CURRICULUM VITAE
Paras K. Mishra, PhD, FAHA, FCVS

Date of preparation: September 2020

I. GENERAL INFORMATION

A. Personal Data:

Citizenship Status: US Citizen Place of Birth: UP, India
Office address: University of Nebraska Medical Center, 985850 Nebraska Medical Center, Omaha, NE-68198
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B. Education:

1995-1999 Bachelor of Science (Zoology Honors), Lalit Narayan Mithila University, India
1999-2001 Master of Science in Zoology, Banaras Hindu University, India
2001-2006 Ph.D. in Zoology, Banaras Hindu University, India
Dissertation Title: Evolutionary Studies in Drosophila Interspecific hybridization among four species of the *Drosophila bipectinata* complex
Dissertation Advisor: B. N. Singh, Ph.D.

C. Postgraduate Training:

2007-2008 Postdoctoral Fellowship, Department of Biology, Emory University, Atlanta, Georgia
2008-2010 Research Associate, Department of Physiology & Biophysics, University of Louisville, Louisville, Kentucky

D. Academic Appointments:

2016-present **Associate Professor (Tenured, effective 7/1/2016), Department of Cellular and Integrative Physiology, University of Nebraska Medical Center, Omaha, NE**
2015-present **Associate Professor (Courtesy), Department of of Anaesthesiology, University of Nebraska Medical Center, Omaha, NE**
2015-2016 Associate Professor (Tenure-track), Department of Cellular and Integrative Physiology, University of Nebraska Medical Center, Omaha, NE
2013-2015 Assistant Professor (Tenure-track), Department of Cellular and Integrative Physiology, University of Nebraska Medical Center, Omaha, NE
2013-2015 Assistant Professor (Courtesy), Department of Anesthesiology, University of Nebraska Medical Center, Omaha, NE
2010-2013 Assistant Professor (Term-track), Department of Physiology and Biophysics, University of Louisville, Louisville, KY

E. Honors and Awards:

1. 2005, National level Travel Award from the Department of Science and Technology of India for attending an International conference.
2. 2005, National level Travel Award from the Indian National Science Academy for attending an International conference.
3. 2010, Finalist for Harry Goldblatt New Investigator Award, from American Heart Association Hypertension Council. Link: https://www.ahajournals.org/doi/full/10.1161/hypertensionaha.111.169516
4. 2010, Invited to present in the AHA Scientific Session Best of HBPR 2010.
5. 2010, Best Poster Award in 2nd International Conference on H_2S Biology and Medicine.
6. 2011, Satu Somani Award in Physiology, Association of Scientists of Indian origin in America.
7. 2014, New Investigator Award, University of Nebraska Medical Center.
8. 2017, Excellence in Mentoring Award, University of Nebraska Medical Center.
9. 2020, Elected President for “The Midland Society of Physiological Sciences” of APS

Honors and Awards for research excellence by trainees supervised (a selection of examples):

1. Dr. Vishalakshi Chavali, Postdoctoral fellow. 2013 Finalist for the James Willerson Clinical Award Lecture in the Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators Conference, Louisville, KY.
2. Dr. Shyam Sundar Nandi, Postdoctoral Fellow:
   i) 2015 Best Poster Award in Translational Medicine, Annual Meeting of the International Academy of Cardiovascular Sciences: North American Section, Omaha, NE.
   ii) 2017 UNMC Postdoctoral Excellence in Research Award
   Link:https://www.unmc.edu/news.cfm?match=21046&pk_campaign=email&pk_kwd=Dr_Nandi_receives_postdoctural_research_award
   iii) 2017 "Research recognition Award" from American Physiological Society Cardiovascular Section, based on Experimental Biology meeting abstract and scientific achievements.
   iv) 2018 Caroline tum Suden/Frances Hellebrandt Professional Opportunity Award from American Physiological Society Cardiovascular Section, based on Experimental Biology meeting abstract and scientific achievements.
3. Dr. Priyanka Prathipati, Postdoctoral Fellow. 2015 Oral Presentation Award, Nebraska Physiological Society meeting, Omaha, NE.
4. Dr. Bryan T. Hackfort, Postdoctoral Fellow. 2015 Best Poster Presentation Award, Nebraska Physiological Society meeting, Omaha, NE.
5. Dr. Santosh K. Yadav, Postdoctoral Fellow.
   i) 2018 Poster Presentation Award in Postdoctoral category in the Nebraska Physiological Society Meeting, Omaha, NE.
   ii) 2019, 1st Prize in Poster Presentation Award, Postdoctoral Fellow category, in the Midland Society of Physiological Sciences meeting, Omaha, NE.
   iii) 2019, Elected as Vice President of UNMC Postdoctoral Association.
   iv) 2020, Elected as Council member of the Midland Society of Physiological Sciences.
6. Hamid R. Shahshahan, Research Technologist.
   i) 2017 UNMC Chancellor's Council "Silver U Award".
   ii) 2020 UNMC Chancellor's Council "Gold U Award".
   Link: https://www.unmc.edu/news.cfm?match=25787&pk_campaign=email&pk_kwd=Hamid_Shahshahan_is_Gold_U_recipient_for_June
7. Patrick Marta, summer trainee. 2017, Poster presentation Award in high school category in Nebraska Physiological Society meeting, Omaha, NE.
8. Sumit Kar, Ph.D. student.
   i) 2018 Poster Presentation Award in Graduate student category in the Nebraska Physiological Society Meeting, Omaha, NE.
   ii) 2019, 1st Prize in Poster Presentation Award, Graduate student category, in the Midland Society of Physiological Sciences meeting, Omaha, NE.
   iii) 2019, 1st Place Winner at the National Level competition for "The Science Coalition's Fund It Forward Student Video Challenge". The Fund It Forward Student Video Challenge is a contest for undergraduate and graduate students currently enrolled in The Science Coalition (TSC) member institutions. Participants were asked to create a video to tell the story of why science matters and remind members of Congress that now is the time to invest in research for the future of the USA. The winner was decided by the votes of over 2,000 participants from across the country.
   Sumit Kar and Tyler Kambis, another graduate student in my lab, jointly received the 1st place under Graduate category by TSC.
   Link:https://www.sciencecoalition.org/2019/12/11/the-science-coalition-announces-winners-of-2019-fund-it-forward-student-video-challenge/
   Link for the video: https://youtu.be/YUQTSIPw6b0
9. Tyler N. Kambis, Ph.D. student.
   i) 2019, 1st Place Winner at the National Level competition for "The Science Coalition's Fund It Forward Student Video Challenge". He and Sumit Kar jointly win this under Graduate category
   ii) 2019-present: Graduate student representative for the Student Alliance for Global Health
   iii) 2019-present: Executive Board Member of Coalition Rx
   iv) 2020-present: Lead student policy advocate for the University of Nebraska Medical Center
   v) 2020-present: Member of American Physiological Society Cardiovascular Section Trainee Committee

II. TEACHING

A. Classroom/Laboratory: (chronological order)

Year(s)	Course Title	Contact Hours	Role
University of Louisville			
2010-2012	Physiology 625, Methods in Physiology Research Theory and practical class on Flow Cytometry	12.0	Lecturer

This course was taught in the fall semester. This was a 4-week course, where a 3 contact hour/week was taught that included theory classes and practical experiments on flow cytometry. The first hour was dedicated for lecture on basic principles of flow cytometry and its applications in basic science and pharmacology industry. The second and third hours were practical demonstration that included an experiment on flow cytometry. Students learnt about how to prepare samples, select the right controls, load samples in the flow cytometry instrument. They also learnt how to acquire, analyze and present data.

