

Danielle (Nellie) Reuland Bruns, PhD
Curriculum Vitae

CONTACT INFORMATION

Danielle R. Bruns, PhD
Associate Professor
Kinesiology & Health, University of Wyoming

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EDUCATION AND TRAINING

2013	PhD	Human Bioenergetics Colorado State University- Fort Collins, CO
2010	MS	Health and Exercise Science Colorado State University- Fort Collins, CO
2008	BS	Exercise Science Linfield College-McMinnville, OR

ACADEMIC POSITIONS

2023-	Associate Professor Kinesiology & Health University of Wyoming, Laramie, WY
2018-2023	Assistant Professor Kinesiology & Health University of Wyoming, Laramie, WY
2018-	Adjunct Assistant Professor WWAMI; Rehabilitation Medicine, School of Medicine University of Washington, Seattle, WA
2022-	Adjunct Assistant Professor Zoology & Physiology University of Wyoming
2014-2018	Postdoctoral Fellow Division of Cardiology, Department of Medicine University of Colorado-Denver Anschutz Medical Campus, Aurora, CO
2016-2018	Adjunct Faculty Department of Biology Metropolitan State University-Denver
2009-2013	Graduate Research Assistant Department of Health & Exercise Science Colorado State University, Fort Collins, CO
2008-2010	Graduate Teaching Assistant Department of Health & Exercise Science Colorado State University, Fort Collins, CO

HONORS AND AWARDS

- 2023 University of Wyoming Early Career Graduate Faculty Mentor Award
- 2022 Center for Women's Health Research National Conference Travel Award
- 2021 American Aging Association Annual Meeting Junior Faculty Travel Award
- 2021 College of Health Sciences New Investigator Award
- 2021 College of Health Sciences Faculty Travel Award
- 2020 WWAMI Independent Investigative Inquiry Outstanding Mentor Award
- 2018 American Heart Association Scientific Sessions: BCVS Abstract Travel Award
- 2018 Center for Women's Health Research National Conference Poster Award
- 2018 NIA Summer Training Course on Biology of Aging
- 2018 University of Colorado-Denver Postdoc Travel Award
- 2016 NIH/NIA Butler-Williams Scholar
- 2016 American Physiological Society: Inflammation, Immunity and Cardiovascular Disease Travel Award
- 2016 Center for Women's Health Research National Conference Poster Award
- 2016 American Heart Association BCVS New Investigator Travel Award
- 2012 Robert W. Gotshall Graduate Scholarship Recipient: Colorado State University
- 2011 1st place poster presentation at Rocky Mountain American College of Sports Medicine

FUNDED GRANTS AND CONTRACTS

Funded Grants as PI

Total Funded (\$1,722,203)

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| 1. American Heart Association Transformational Project Award
"Mechanisms of circadian control by the cardiac molecular clock" | 7/1/2024-6/30/2027
\$300,000 |
| 2. NIH/NIA. K01 Career Development Award.
"Therapeutic activation of AMPK for the aging right heart" | 3/1/2019-11/30/2023
\$660,510 |
| 3. NIH/NIA/OD. K01, Administrative Supplement
"Therapeutic activation of AMPK for the aging right heart" | 8/22/2022-11/30/2023
\$145,000 |
| 4. Wyoming COBRE Sensory Biology Development Proposal
"The heart as a novel regulator of circadian rhythm" | 10/1/2022-7/31/2024
\$125,000 |
| 5. Wyoming NIH INBRE Thematic Research Project
"Identification of juvenile factors to treat age-related declines in cardiac adrenergic reserve" | 5/1/2020-4/30/2022
\$150,000 |
| 6. Montana INBRE Tech Access Grant
"Quantification of sex hormones in male and female mice across the life-course" | 12/1/2021-6/1/2022
\$2,615 |
| 7. 10x Genomics + University of Wyoming Grant Program
"Single cell RNAseq to identify right ventricular specific gene expression" | \$5,000 |
| 8. Wyoming NIH INBRE Graduate Research Fellowship
"Activation of AMPK for the aging right heart" | 8/24/2020-8/23/2022
\$64,328 |
| 9. Nathan Shock Center Pilot- Oklahoma Medical Research Foundation
"Mechanisms of cardioprotection by metformin in the aging right heart" | 2/1/2021-1/31/2022
\$20,000 |
| 10. Wyoming NASA
"Prevention of space flight-induced muscle loss by the anti-diabetes drug metformin" | 6/1/2019-5/31/2021
\$20,000 |
| 11. Nathan Shock Center Pilot/Jr Faculty Award
"Heart failure across the life-course: a proteomic approach to identify juvenile factors to protect the aging heart" | 7/1/2019-6/30/2020
\$10,000 |
| 12. UW- College of Health Sciences Faculty Development Award | 3/31/2019-5/31/2020 |

