB 506) .

Project Period: 2026-2027

Amount 60K

Role: PI

Title: HO-1 as a Predictive Biomarker and Therapeutic Target for Prostate Cancer Radioresistance

Funding Agency: Fred and Pamela Buffett Cancer Center (FPBCC) and the Cancer Biology Program (CBP)

Project Period: 2026-2027

Amount 65K

Role: PI

Title: Targeting Heme Oxygenase-1 Enhances Standard Chemotherapy in Pancreatic ductal adenocarcinoma

Funding Agency: American Cancer Society-RSG-24-1321976-01-ET

Project Period: Jan 2025- Dec 2028

Amount: 864 K

Role: PI

Title: Deciphering the Function of Heme Oxygenase-1 in Remodeling the Tumor Microenvironment and Promoting Therapy Resistance.

Funding Agency: Fred & Pamela Buffett Cancer Center High-Risk, High-Reward Pilot Projects Program

Project Period: 2025-2026

Amount 50K

Role: PI

Title: Systems-level characterization of the Pancreatic ductal adenocarcinoma microbiome

Funding Agency: University of Nebraska Collaboration Initiative/Team Seed Grants

Project Period: 2021-2024

Amount: 150 K

Role: PI

Title: Diversity Fund

Funding Agency: Vice Chancellor for Academic Affairs, University of Nebraska Medical Center.

Project Period: 2022-2025

Amount: 100 K

Role: PI

Title: Fred & Pamela Buffett Cancer Center Pilot Project Program
Funding Agency: Fred & Pamela Buffett Cancer Center, University of Nebraska Medical Center.
Project Period: Dec 2022- June 2025
Amount: 75 K
Role: PI

Title: Fred & Pamela Buffett Cancer Center Bridge Funding, Heme Oxygenase Inhibition Sensitize Pancreatic Cancer to Gemcitabine Therapy Under Hypoxia
Funding Agency: National Cancer Institute Cancer Center Support Grant Award Number P30 CA036727
Project Period: 2019-2021
Amount: 50 K
Role: PI

- 1- In 2025, my graduate student Mohammed Hassan was awarded The Nebraska Microbiome Research Interest Group (UNMC Programs of Excellence) at the requested \$25,000 level.