University of Nebraska Medical Center

2013	CIP 916, Cardiopulmonary Function in health and disease		
	Mechanism of cardiac hypertrophy	2.0	Lecturer
2014-2019	CIP 606/608, Intermediate/Graduate Physiology		
	Sensory Systems Physiology	11.0	Lecturer

Student evaluation for the course CIP 606/608, Intermediate/Graduate Physiology

Evaluation score: scale: 1-5; **1=Poor**, 3= Average, **5= Excellent**. Evaluation score: Average± SD.

Year	Total students	Criteria	Score
2014	89		
		Organized presentation of course materials	4.09
		Keeping student attention	3.15
		Well Prepared for teaching	4.08
		Visual aids to complement verbal teaching	3.81
		Overall performance	**3.72**
2015	85		
		Organized presentation of course materials	4.28
		Keeping student attention	3.84
		Well Prepared for teaching	4.28
		Visual aids to complement verbal teaching	4.26
		Overall performance	**4.18**
2016	122		
		Organized presentation of course materials	4.54
		Keeping student attention	4.06
		Well Prepared for teaching	4.63
		Visual aids to complement verbal teaching	4.31
		Overall performance	**4.43**
2017	124		
		Organized presentation of course materials	4.55
		Keeping student attention	3.87
		Well Prepared for teaching	4.63
		Visual aids to complement verbal teaching	4.45
		Overall performance	**4.28**
2018	128		
		Organized presentation of course materials	4.21
		Keeping student attention	3.88
		Well Prepared for teaching	4.57
		Visual aids to complement verbal teaching	4.38
		Overall performance	**4.21**
2019	133		
		Organized presentation of course materials	4.45
		Keeping student attention	3.97
		Well Prepared for teaching	4.72
		Visual aids to complement verbal teaching	4.47
		Overall performance	**4.37**
Average of six years performance: 4.20			

2015	CIP 916, Cardiopulmonary Function in health and disease		Co-Director
	Mechanism of cardiac hypertrophy	2.0	Lecturer
	MicroRNOmics of cardiac hypertrophy	2.0	Lecturer
	Advanced molecular techniques on miRNA assay/autophagy	2.0	Lecturer

2015	CIP 807, Graduate Physiology Recitation	1.0	Lecturer
2016-2018	CIP 970, Seminar Program (Chaired weekly journal clubs for graduate students) Effective dates: January 2016- June 2018	26.0	Director
2017-2018	IPMM802, Graduate Physiology II Sensory Systems Physiology	1.0	Lecturer
2017-2019	IPMM916, Cardiopulmonary Function in health and disease		Co-Director
	MicroRNOmics of heart failure and mechanisms of cardiac hypertrophy	2.0	Lecturer
	Autophagy/mitophagy and mitochondrial abnormalities	2.0	Lecturer

Student evaluation for the course IPMM916, Cardiopulmonary Function in health and disease
Evaluation score: scale: 1-5; **1=Poor**, 3= Average, **5= Excellent**. Evaluation score: Average± SD.

Year	Total students	Criteria	Score
2015	5		
		Well Prepared for teaching	4.67
		Enthusiasm for teaching	4.67
		Communication skill and subject materials	4.67
		Overall performance	**4.67**
2017	5		
		Well Prepared for teaching	5.0
		Enthusiasm for teaching	5.0
		Communication skill and subject materials	5.0
2018	5		
		Organization and teaching preparation	4.4
		Interest and enthusiasm	4.6
		Course material and subject information	4.6
		Overall performance	**4.4**
2019	5		
	First Evaluation	Organization and teaching preparation	4.5
		Interest and enthusiasm	5.0
		Course material and subject information	4.5
		Overall performance	**4.8**
	Second Evaluation		
		Organization and teaching preparation	5.0
		Interest and enthusiasm	5.0
		Course material and subject information	5.0
		Overall performance	**5.0**
Average of four years performance: 4.72			

2018	IPMM 802, Graduate Physiology II	1.0	Lecturer
2020	IPMM916, Cardiopulmonary Function in health and disease		Director
	Autophagy/mitophagy and mitochondrial abnormalities	2.0	Lecturer
	MicroRNOmics of heart failure	2.0	Lecturer
2020	CIP 606/608, Intermediate/Graduate Physiology Sensory Systems Physiology	11.0	Lecturer
2020	IPMM 802, Graduate Physiology II	1.0	Lecturer

Laboratory Rotations
(Each rotation involved daily to weekly meetings to discuss, plan, and evaluate experiments)

2013	Laboratory Rotation UMMC	Student: Shamma S. Rahman
2014	Laboratory Rotation UMMC	Student: Denise A. Cobb
2015	Laboratory Rotation UMMC	Student: Paul Sarjo
2015	Laboratory Rotation UNMC	Student: Anyun Ma
2016	Laboratory Rotation UNMC	Student: Ahmad M. Wafi
2016	Laboratory Rotation UNMC	Student: Stephan J. Haller (MD/PhD)
2017	Laboratory Rotation UNMC	Student: Salma Sharmin
2017	Laboratory Rotation UNMC	Student: Tyler N. Kambis
2017	Laboratory Rotation UNMC	Student: Hannah L. Harris
2018	Laboratory Rotation UNMC	Student: Sydney E. Greer
2018	Laboratory Rotation UNMC	Student: Kristina Pravoverov (MD/PhD)
2018	Laboratory Rotation UNMC	Student: Brady Betten
2018	Laboratory Rotation UNMC	Student: Sumit Kar

B. Direction of Masters' Theses and Ph.D. Dissertations, Membership on Supervising Committees, and Supervision of Pre-doctoral Students and Postdoctoral Fellows:

1. Masters' Theses Directed:

2011-2012 Dissertation Committee Chair
Student: Camille Brunson
Department: Physiology and Biophysics (University of Louisville)
Degree: M.S.
Thesis Title: The role of MMP9 in diabetic cardiomyopathy Remodeling

2011-2012 Dissertation Committee Chair
Student: Leiberh Noel Diaz
Department: Physiology and Biophysics (University of Louisville)
Degree: M.S.
Thesis Title: The role of Matrix Metalloproteinase-9 on stem cell survival and differentiation in diabetic micro-environment

2011-2012 Dissertation Committee Chair
Student: Jessica Harris
Department: Physiology and Biophysics (University of Louisville)
Degree: M.S.
Thesis Title: Exercise mitigated autophagy in the diabetic heart

2. Ph.D. Dissertations Directed:

2018-2020 Dissertation Committee Chair
Student: Sumit Kar
Department: Cellular and Integrative Physiology, University of Nebraska Medical Center
Degree: Ph.D.
Thesis Title: Cardioprotective roles of hydrogen sulfide donors in diabetic cardiomyopathy

2018- Dissertation Committee Chair
Student: Tyler N. Kambis
Department: Cellular & Integrative Physiology
Degree: Ph.D.
Thesis Title: TBD

3. Membership on Supervising Committees:

Thesis Committees:

2011 Thesis Committee Member
Student: Jonathan Vacek
Department: Physiology and Biophysics, University of Louisville
Degree: Graduation *summa cum laude*

2011 Thesis Committee Member
Student: Nicole S. Stivers
Department: Department of Biochemistry and Molecular Biology, University of Louisville
Degree: M.S.

Dissertation Committees:

2013-2015 Dissertation Committee Member
Student: Derek Passer
Department: Cellular and Integrative Physiology, UNMC
Degree: Ph.D.
Thesis Title: Atypical Protein Kinase C dependent polarized Cell Division is required for Myocardial Trabeculation
Mentors: Ibrahim J. Domian and Irving H. Zucker
2014-2016 Dissertation Committee Member
Student: Yuan Ying
Department: Cellular and Integrative Physiology, UNMC
Degree: Ph.D.
Thesis Title: The role of P53 signaling in unilateral ureteral obstruction-induced fibrogenesis
Mentor: Babu Padanilam
2016-2020 Dissertation Committee Member
Student: Anyum Ma
Department: Cellular and Integrative Physiology, UNMC
Degree: Ph.D.
Thesis Title: The Role of central ACE2 and Nrf2 in Sympatho-excitation: Responses to Central Ang II
Mentor: Irving H. Zucker
2016-2020 Dissertation Committee Member
Student: Ahmed Wafi
Department: Cellular and Integrative Physiology, UNMC
Degree: Ph.D.
Thesis Title: Exercise and Nrf2 in Chronic heart Failure
Mentor: Irving H. Zucker
2017-2019 Dissertation Committee Member
Student: Ke Liao
Department: Pharmacology and Experimental Neuroscience, UNMC
Degree: Ph.D.
Thesis Title: Role of Circular-RNA in Morphine-mediated Microglial Activation: Implication for Cognitive Impairment and Memory Loss
Mentor: Shilpa Buch
2018- Dissertation Committee Member
Student: Cassandra M. Moshfegh
Department: Cellular and Integrative Physiology, UNMC
Degree: Ph.D.
Thesis Title: TBD
Mentor: Adam Case
2019- Dissertation Committee Member
Student: Steven Scott
Department: Scholl of health and Kinesiology
Degree: Ph.D.
Thesis Title: TBD
Mentor: Song-Young Park
2019- Dissertation Committee Member
Student: Zhiqui Xia
Department: Cellular and Integrative Physiology, UNMC
Degree: Ph.D.
Thesis Title: TBD
Mentor: Hanjun Wang
2020- Dissertation Committee Member
Student: Weilun Ai
Department: Internal Medicine, UNMC
Degree: Ph.D.

Thesis Title: TBD
Mentor: Saraswathi Viswanathan
2020- Dissertation Committee Member
Student: Corrine F. Monaco
Department: OB/GYN, UNMC
Degree: Ph.D.
Thesis Title: TBD
Mentor: John Davis

4. Pre-doctoral Students Supervised:

High School Students:
1. Shreya Barde (Summer 2012; Sophomore, Louisville, KY, Summer Program for Research).
2. Jennifer Leung (Summer 2012; Freshman, Louisville, KY, Summer Program for Research).
3. Pranay Velichery (Summer 2013, Junior, Omaha, NE)
4. Vikash Mudgapalli (Summar, 2014, Sophomore, Omaha, NE)
5. Santosh Ramini (Summar, 2014, Sophomore, Omaha, NE)

Undergraduate Students: (All students presented their work in a Poster/Oral session)
1. Lawrence A. Murphy (Summer 2012; B.S., Louisville, KY)
2. Patrick Martha (Summer 2017; B.S., Creighton University, Omaha, NE); Presented at Nebraska Physiological Society meeting and received Poster Award in undergraduate category.
3. Keerthi Shaik (Summer 2018; Omaha, NE).

5. Fellows, Residents, and Instructors Supervised:

Postdoctoral and Pre-faculty Fellows- Primary (Past):
1. Vishalakshi Chavali, Ph.D. (August 2011- April 2014); Published 4 research (two 1st, two co-author) and 2 review articles (one 1st and one co-author), and 2 book chapters (one 1st and one co-author). She has also published 7 conference based abstracts. She has poster/Oral presentations at national and local conferences/meetings.
2. Shyam Sundar Nandi, Ph.D. (Sept 2013- August 2018); Published 7 research (Four 1st and three co-author) and 3 review articles (one 1st and two co-author), and 2 book chapter (one 1st and one co-author). He also published 13 conference-based abstracts. Currently, Instructor at Cellular and Integrative Physiology, UNMC.
3. Varun Kesherwani, Ph.D. (2014- 2015); Published 3 first-author research papers.
4. Surender K. Sharawat, Ph.D. (2014-2015); Published 1 co-author research paper and 1 conference-based abstract.
5. Priyanka Prathipati, Ph.D. (2015-2016); Published 1 first-author research and 1 first-author review articles. She also published 1 conference-based abstract. Currently, Research Scientist at University of Texas Health Science center at Houston.
6. Bryan T. Hackfort, Ph.D. (2015-2016); Published 1 co-author research article and 1 first –author review article. Currently, Instructor at Cellular and Integrative Physiology, UNMC.
7. Roopali Yadav, DVM, Ph.D. (2017-2018); Published a co-author paper. Currently, a Postdoctoral Fellow at Georgetown University, Washington, DC.
8. Santosh K. Yadav, Ph.D. (2017-); Published 6 research (two 1st author and four co-author), 2 first author book chapter. He also published one conference-based abstract. He has oral presentation in an International conference.

6. Faculty Mentored:
1. Shyam Sundar Nandi, PhD (Instructor at University of Nebraska Medical Center)
2. Song-Yun Park, Ph.D. (Assistant Professor at University of Nebraska at Omaha)
3. Surabhi Chandra, Ph.D. (Associate Professor at University of Nebraska –Kearney)

III. RESEARCH

Complete List of Published Works in My Bibliography:
http://www.ncbi.nlm.nih.gov/sites/myncbi/1BUMsLa0MVe5j/bibliography/44080859/public/?sort=date&direction=ascending

A. Bibliography:

a) Books

1. Singh SR, **Mishra PK**, Hou SX. Editors, Stem Cells: Organogenesis and Cancer, Transword Research Network, ISBN: 978-81-7895-487-5; 2010.

b) Book chapters

1. Moshal KS, Kumar M, Tyagi N, **Mishra PK,** Kundu S, Tyagi SC. Oxidative and proteolytic stress in homocysteine associated cardiovascular diseases. In H. Sauer et al (Eds); Studies on cardiovascular disorders. Springer Science+ Business Media, LLC, 139-148, 2010.
2. ***Mishra PK,** Singh SR, Sharma R, Tyagi SC. Stem cell for myocardial regeneration. In Singh SR et al (Eds); Stem Cells: organogenesis and cancer. Transword Research Network, 119-126, 2010. * Corresponding author.
3. ***Mishra PK,** Kuypers NJ, Singh SR, Diaz N, Chavali V, Tyagi SC. Cardiac stem cell niche, MMP9, and culture and differentiation of embryonic stem cells. In Kursad T (Ed): Stem cells and niche. Springer, 1035: 153-163, 2013. * Corresponding author. PMID: 23959989
4. ***Mishra PK,** Tyagi SC. MicroRNOmics of diabetic cardiomyopathy. In Turan B and Dhalla NS (Eds): Diabetic cardiomyopathy, Springer 9: 179-188, 2014. * Corresponding author.
5. Chavali V, Nandi SS, Singh SR, **Mishra PK***. Generating double knockout mice to model genetic intervention in diabetic cardiomyopathy in humans. In Singh SR (Editor): Mouse Genetics: Methods and Protocols, Springer, 1194:385-400, 2014. * Corresponding author. PMID: 25064116
6. Nandi SS, **Mishra PK*.** Targeting miRNA for therapy of juvenile and adult diabetic cardiomyopathy. In Mettinger KL, Rameshwar P and Kumar V (Editors): Exosomes, Stem Cells and MicroRNA: Aging, Cancer, and Age Related Disorders, Springer, 978-3-319-74470-4. Adv Exp Med Biol. 1056:47-59, 2018. * Corresponding author. PMID: 29754174
7. Yadav SK, **Mishra PK*.** Isolation, characterization and differentiation of mouse cardiac progenitor cells. In Singh SR and Pranela Rameshwar (Editors): Somatic Stem Cells: Methods and Protocols", Second Edition. Springer, 978-1-4939-8696-5. Methods Mol Biol. 1842: 183-191, 2018.* Corresponding author. PMID: 30196409
8. Yadav SK, Kambis TN, **Mishra PK*.** Regulating inflammatory cytokines in diabetic hearts (chapter 19). In Chakraborti S, Dhalla NS, Ganguly NK and Dikshit M (Editors): Oxidative Stress in Heart Diseases. Springer, 2019. * Corresponding author.
9. Shahshahan HR, Kambis TN, Kar S, **Mishra PK*.** Generating Ins2+/-/miR-133aTg mice to model miRNA-driven cardioprotection of diabetic hearts in humans. In Singh SR (Editor): Mouse Genetics: Methods and Protocols. Second Edition. Springer, 2020. In Press * Corresponding author.