List of Publications since 2018

1. **Abdalla MY***, Ahmad IM, Rachagani S, Banerjee K, Thompson CM, Maurer HC, Olive KP, Bailey KL, Britigan BE, Kumar S. Enhancing responsiveness of pancreatic cancer cells to gemcitabine treatment under hypoxia by Heme Oxygenase-1 inhibition. *Transl Res*. 2019 Jan 4. PMID: 30653942 (*Corresponding author)
2. Ahmad IM, **Abdalla MY**, Moore TA, Bartenhagen L, Case AJ, Zimmerman MC. Healthcare Workers Occupationally Exposed to Ionizing Radiation Exhibit Altered Levels of Inflammatory Cytokines and Redox Parameters. *Antioxidants (Basel)*. 2019 Jan 1;8(1). pii: E12. doi: 10.3390/antiox8010012. PMID: 30609664
3. Mohammad J, Singh RR, Riggle C, Haugrud B, **Abdalla MY**, Reindl KM. JNK inhibition blocks piperlongumine-induced cell death and transcriptional activation of heme oxygenase-1 in pancreatic cancer cells. *Apoptosis*. 2019 Jun 26. doi: 10.1007/s10495-019-01553. PMID: 31243599.
4. Ahmad IM, Dafferner AJ, O'Connell KA, Mehla K, Britigan BE, Hollingsworth MA, **Abdalla MY***. Heme Oxygenase-1 Inhibition Potentiates the Effects of Nab-Paclitaxel-Gemcitabine and Modulates the Tumor Microenvironment in Pancreatic Ductal Adenocarcinoma. *Cancers (Basel)*. 2021 May 8;13(9):2264. doi: 10.3390/cancers13092264. (*corresponding author).
5. Ahmad IM; Bartenhagen L; Michael K; Abdalla MY. Redox Status in Workers Occupationally Exposed to Ionizing and Non-Ionizing Radiation. *Free Radical Biology and Medicine*. 180(1): S58, 2022. ISSN 0891-5849, <https://doi.org/10.1016/j.freeradbiomed.2021.12.130>
6. Costanzo-Garvey DL, Case AJ, Watson GF, Alsamrae M, Chatterjee A, Oberley-Deegan RE, Dutta S, **Abdalla MY**, Kielian T, Lindsey ML, Cook LM. Prostate cancer addiction to oxidative stress defines sensitivity to anti-tumor neutrophils. *Clin Exp Metastasis*. 2022 May 23; PubMed PMID: 35604506.
7. Ahmad IM, Dafferner AJ, Salloom RJ, **Abdalla MY***. Heme Oxygenase-1 Inhibition Modulates Autophagy and Augments Arsenic Trioxide Cytotoxicity in Pancreatic Cancer Cells. *Biomedicines*. 2023 Sep 20;11(9) PubMed Central PMCID: PMC10526552. (*corresponding author).
8. Ahmad IM, Bartenhagen L, Michael K, Abdalla MY. Redox dysregulation in imaging professionals occupationally exposed to ionizing and non-ionizing radiation. *Int J Radiat Biol*. 2023 Sep 13:1-7. doi: 10.1080/09553002.2023.2258194. PMID: 37703210.
9. Alsamrae M.; Costanzo-Garvey D; Teply B; Boyle S; Sommerville G; Herbert Z; Morrissey C; Dafferner A; **Abdalla MY**, Fallet R; Kielian T; Jensen-Smith H; deOliveira E; Chen K; Bettencourt I; Wang J; McVicar D; Keeley T; Yu F; Cook L. Androgen receptor inhibition suppresses anti-tumor neutrophil response against bone metastatic prostate cancer via regulation of TβRI expression. *Cancer Letters*, doi.org/10.1016/j.canlet.2023.216468, 2023.
10. Ramia J. Salloom, Iman M. Ahmad, **Abdalla MY**. Targeting Heme Degradation Pathway Augments Prostate Cancer Cell Sensitivity to Docetaxel-Induced Apoptosis and Attenuates Migration. *Front Oncol*. 18:14:1431362. doi: 10.3389/fonc.2024.1431362 . 2024.

11. Ramia J. Salloom, Iman M. Ahmad, Dania Z. Sahtout, Michael J. Baine, **Abdalla MY**. Heme Oxygenase-1 and Prostate Cancer: Function, Regulation, and Implication in Cancer Therapy. *Int. J. Mol. Sci.* 2024, 25(17), 9195; <https://doi.org/10.3390/ijms25179195>.
12. Ramia J. Salloom, Dania Z. Sahtout, Iman M. Ahmad, **Abdalla MY**. Synergistic effects of HO-1 inhibition and chemotherapy on tumor proliferation and immune infiltration: An in vitro and in vivo approach to enhancing prostate cancer treatment. *Translational Oncology*, 2025, 54, <https://doi.org/10.1016/j.tranon.2025.102339>

Chapters in books

Ahmad IM; **Abdalla MY**. *Oxidative Stress in Cancer Biology and Therapy*. USA: Springer Science and Business Media; 2012. Chapter 1, Mitochondria-Mediated Oxidative Stress and Cancer Therapy; 3-19