c) Journal articles published or in press

1. **Mishra PK**, Singh BN. Genetic basis of hybrid male sterility among three closely related species of Drosophila. *Indian Journal of Experimental Biology* 43:455-461, 2005.
2. **Mishra PK**, Singh BN. Why hybrid males are sterile in Drosophila? *Current Science* 89:1813-1819, 2005.
3. **Mishra PK**, Singh BN. Genetic interactions underlying hybrid male sterility in the Drosophila bipectinata species complex. *Genes and Genetic Systems* 81: 193-200, 2006.
4. **Mishra PK**, Singh BN. Unique phenotypes and variation in the sex comb patterns and their evolutionary implications in the Drosophila bipectinata species complex (Diptera: Drosophilidae). *European Journal of Entomology* 103: 805-815, 2006.
5. **Mishra PK**, Singh BN. Drosophila bipectinata species complex: study of phylogenetic relationship among four members through the analyses of morphology of testes and seminal vesicles. *Journal of Zoological Systematics and Evolutionary Research* 44: 175-179, 2006.
6. **Mishra PK**, Singh BN. Assessing the putative roles of X-autosome and X-Y interactions in hybrid male sterility of the Drosophila bipectinata species complex. *Genome* 50: 653-659, 2007.
7. Kumar M, Tyagi N, Moshal KS, Sen U, Kundu S, **Mishra PK**, Givvimani S, Tyagi SC. Homocysteine decreases blood flow to the brain due to vascular resistance in carotid artery. *Neurochemical International* 53:214-219, 2008.
8. **Mishra PK**, Tyagi N, Kundu S, Tyagi SC. MicroRNAs are involved in homocysteine induced cardiac remodeling. *Cell Biochemistry and Biophysics* 55: 153-162, 2009.
9. Tyagi N, **Mishra PK**, Tyagi SC, Homocysteine, hydrogen sulfide, and NMDA receptor in heart failure. *Indian Journal of Biochemistry and Biophysics* 46: 441-446, 2009.
10. Kundu S, Kumar M, Sen U, **Mishra PK**, Tyagi N, Metreveli N, Lominadze D, Rodriguez W, Tyagi SC. Nitrotyrosylation, remodeling and endothelial-myocyte uncoupling in iNOS, cystathionine beta synthase (CBS) knockouts and iNOS/CSB double knockout mice. *Journal of Cell Biochemistry* 106: 119-126, 2009.

11. Moshal KS, Kumar M, Tyagi N, **Mishra PK**, Metreveli N, Rodriguez WE, Tyagi SC. Restoration of contractility in hyperhomocysteinemia by cardiac–specific deletion of NMDA-R1. *American Journal of Physiology, Heart and Circulatory Physiology* 296: H887-892, 2009.
12. **Mishra PK**, Tyagi N, Sen U, Givvimani S, Tyagi SC. H_2S ameliorates oxidative and proteolytic stresses and protects the heart against adverse remodeling in chronic heart failure. *American Journal of Physiology, Heart and Circulatory Physiology* 298: H451-456, 2010.
13. Givvimani S, Tyagi N, Sen U, **Mishra PK**, Qipshidze N, Munjal C, Vacek JC, Abe OA, Tyagi SC. MMP2/TIMP2/TIMP4 Versus MMP9/TIMP3 in transition from compensatory hypertrophy and angiogenesis to decompensatory heart failure. *Archives of Physiology and Biochemistry* 116: 63-72, 2010.
14. **Mishra PK**, Metreveli N, Tyagi SC. MMP9 gene ablation and TIMP4 mitigates PAR1 mediated cardiomyocytes dysfunction: a plausible role of dicer and miRNA. *Cell Biochemistry and Biophysics* 57: 67-76, 2010.
15. Qipshidze N, Metreveli N, **Mishra PK**, Lominadze D, Tyagi SC. Hydrogen sulfide mitigates cardiac remodeling during myocardial infarction via improvement of angiogenesis. *International Journal of Biology* 8: 430-441, 2010.
16. ***Mishra PK**, Givvimani S, Metreveli N, Tyagi SC. Attenuation of beta2-adrenergic receptors and homocysteine metabolic enzymes cause diabetic cardiomyopathy. *Biochemical and Biophysical Research Communication* 15: 175-181, 2010. * Corresponding author.
17. Givvimani S, Qipshidze N, Tyagi N, **Mishra PK**, Sen U, Tyagi SC. Synergism between arrhythmia and hyperhomocysteinemia in structural heart disease. *International Journal of Physiology, Pathophysiology and Pharmacology* 3: 107-119, 2011.
18. Basu P, Qipshidze N, Sen U, Givvimani S, Munjal C, **Mishra PK** Tyagi SC. Chronic hyperhomocysteinemia causes vascular remodeling by instigating vein phenotype in artery. *Archives of Physiology and Biochemistry* 117: 270-282, 2011.
19. ***Mishra PK**, Awe O, Metreveli N, Qipshidze N, Joshua IG, Tyagi SC. Exercise mitigates the homocysteine- beta2 adrenergic receptor interactions to ameliorate contractile dysfunction in diabetes. *International Journal of Physiology, Pathophysiology and Pharmacology* 3:97-106, 2011. * Corresponding author.
20. Sen U, Sathur PB, Kundu S, Givvimani S, Coley D, **Mishra PK**, Qipshidze N, Tyagi N, Metreveli N, Tyagi SC. Increased endogenous H_2S generation by CBS, CSE, and 3MST gene therapy improves ex vivo renovascular relaxation in hyperhomocysteinemia. *American Journal of Physiology, Cell Physiology* 303: C41-51, 2012.
21. ***Mishra PK**, Chavali V, Metreveli N, Tyagi SC. Ablation of MMP9 induces survival and differentiation of cardiac stem cell into cardiomyocytes in the diabetic heart, a role of extracellular matrix. *Canadian Journal of Physiology and Pharmacology* 90: 353-360, 2012. * Corresponding author.
22. Chavali V, Tyagi SC, **Mishra PK***. MicroRNA-133a regulates DNA methylation in diabetic cardiomyocytes. *Biochemical and Biophysical Research Communication* 425:668-672, 2012. *Corresponding author.
23. Chavali V, Tyagi SC, **Mishra PK** *. Differential expression of dicer, miRNA and inflammatory markers in diabetic Ins2+/- Akita hearts. *Cell Biochemistry and Biophysics* 68: 25-35, 2014. *Corresponding author.
24. Zheng H, Liu X, Li Y, **Mishra PK**, Patel KP. Attenuated dopaminergic tone in the paraventricular nucleus contributing to sympatho-excitation in rats with type2 diabetes. *American Journal of Physiology, Regulatory, Integrative, and Comparative Physiology* 306: R138-148, 2014.
25. Kesherwani V, Nandi SS, Sharawat SK, Shahshahan HR, **Mishra PK***. Hydrogen sulfide mitigates homocysteine mediated pathological remodeling by inducing miR-133a in cardiomyocytes. *Molecular and Cellular Biochemistry* 404: 241-250, 2015. *Corresponding author.
26. Kesherwani V, Chavali V, Hackfort BT, Tyagi SC, **Mishra PK***. Exercise ameliorates high fat diet induced cardiac dysfunction by increasing interleukin 10. *Frontiers in Physiology* 6: 124, 2015. *Corresponding author.
27. Nandi SS, Duryee MJ, Thiele GM, Anderson DR, **Mishra PK***. Induction of autophagy markers is associated with attenuation of miR-133a in diabetic heart failure patients undergoing mechanical unloading. *American Journal of Translational Research* 7(4) 683-696, 2015. *Corresponding author.
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d) Reviews

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e) Editorial

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f) Guidelines, White Papers, and Scientific Statements

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(Downloads>4000 times, citation 16, Mendeley readers 25)

g) Abstracts and Conference Proceedings

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47. Nandi SS, **Mishra PK**. Hydrogen sulfide controls CBS-CTH feedback regulation by inducing miR-133a and suppressing SP1 in a dose dependent manner in cardiomyocytes. *FASEB J,* 2017; 31, 1079.7.
48. Yadav SK, **Mishra PK**. Ablation of MMP9 mitigates high glucose-induced cardiac stem cell death. *Circulation*, 2017, 136: A20116.
49. Nandi SS, **Mishra PK**. Cardiac-specific overexpression of miR-133a in the diabetic heart mitigates mitochondrial abnormality by targeting TIM17a. *FASEB J*, 2018; 32, 752.5.
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e) Invited Lectures

Local invited lectures

1. Institute of Cellular Therapeutics, University of Louisville, Louisville, Kentucky. Presentation: Role of MMP9 in diabetic cardiomyopathy. January 2013.
2. Department seminar in the Department of surgery at UNMC. Presentation: Multifaceted role of miR-133 in the heart. September 2013.
3. Department seminar at the Department of Internal Medicine, UNMC. Presentation: Novel regulatory mechanisms of diabetic cardiomyopathy. January 2014.
4. M.D. /Ph.D. Scholar Program Luncheon meeting at UNMC. Presentation: Role of miRNA in cardiac remodeling. April 2014.
5. The Nebraska Gateway to Nutrigenomics Seminar series, University of Nebraska-Lincoln. Presentation: Regulating the regulators of autophagy in diabetic hearts. October 2014.
6. Department seminar at the Department of Pharmacology, UNMC. Presentation: Mechanism of pathological cardiac remodeling in diabetics. April 2014.
7. Cardiology Grand Round at UNMC. Presentation: Autophagy and miRNA in diabetic heart failure. February 2015.
8. Department seminar at the Department of Genetics, Cell Biology and Anatomy. Presentation: MicroRNA: From Bench side to clinical trials. November 2016.
9. VA seminar series, VA Medical Center, Omaha, NE. Presentation: A novel therapeutic strategy for diabetic cardiomyopathy. December 2016.
10. Department seminar at the Cellular and Integrative Physiology, UNMC. Presentation: Programming death for life: unique mechanisms for cell death. August 2017.
11. Department seminar at the Department of surgery, UNMC. Presentation: Cell death at the heart of diabetes. September 2019.

National invited lectures

12. Department of Physiology, Wayne State University, Detroit, Michigan. Presentation: MicroRNA and MMP9 in the diabetic heart. November 2012.
13. Department seminar at the Cellular and Integrative Physiology, UNMC. Presentation: MicroRNA and MMP9 in the diabetic heart. January 2013.
14. Learner Research Institute, Cleveland Clinic, Cleveland, Ohio. Presentation: MicroRNA and MMP9 in the diabetic heart. January 2013.
15. Department seminar at the School of Medicine Basic Biomedical Sciences, University of South Dakota. Presentation: Regulating autophagy in diabetic hearts. September 2016.
16. Department seminar at the Department of Functional Tissue Engineering, North Carolina University, North Carolina. Presentation: MicroRNOmics of diabetic cardiomyopathy: From regulatory RNA to therapeutic candidate. August 2018.

17. Vascular Biology Center Research Seminar series at the Medical College of Georgia, Augusta. Presentation: Micromanaging cardiac remodeling to develop treatment for diabetic cardiomyopathy. February 2019.

International invited lectures

18. International symposium on "Population genetics and chromatin dynamics" Banaras Hindu University, Varanasi, India. Presentation: Genetic deletion of MMP9 induces miRNA and ameliorates heart failure in diabetics. January 2012.
19. International conference on "The Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators", Louisville, Kentucky. Presentation: Cardioprotective role of miR-133a in diabetic hearts. August 2013.
20. International conference "2nd Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators", Winnipeg, Manitoba, Canada. Presentation: Cardioprotective role of miR-133 in diabetic hearts. September 2014.
21. International Conference "Annual Meeting of the International Academy of Cardiovascular Sciences: North American section", Omaha, Nebraska. Presentation: Novel cardioprotective role of miR-133a. September 2015.
22. 9th Global Diabetologists Annual Meeting and Medicare Expo, Dallas, Texas. Presentation: MicroRNA-autophagy axis in diabetic hearts. January 2016.
23. International conference " Annual meeting of the International Academy of Cardiovascular Sciences: North American section, 5th Annual Forum to Promote Young Investigators and Centers of Excellence in Cardiovascular Sciences, Orlando, Florida. Presentation: A novel role for cardiac tyrosine aminotransferase in miR-133a-mediated regulation of contractility of diabetic hearts. September 2017.
24. International conference "Trends in Biochemical and Biomedical Research: Advances and Challenges, Banaras Hindu University, Varanasi, India. Presentation: MICRO-managing cardiac autophagy to ameliorate diabetic cardiomyopathy. February 2018.
25. International conference on Emerging Researches in Bioscience, Guru Ghasidas Vishwavidyalaya, Bilaspur, India. Presentation: Pyroptosis in diabetic cardiomyopathy. October 2018.

f) Presentations at Conferences

Local: None

National

1. *Ablation of MMP9 ameliorates miR-1, and miR-133 mediated cardiac dysfunction in Insulin 2mutant diabetic mice*. Presented at the "Harry Goldblatt Award Lecture", AHA Hypertension Council on November 2010
2. *Exercise ameliorates diabetic cardiomyopathy by inducing beta-2 adrenergic receptors and miR-133a, and attenuating MMP9*. Presented at the Experimental Biology meeting Featured topic "Fibroblast-cardiomyocyte signaling" on April 2011.
3. *Exercise mitigates beta2-adrenergc receptor dysfunction by decreasing homocysteine in diabetes*. Presented at the Experimental Biology meeting Featured topic "Effect of exercise and nutritional perturbations on cumulative muscle protein synthesis" on April 2012.
4. *Ablation of MMP9 ameliorates epigenetic modifications and mitigates diabetic cardiomyopathy.* Presented at the Experimental Biology meeting Featured topic "MicroRNA and stem cell in muscle pathophysiology" on April 2013.

International

26. *Genetic deletion of MMP9 induces miRNA and ameliorates heart failure in diabetics*. Presented at the International symposium on "Population genetics and chromatin dynamics" at Banaras Hindu University, Varanasi, India on January 2012.
27. *Cardioprotective role of miR-133a in diabetic hearts*. Presented at the "The Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators", Louisville, Kentucky on August 2013.
28. *Cardioprotective role of miR-133 in diabetic hearts.* Presented at the "2nd Cardiovascular Forum for Promoting Centers of Excellence and Young Investigators", Winnipeg, Manitoba, Canada on September 2014.
29. *Novel cardioprotective role of miR-133a.* Presented at the "Annual Meeting of the International Academy of Cardiovascular Sciences: North American section", Omaha, Nebraska on September 2015.
30. *MicroRNA-autophagy axis in diabetic hearts*. Presented at the 9th Global Diabetologists Annual Meeting and Medicare Expo, Dallas, Texas on January 2016.
31. *A novel role for cardiac tyrosine aminotransferase in miR-133a-mediated regulation of contractility of diabetic hearts*. Presented at the "Annual meeting of the International Academy of Cardiovascular Sciences: North American section, 5th Annual Forum to Promote Young Investigators and Centers of Excellence in Cardiovascular Sciences, Orlando, Florida on September 2017.
32. *MICRO-managing cardiac autophagy to ameliorate diabetic cardiomyopathy*. Presented at the "Trends in Biochemical and Biomedical Research: Advances and Challenges, Banaras Hindu University, Varanasi, India on February 2018.