Reviewer commitments since 2018

Feb 2018 Fred & Pamela Buffett Cancer Center Pilot Project Proposals Review. Fred and Pamela Buffett Cancer Center, Omaha, NE
May 2018 UNMC Graduate Fellowship System Biology Study Section
Nov 2018 Buffett Cancer Center pilot projects review session
Dec 2018 Great Plains IDeA-CTR Pilot Program at UNMC
Jan 2019 Great Plains IDeA-CTR Network study section
Oct 2019 Reviewer, Topics in Mitochondria, Netherlands Organization for Scientific Research (NWO/ZonMw), Vici program. (External Reviewer)
May 2021 NU Collaboration Initiative Reviewer, Office of the Executive Vice President and Provost. University of Nebraska.
Oct 2021 Researcher.ae-Sandoq Al Watan Applied Research & Development Program, Abu Dhabi, UAE (External Reviewer)
Dec 2021 Fred & Pamela Buffett Cancer Center Pilot Project Proposals Review. Fred and Pamela Buffett Cancer Center, Omaha, NE.
Dec 2022 Fred & Pamela Buffett Cancer Center Pilot Project Proposals Review. Fred and Pamela Buffett Cancer Center, Omaha, NE.
Feb 2023 MCB Panelist, National Science Foundation (NSF), Cellular Dynamics & Function. Division of Molecular & Cellular Biosciences.
Feb 2024 NCI Loan Repayment Program (LRP) Review. Special Emphasis Panel for the review of applications received in response to the NCI's 2024 Loan Repayment Program (LRP). NCI/NIH.
Nov. 2024 INBRE study section for proposals from campuses across the state of Nebraska. University of Nebraska Medical Center.
March 2025 Special Emphasis Panel (SEP) for the review of applications received in response to the NCI's 2025 Loan Repayment Program (LRP). NCI/NIH.
May, 2025 The French National Cancer Institute (INCa) study section: Biological and basic sciences for Cancer research 2025.
Feb 2026 NCI Loan Repayment Program (LRP) Review. NCI/NIH.
May 2026 UNMC Graduate Studies Assistantship/Fellowship Competition review.

Graduate students mentored (PhD degree, UNMC)

2017-2020 Joel Frandsen. Flavonoid and Cannabidiol Neural Glyoxalase Pathway Enhancement Against Aging and Alzheimer's Disease. UNMC, USA. Role: Research committee member.
2020-present Zachary W Scott, In vivo efficacy of a Twin Gallium Protoporphyrin and Gallium Nitrate therapy against *Klebsiella pneumoniae*. Role: Research committee member.
2020-2024 Ramia J Salloom. Heme Oxygenase-1 inhibition as a radiosensitizer for prostate cancer Therapy. Role: Chair.

2021-2022 Clara Sophia Mundry, Characterizing Pancreatic Cancer Th17 Cells and Evaluating Opportunities to Stimulate Th17 Cells to Improve Anti-Tumor Effects. Role: comprehensive exam committee member.
2021-2025 Reagan Sturgeon, Neutrophil tumor cell interaction in PDAC progression, therapy resistance, and metastasis. Role: Research committee member.
2023-present Raina Barnes, title TBD. Role: Research committee member.
2023-2024 Mehnaz Tabassum, The Role of TSC2 Gene in Lymphoma Pathogenesis. Role: Chair.
2023-2025 Dania Sahtout. Metabolomics studies in prostate cancer. Role: Chair.
2024-present Mohammed Hassan. The role of microbiome in pancreatic cancer progression and resistance to chemotherapy. Role: Chair.
2024-present Isaac Adediji, Impact of prenatal oxycodone exposure on placental function and fetal brain development and the modulatory role of melatonin supplementation. Role: Research committee member.
2024-present Erin Drengler, Targeting myeloid derived suppressor cells in chronic B-cell malignancies. Role: Research committee member.
2024-2025 Sydney Skupa. Gut microbiome and Chronic lymphocytic leukemia. Role: Research committee member.
2025-present Elizabeth Quaw. The role of HO-1 in pancreatic cancer macrophages. Role: Chair.
2026 Samy Sharif, College of Medicine Medical Student Summer Research Program, May-August, 2026.

Sujata Chaudhari

I would like to nominate Sujata Chaudhari for the departmental research award:

1. She has had tremendous success building a highly rigorous infrastructure for the study of ticks and beetles. This work is highly novel and is creating a new niche in the tick field. She is consistently asked to present her work at the most prestigious meetings in her field and has fostered collaborations with top investigators in the field internationally. Her 2026 manuscript was very well received, and she is the first investigator to study the biology of chitin in *Ixoides* ticks.
 2. Dr. Chaudhari is leading our efforts in the development of our vector biology program within our department. This is a strategic effort, and her success will allow us to continue to build this research program, which is highly unique within medical schools in the United States.
 3. Her Ph.D. trainees are outstanding and consistently win awards at international and departmental meetings for their interesting work and excellent professional presentations.
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Javeed Iqbal

It is my distinct honor and privilege to nominate Dr. Javeed Iqbal, Odeth E. Wall Centennial Professor in our department for the annual Research Excellence Award.