33. *Pyroptosis in diabetic cardiomyopathy.* Presented at the "International conference on Emerging Researches in Bioscience", Guru Ghasidas Vishwavidyalaya, Bilaspur, India on October 2018.

g) Scientific sessions moderated/organized

Sessions Moderated and Organized

1. Organized and Chaired the "MicroRNA and Stem Cell in Muscle Pathology" Feature Topic for the Experimental Biology Meeting, American Physiological Society, Muscle Biology Section, Boston, MA (April 2013).
2. Co-Chaired the "Matrix metalloproteinases in the Cardiovascular System" Feature Topic for the Experimental Biology Meeting, American Physiological Society, Cardiovascular Section, Boston, MA (April 2013).
3. Chaired the "Cardiovascular Research Session-III" at the 3rd World Diabetes and Obesity conference, Target Online meeting. September 2013.
4. Organized and Chaired the "Autophagy and miRNA in diabetic heart failure" Feature Topic for the Experimental Biology Meeting, American Physiological Society, Cardiovascular Section, Boston, MA (April 2015).
5. Moderator of the session "Autophagy and Cardiovascular Disease". American Heart Association Scientific Session. November 2015.

Conferences Organized

1. Organizing committee member of the conference "Euro Weight Loss-2015", Frankfurt, Germany (August 2015).
2. Organizing committee member of international conference, "Annual meeting of the International Academy of Cardiovascular Sciences: North American Section", Omaha, Nebraska. (September 10-12, 2015). *This included all organization, giving a talk, and co-chairing one session.*

Roundtable Discussions:

1. Moderator of Focus Group Discussion "Gene Therapy and Genome Editing" in the College of Medicine Research Retreat "Clinical and Basic Scientists, Meet your Blind Date" at UNMC, June 1, 2018.

h) Social Media

1. Podcasts for AJP Heart:
As Author:
October 23, 2019- Guidelines for Evaluating Myocardial Cell Death

As Content expert:
July 15, 2016- miR-140 and Right heart Hypertrophy
March 23, 2018- MicroRNA translocation into the Mitochondria

B. Areas of Research Interest and Research Impact:

MISSION STATEMENT

My laboratory is dedicated to performing cardiovascular research that involves:

1. **Developing multidimensional approaches to examine the mechanisms whereby diabetes increases the risk of heart failure;**
2. **Applying the knowledge gained to develop therapeutic strategies to prevent, slow, or reverse the progression to diabetic cardiomyopathy and heart failure; and**
3. **Disseminating our results to general, scientific, and medical communities.**

Research Focus

The research interest of our team is to investigate the molecular mechanisms by which diabetes increases the risk of heart failure, and develop a novel therapeutics for diabetic cardiomyopathy. The major research focus is metabolic remodeling, mitochondrial dysfunction, and cell death in the diabetic heart and therapeutic approach includes miRNA mimic, MMP9 inhibitor, and hydrogen sulfide donor treatment.

Research Impact

Scopus Profile: https://experts.nebraska.edu/en/persons/paras-kumar-mishra

Research Gate Profile: https://www.researchgate.net/profile/Paras_Mishra

ORCID Profile: https://orcid.org/0000-0002-7810-9239

NCBI Bibliography: https://www.ncbi.nlm.nih.gov/sites/myncbi/1BUMsLa0MVe5j/bibliography/44080859/public/?sort=date&direction=ascending

Active Research Support:

1. NATIONAL

Source: NIH/ NHLBI 1 R01 HL129823
Title: **Systems Biology of Fibroblast Activation Following Myocardial Infarction**
Period: July 1, 2020 to April 30, 2021
Direct Costs/ Current: $250,000 Year/ Total: 4/ $1,525,000 Role: Collaborator (PI: Lindsey ML)

Source: NIH/ F31 Fellowship FHL156402A (PI, Kambis TN) Received Fundable score
Title: **Targeting metabolic remodeling and mitochondrial dysfunction in the diabetic heart**
Period: December 1st 2020- November 30, 2022
Direct Costs/ Current: Role: Mentor

2. UNIVERSITY

Source: UNMC CTR/ CHVR
Title: **Targeted delivery of H_2S to mitigate cell death in obesity/diabetes-induced cardiomyopathy**
Period: July1, 2020 to June 30, 2021
Direct Costs/ Current: $50,000 Role: Principal Investigator

Source: UNMC Collaboration Initiative Grant
Title: **miRNA-based Therapeutic Strategy for Diabetic Breast Cancer**
Period: July 1, 2020 to June 30, 2022
Direct Costs: $75,000 Year/Total: 2/ $149, 064 Role: Co- Investigator (PI: Chandra S)

Source: UNMC Program of Excellent Assistantship (PI, Kar S)
Title: **Targeting ferroptotic death in diabetic cardiomyopathy with H_2S**
Period: July 1, 2020 to June 30, 2022
Direct cost Role: Mentor

Source: UNMC Program of Excellent Assistantship (PI, Kambis TN)
Title: **Ameliorating mitochondrial damage by miR-133a in the T1DM heart**
Period: July 1, 2019 to June 30, 2021
Direct cost Role: Mentor

3. OTHERS

Source: Nebraska Tobacco Settlement Biomedical Research Development Fund
Period: May 1, 2013 to June 30, 2021
Direct cost Role: Principal Investigator

Source: UNMC College of Medicine Bridge Fund
Period: April1, 2020 to March 30, 2021
Direct Cost $30, 000 Role: Principal Investigator

Past Research Support

1. NATIONAL

Source: NIH/NHLBI RO1 HL113281 Period: September 1, 2013 to July 31, 2020
Title: **Inflammation, miRNA and autophagy in diabetes**
Year/ Total: 7/ $125,000 (Direct); Role: Principal Investigator

Source: NIH/NHLBI RO1 HL116205 Period: July 1, 2014 to December 31, 2019
Title: **Exercise and H2S mitigate homocysteine-mediated beta2-adrenergic receptor dysfunction**
Year/ Total: 6/ $1,250,000 (Direct) Role: Principal Investigator

Source: NIH/NHLBI RO1 HL126796 Period: December 18, 2015 to November 30, 2019
Title: **NHLBI UTHSCSA Cardiovascular Proteomics Center**
Year/ Total: 4/ $1, 250,000 (Direct) Role: Co- Investigator (PI, Zucker IH/Wang HJ)

2. UNIVERSITY- None

3. OTHERS

Source:	American Heart Association	Beginning-Grant-in-Aid 11BGIA7690055
Title:	**Role of MMPs in miRNA mediated diabetic cardiomyopathy**	
Period:	July 1, 2011 to April 30, 2013	
Year/ Total:	2/ $130,000 (Direct)	Role: Principal Investigator

Source:	American Heart Association,	Postdoctoral Fellowship 16POST27260104
Title:	**Mitochondrial abnormality and its regulation by miRNA in diabetic hearts**	
Period:	July 1, 2016 to June 30, 2018	
Year/ Total	2/ $82,000 (Direct)	Role: Mentor (PI, Nandi SS)

IV. SERVICE

C. Professional Affiliations:

1. Current Professional and Scientific Organizations and Societies (requires election or examination for membership)

Year(s)	Organization
2009-2013	Member, American Heart Association, Council on Basic Cardiovascular Sciences
2010-present	Member, American Physiological Society, Cardiovascular Section
2013-2018	Council Member, Nebraska Physiological Society
2014-present	Fellow of American Physiological Society, Cardiovascular Section
2014-present	Member, American Heart Association, Council on Hypertension
2016-present	Member, American Heart Association, Council on Basic Cardiovascular Sciences
2017	Member, American Diabetes Association
2017	Member, American Society for Pharmacology and Experimental Therapeutics
2017-present	Fellow of American Heart Association, Council on Hypertension and Basic Cardiovascular Sciences
2019-present	Council Member, The Midland Society of Physiological Sciences

The American Physiological Society

2014-present	Fellow, Cardiovascular Section
5/1/2015- 5/1/18	Fellowship Committee, Cardiovascular Section
5/1/2019- 5/1/2022	Awards Committee, Cardiovascular Section

2. Journal Editing

Year(s)	Journal	Activity
2011-present	International Journal of Physiology, Pathophysiology and Pharmacology http://www.ijppp.org/editorial_board.html	Associate Editor
2014-2019	Diabetes and Obesity International Journal	Associate Editor
2014-present	Frontiers in Oxidant Physiology	Editorial Board
2015-present	Molecular and Cellular Biochemistry	Editorial Board
2015-present	American Journal of Physiology- Heart and Circulatory Physiology	Editorial Board
2015-present	Cardiovascular Regenerative medicine http://www.smartscitech.com/index.php/CRM/about/editorialTeam	Editorial Board
2017-2018	Frontiers in Cardiovascular Medicine, Special issue "The Non-coding Genome and Cardiovascular Disease" https://www.frontiersin.org/research-topics/6441/the-non-coding-genome-and-cardiovascular-disease	Guest Editor
2018	Oxidative medicine and Cellular Longevity Special issue "mTOR Signaling in Cardiometabolic Disease, Cancer, and Aging" https://www.hindawi.com/journals/omcl/si/414306/	Guest Editor
2018-present	Frontiers in Integrative Physiology	Associate Editor

https://www.frontiersin.org/search/journal/physiology/section/integrativephysiology?query=Paras&tab=People&origin=https%3A%2F%2Fwww.frontiersin.org%2Fjournals%2Fphysiology%2Fsections%2Fintegrative-physiology%23editorial-board

3. Journal Reviewing

Number	Year (s)	Journal	Activity
1	2013-present	AJP- Heart and Circulatory Physiology	Reviewer

2	2014-present	AJP- Regulatory, Integrative and Comparative Physiology	Reviewer
3	2014-present	BBA- Molecular Basic of Disease	Reviewer
4	2014-present	BioMed Research International	Reviewer
5	2014-present	Canadian Journal of Physiology & Pharmacology	Reviewer
6	2014-present	Cardiovascular Diabetology	Reviewer
7	2014-present	Cardiovascular Research	Reviewer
8	2014-present	Cell Biochemistry and Biophysics	Reviewer
9	2014-present	Cell Death and Disease	Reviewer
10	2014-present	Circulation	Reviewer
11	2014-present	Comparative Biochemistry and Physiology	Reviewer
12	2014-present	Current Diabetes Review	Reviewer
13	2014-present	Diabetes Research and Clinical Practice	Reviewer
14	2014-present	Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy	Reviewer
15	2014-present	European Journal of Heart Failure	Reviewer
16	2014-present	Food and Chemical Toxicity	Reviewer
17	2014-present	Genome	Reviewer
18	2014-present	International Journal of Biology	Reviewer
19	2014-present	International Journal of Molecular Medicine	Reviewer
20	2014-present	Journal of Cellular and Molecular Medicine	Reviewer
21	2014-present	Journal of Cardiovascular Translational Research	Reviewer
22	2014-present	Journal of Molecular and Cellular Cardiology	Reviewer
23	2014-present	Journal of Stem Cell Research and Therapy	Reviewer
24	2014-present	Life Sciences	Reviewer
25	2014-present	Molecular and Cellular Biochemistry	Reviewer
26	2014-present	Molecular Biology Reports	Reviewer
27	2014-present	Neurochemistry International	Reviewer
28	2014-present	Oxidative Medicine and Cellular Longevity	Reviewer
29	2014-present	PLOS One	Reviewer
30	2014-present	Recent Patents on Biotechnology	Reviewer
31	2014-present	Reproductive Sciences	Reviewer
32	2016-present	Scientific reports	Reviewer
33	2014-present	Toxicological Sciences	Reviewer
34	2014-present	Tissue Engineering	Reviewer

4. Book Reviewing

2018 Elsevier Book Proposal review for the second edition of “MicroRNA in Regenerative Medicine”, Edited by Chandan Sen, Elsevier Global Book Production

5. Grant Reviewing

UNIVERSITY LEVEL (both internal and external)

2016 Graduate Fellowship applications, UNMC Genetics Study Section Internal
2017 Ohio Cancer Research grant application, Lerner College of Medicine, Cleveland Clinic, External
2017 Pre-doctoral fellowship application, UNMC Cell Biology-II Study Section Internal
2017 College of Pharmacy, University of Florida Research grant application, External
2017 Indiana University of Medicine grant application, Indiana Alzheimer Disease Center External
2018 Pre-doctoral fellowship application, UNMC Drug Development Study Section Internal

NATIONAL

A. National Institutes of Health

2013 Diabetes Complications Consortium, NIDDK Study Section (July) Mail Reviewer
2016 Cardiac Contractility and Heart Failure study section (February) Temporary Member
2017 NIH Special Emphasis Panel ZRG1 EMNR-S (02) (March) Temporary Member
2017 NIH Special Emphasis Panel CVRS-02 (August) Temporary Member
2017 NHBLI Program Project (October) Temporary Member
2017 NIH Special Emphasis Panel ZRG1 CVRS-L (80) R15 AREA (December) Temporary Member

2018	NIH Special Emphasis Panel ZRG1 CVRS-L (80) R15 AREA (March) (Chair of three applications)	Temporary Member
2018	NIH Special Emphasis Panel CVRS-02 (April)	Temporary Member
2018	NIH Cardiovascular SBIR/STTR ZRG1-CVRS-C-10 (June)	Temporary Member
2018	NIH Special Emphasis Panel ZRG1 CVRS S (80) R15 (July)	Temporary Member
2018	NIH Special Emphasis Panel ZRG1 CVRS C (02) (October)	Temporary Member
2018	NIH Cardiovascular SBIR/STTR ZRG1-CVRS-C-10 (November)	Temporary Member
2018	NIH DP5 ZRG1 PSE-H 70 (December)	Temporary Member
2019	NIH Special Emphasis Panel ZRG1 CVRS-K (80) R15 (March)	Temporary Member
2019	NIH Cardiovascular SBIR/STTR ZRG1-CVRS-C-10 (November)	Temporary Member
2020	NIH MIM study section	Temporary Member

B. Department of Veterans Affairs

2018	Study section- ZRD1 CARA-R 01 1. Cardiovascular Studies – A	Temporary Member

C. National Aeronautics and Space Administration (NASA)

2019	Study section: BION-M2 (January)	Temporary Member
2019	Study section: Musculoskeletal-Cardiovascular ROSBio (May)	Temporary Member
2020	Study section: ROSBio 2020 Flight and Ground (May)	Temporary Member

D. American Heart Association

2011	Study section- Basic Cell Genetics and Epigenetics	Member
2012	Study section- Basic Cell Genetics and Epigenetics	Member
2014	Study section- Clinical, Behavioral Science	Temporary Member
2014	Study section- Basic Cell Genetics and Epigenetics (September)	Member
2015	Study section- Innovative Research Grant, Basic Sciences 1 (October)	Temporary Member
2016	Study section- Basic Cell Genetics and Epigenetics (October)	Member
2018	Study section- Basic Cell Genetics and Epigenetics (February)	Co-Chair
2018	Study section- Basic Cell Genetics and Epigenetics (October)	Chair
2019	Study section- Basic Cell Genetics and Epigenetics (October 9)	Chair
2019	Study section- Basic Cell Genetics and Epigenetics (October 21)	Chair

INTERNATIONAL

1. Diabetes UK Research Grant

2014 Reviewed one grant application from the University of Oxford, UK

2. Institutes Challenge Grant

2017 Reviewed one grant application from Indian Institute of Technology, Kharagpur, India

3. American Association for the Advancement of Science (AAAS)

2019 Reviewed proposals submitted to Saudi Arabia Ministry of Education's Research Development Office (RDO). RDO's International Collaboration Grant (ICG) Program aims to improve the quality of research, development and innovation activities in the Kingdom. One of the ICG's award types, the Research Capability grant (RCG) provides funding in support of basic research within the scope of designated priority research fields for the Kingdom's R & D ecosystem. AAAS has worked with RDO to design peer review criteria.