Dr. Iqbal has been a leading scientist in the translational study of lymphoma, particularly in T-cell lymphoma. The groundbreaking studies led by Dr. Iqbal have enabled us to understand better about T-cell lymphoma pathogenesis, classification and diagnosis. His research has been consistently supported by external grants

including those highly competitive ones from National Institute of Health and Department of Defense. Dr. Iqbal and his teams have extensively published in the leading scientific journals including *Science Advance*, *Journal of Clinical Oncology*, *Blood*, *American Journal of Hematology* and *Journal of Experimental Medicine* etc. Dr. Iqbal is a world well-known lymphoma scientist and a highly sought after speaker in the lymphoma study field.

As a practicing hematopathologist, I witness firsthand how his works have changed our clinical practice, from the tissue diagnosis to further classification of T-cell lymphomas. I feel very fortunate to have a colleague and collaborator like Dr. Iqbal in our own department. I truly believe that his ongoing research will not only lead to better understanding of T-cell lymphoma pathogenesis and but also open up novel avenues for study in order to better define and treat T-cell lymphomas.

Jian Xie

It gave me pleasure to strongly nominate Dr. Jian Xie for the 2026 Departmental Research Excellence Award. Dr. Xie's research excellence is reflected in scientific productivity, the ability to identify important unanswered questions, development of innovative approaches for solutions, and establishment of a fundable research program on the UNMC campus.

First, after his arrival, he has built an independent research program centered on molecular mechanisms of virus-host interactions, with a particular focus on virus (HPV) entry and the emerging biology of cell surface RNAs. His work bridges multiple disciplines, including virology, cell biology, RNA biology, and cancer research, allowing him to address challenging biological questions from unique perspectives. This interdisciplinary approach has positioned him to make discoveries beyond traditional boundaries within the field.

Second, a very impressive accomplishment is his successful acquisition of an NIH R35 MIRA Award. This prestigious award reflects the confidence of NIH reviewers in both the significance of his scientific vision and his potential for sustained contributions to biomedical research. Under the current competitive funding situation, this R35 award is a remarkable achievement.

Third, Dr. Xie has also demonstrated exceptional scholarly productivity. His recent PNAS papers (co-authored the 2026 paper with Zhang Pengwei; and co-corresponding authors with C. Wang in the 2025 paper) have provided important mechanistic insights into viral trafficking and cancer-related signaling pathways. These studies highlight his ability to conduct rigorous, hypothesis-driven research while pursuing innovative scientific directions.

Fourth, what distinguishes Dr. Xie most is the momentum of his research program. He has rapidly established collaborations, expanded the visibility of UNMC through invited presentations and national scientific engagement, and developed research directions that are likely to have long-term impact on the fields of infectious disease, RNA biology, and cancer.

Collectively, Dr. Xie's accomplishments are outstanding and impactful. Hence, I enthusiastically and fully recommend Dr. Jian Xie for the 2026 Research Excellence Award, which he really deserves.

It is my pleasure to nominate Dr. Jian Xie, Assistant Professor in the Department of Pathology, Microbiology and Immunology, for the 2026 Research Excellence Award.

Dr. Xie has rapidly established an innovative and nationally recognized research program focused on virus–host interactions, and the emerging field of cell-surface RNA biology. During the past year, his accomplishments have been particularly noteworthy and exemplify the criteria for this award.

Most significantly, Dr. Xie was awarded an NIH/NIGMS R35 Maximizing Investigators' Research Award (MIRA), entitled "*Biological Roles and Mechanisms of Cell Surface RNAs in Human Papillomavirus Endocytic Trafficking*". The R35 MIRA is one of NIH's premier investigator-focused funding mechanisms, providing five years of support for highly innovative and impactful research programs. Receipt of this award reflects both the scientific significance of Dr. Xie's research and his growing national reputation as an independent investigator.