February 26, 2019: Reviewed 5 proposals related to Biogenomics-Inflammation.
March 6, 2019: Reviewed 7 proposals related to Biogenomics- Cardiovascular Disease

6. Scientific Abstract Review

2015: Abstract Judge for four awards in "Annual meeting of the international academy of cardiovascular sciences (IACS): North American section" held in Omaha, September 10-12, 2015

2018: Abstract Judge for Nebraska Physiological Society. Submitted abstracts from postdoctoral fellows, graduate and High school students were selected for the Oral Presentations.

7. Other Review Activities

2005-present Colleague promotion and tenure letters: >10 evaluation recommendation letters given
2002-present Other letters of support (e.g., grant or permanent resident applications) : >20 letters given
2009-2012: Scientific Judge every year at "Research Louisville Forum" organized by the University of Louisville,

Louisville, Kentucky. Evaluated Posters from Postdoctoral Fellows, Graduate students and Medical students.
2011: Scientific Judge at the Third Annual Graduate Research Symposium at University of Louisville, Kentucky
2014: Scientific Judge at the Nebraska Physiological Society (NPS) Meeting, Poster Judge
2015: Scientific Judge at the Midwest Student Biomedical Research Forum, UNMC-Creighton University, Poster Judge
2015: Scientific Judge at the Nebraska Physiological Society (NPS) Meeting, Poster Judge
2016: Scientific Judge at the Nebraska Physiological Society (NPS) Meeting, Poster Judge
2016: Scientific Judge at the American Physician Scientists Association Midwest Regional Meeting, Poster Judge
2017: Scientific Judge at the Midwest Student Biomedical Research Forum, UNMC-Creighton University, Poster Judge
2017: Scientific Judge at the Nebraska Physiological Society (NPS) Meeting, Poster Judge
2018: Scientific Judge at the Annual Research Symposium Department of Biochemistry and Molecular Biology, UNMC
2018: Scientific Judge at the Nebraska Physiological Society (NPS) Meeting, Poster Judge
2019: Scientific Judge at the Midwest Student Biomedical Research Forum, UNMC-Creighton University, Poster Judge
2020: Scientific Judge at the Nebraska Junior Academy Sciences Physiology Award, Research program Judge

8. Community Activities

- 2010: Volunteer at the University of Louisville hospital for 4 weeks.
- 2010: Donated blood at American Red Cross blood camp.
- 2018: Donated blood at American Red Cross blood camp

D. Committees:

Department

Year(s)	Committee	Member/ Officer
2014- Present	Alice Cumming Award Committee	Member
Jan 2016- June 2018	Department of Physiology Seminar Series	Director
2014-2015	Faculty Recruitment Committee, Department of Physiology	Member
2014- June 2020	Review Committee, A Ross McIntyre Cardio-Renal Seminar	Member
July 2020-Present	Review Committee, A Ross McIntyre Cardio-Renal Seminar	Chair
July 2020-Present	Faculty Recruitment Committee, Department of Physiology	Member
July 2020-Present	Department Equipment and Safety Operations	Chair

Qualifying Exam Committees:

2015 Oral Qualifying Exam Committee Member
Student: Derek Passer
Department: Cellular and Integrative Physiology, UNMC Degree: Ph.D.
Proposal Title: Atypical Protein Kinase C dependent polarized Cell Division is required for Myocardial Trabeculation

2016 Oral Qualifying Exam Committee Member
Student: Yuan Ying
Department: Cellular and Integrative Physiology, UNMC Degree: Ph.D.
Proposal Title: The role of P53 signaling in unilateral ureteral obstruction-induced fibrogenesis

2019 Oral Qualifying Exam Committee Member
Student: Ke Liao
Department: Pharmacology and Experimental Neuroscience, UNMC Degree: Ph.D.
Proposal Title: Role of Circular-RNA in Morphine-mediated Microglial Activation: Implication for Cognitive Impairment

2020 Oral Qualifying Exam Committee Member
Student: Anyum Ma
Department: Cellular and Integrative Physiology, UNMC Degree: Ph.D.
Proposal Title: The Role of central ACE2 and Nrf2 in Sympatho-excitation: Responses to Central Ang II

2020 Oral Qualifying Exam Committee Member
Student: Ahmed Wafi
Department: Cellular and Integrative Physiology, UNMC Degree: Ph.D.
Proposal Title: Exercise and Nrf2 in Chronic heart Failure

Comprehensive Exam Committees: Member/Chair

2014 Comprehensive Exam Committee Member
Student: Yuan Ying
Department: Cellular and Integrative Physiology, UNMC Member

2017 Comprehensive Exam Committee Member
Student: Ahmed Wafi
Department: Cellular and Integrative Physiology, UNMC Chair

2017	Comprehensive Exam Committee Member	
Student:	Anyum May	
Department:	Cellular and Integrative Physiology, UNMC	Member
2018	Comprehensive Exam Committee Member	
Student:	Ke Liao	
Department:	Pharmacology and Experimental Neuroscience, UNMC	Member
2020	Comprehensive Exam Committee Member	
Student:	Sumit Kar	
Department:	Cellular and Integrative Physiology, UNMC	Member
2020	Comprehensive Exam Committee Member	
Student:	Cassandra M. Moshfegh	
Department:	Cellular and Integrative Physiology, UNMC	Member
2020	Comprehensive Exam Committee Member	
Student:	Tyler N. Kambis	
Department:	Cellular and Integrative Physiology, UNMC	Member
2020	Comprehensive Exam Committee Member	
Student:	Sydney E. Greer	
Department:	Genetics Cell Biology and Anatomy, UNMC	Chair

University

Year(s)	Committee	Member/ Officer
June 2014-Present	Mouse Genome Engineering Core Advisory Committee	Member
July 2015- Present	Research and Development Committee	Member

Training and Core Grant affiliated faculty

2015: NIH T32 Training Grant application (PI: Dr. Janos Zempleni, University of Nebraska Lincoln)
2016: AHA strategically Focused Research Network at UNMC
2018: NIH T32 Training Gant application (PI: Drs. Shelley Smith and Howard Fox)
2020: NIH T32 Training Grant application (PI: Drs. Andrew Dudley and Babu Guda)
Title: Critical analyses of data-rich networks for biomedical scientists

Graduate level course development and organization

August 2015-May 2020: Co-Director of graduate course CIP/IPMM916
Cardiopulmonary Function in Health and Disease
June 2020-Present: Director of graduate course IPMM916
Cardiopulmonary Function in Health and Disease

National

Year(s)	Committee	Member/ Officer
2016-2018	American Physiological Society (APS) Cardiovascular Section (CV) Fellowship Committee	Member
2019-2022	American Physiological Society (APS) Cardiovascular Section (CV) Award Committee	Member