In addition, Dr. Xie has maintained an outstanding record of scholarly productivity. In a short period of less than 3 years after his start in our department, he has authored two publications in the *Proceedings of the National Academy of Sciences (PNAS)*. These studies have advanced understanding in both virology and cancer biology and demonstrate the broad impact of his research program.

Taken together, Dr. Xie's highly competitive NIH funding, impactful publications, and leadership in developing new research directions at the interface of virology, RNA biology, and cancer research make him exceptionally deserving of the 2026 Research Excellence Award. I give him my strongest recommendation for this recognition.

I am pleased to submit my nomination for the 2026 Research Excellence Award.

Since joining the University of Nebraska Medical Center in 2023, I have established an independent research program focused on membrane-associated virus–host interactions, with particular emphasis on human papillomavirus (HPV) entry, endocytic trafficking, cell-surface RNAs, glycoRNAs, and virus-associated cancer biology. My laboratory integrates virology, RNA biology, membrane trafficking, and advanced imaging approaches to address fundamental questions in infectious disease and cancer research.

1. Large grant award

A major milestone of this research program was the successful acquisition of an **NIH/NIGMS R35 Maximizing Investigators' Research Award MIRA**, "*Biological Roles and Mechanisms of Cell Surface RNAs in Human Papillomavirus Endocytic Trafficking*" (R35GM162839). The R35 MIRA mechanism is one of NIH's most competitive investigator-focused funding programs and provides long-term support for innovative, high-impact research directions. This award recognized both the novelty of our scientific vision and the potential of our research program to make sustained contributions to biomedical science. The funded work investigates the biological functions and mechanisms of cell-surface RNAs in viral infection, an emerging area that has the potential to redefine current understanding of virus–host interactions. Additional externally funded research effort includes the development of complementary NIH R01-level projects investigating ER-endosome membrane contact sites and HPV endosomal escape mechanisms (submitted with score).

2. Highly Impactful Publications

My laboratory has contributed to several significant advances in understanding virus-host interactions and cell-

surface RNA biology. Most notably, our recent studies have established a new conceptual framework in which cell-surface RNAs and RNA-binding proteins function as previously unrecognized regulators of HPV entry and intracellular trafficking. This work challenges traditional models of virus-receptor interactions and has opened an emerging area at the interface of virology, RNA biology, and membrane trafficking.

Key accomplishments include:

- Publication of a co-corresponding-author paper in the Proceedings of the National Academy of Sciences (PNAS) in 2025.
- A publication portfolio that includes articles in leading journals such as **2 of Proceedings of the National Academy of Sciences in last year**, Science Advances, Cell Reports, Nature Communications, Journal of the American Chemical Society, and Journal of Biological Chemistry.
- Development of paradigm-shifting concepts surrounding cell-surface glycoRNAs and RNA-binding proteins in viral infection.
- Expansion of these discoveries toward translational applications in HPV-associated cancers and head and neck squamous cell carcinoma.

Beyond publication metrics, this work has generated substantial national visibility, resulting in invited presentations at major research institutions.

3. Broad Scientific Impact and Innovation

My research has helped establish a rapidly growing national and international scientific community focused on cell-surface RNAs and glycoRNAs.

Examples include:

- Co-organizing scientific discussions and workshops involving leaders in cell-surface RNA and glycoRNA biology.
- Building collaborations among investigators at UNMC, Harvard, Yale, Washington University, and other institutions.
- Organizing and promoting the Cell Surface RNA Biology/GlycoRNA scientific community.
- Expanding discoveries from fundamental virology toward translational applications in **cancer biology and biomarker development**.

These efforts have positioned UNMC as an emerging contributor to a new field of biomedical research with broad implications for virology, RNA biology, immunology, and cancer.

Taken together, the successful acquisition of a highly competitive NIH R35 MIRA award, the publication of impactful and innovative research findings, and the establishment of a nationally recognized research program demonstrate a sustained commitment to scientific excellence and innovation. These accomplishments have enhanced the visibility of both the Department of Pathology, Microbiology and Immunology and UNMC while contributing new knowledge with broad implications for virology, RNA biology, and cancer research.

Thank you for your consideration of this nomination.

Sincerely,

Jian Xie, PhD
Assistant Professor