	“From pediatrics to geriatrics: mechanisms of heart failure across the life-course”	\$3,000
13.	Wyoming INBRE Sequencing and Informatics Grant	\$5,400
	“Mechanisms of age-specific cardiac remodeling: using RNA-seq to understand pediatric and geriatric heart failure”	
14.	American Federation for Aging Research	12/31/2016-12/31/2017
	(returned upon award of American Heart Association Postdoctoral Fellowship)	\$100,000
	“AMP-activated protein kinase as a therapeutic target to improve hypoxia-related cardiac dysfunction in aging”	
15.	American Heart Association. Southwest Affiliate Postdoctoral Fellowship	1/1/2017-8/15/2018
	“Hypobaric hypoxia-induced epigenetic changes of the cardiac fibroblast”	\$106,350
16.	American College of Sports Medicine Foundation Predoctoral Grant	6/1/2012-6/30/2013
	“Selective translation of mitochondrial proteins during energetic stress”	\$5,000

Funded Grants as Co-PI

Total Funded (\$1,184,503)

1.	NIH/NICHHD R21	Pru (PI), Bruns (Co-I)	9/11/2023-6/30/2025
	“PGRMC proteins as biomarkers of fertility and overall health status”		\$397,375
2.	Wyoming INBRE Administrative Supplement	Bedford, Bruns, Schmitt (Co-PI)	9/2/2023-4/30/2024
	Team Science Development Project- “Mechanisms of nocturia in the aging mouse”		\$568,213
3.	IDeA National Resource for Quantitative Proteomics Voucher	Schmitt and Bruns (Co-I)	7/1/2022/11/1/2022
	“The cardiac molecular clock as a novel driver of circadian rhythm”		\$3,015
4.	Wyoming INBRE Community College-UW Grant	Bruns, Cherrington, Teule-Finley (Co-I)	5/1/2022-4/30/2025
	“Myocardial protein citrullination in sex-specific cardiac aging”		\$79,000
5.	Regional Alliance of INBRE Networks Collaborative Research	Hindle, Chase, Bruns (Co-I)	5/1/2021-4/30/2022
	“Harnessing deep-diving seal cardioprotective factors as therapy for myocardial ischemia-reperfusion injury”		\$28,900
6.	Wyoming INBRE Community College-UW Grant	Chew, Mousaviraad, Bruns (Co-I)	5/1/2020-4/30/2022
	“Animal and computational models for cardiac dysfunction between the right and left ventricles”		\$75,000
7.	College of Health Sciences Faculty Grant in Aid	Schmitt, Johnson, Bruns (Co-PI)	6/1/2020-5/31/2021
	“High Intensity Interval Training Effects on Arginine Vasopressin Circadian Rhythm in Nocturia Patients”		\$3,000
8.	INBRE SPREM	Bruns, Chew, Mousaviraad (Co-I)	1/23/2020-4/30/2020
	“Echocardiography of modeling and experimental studies for biomechanics of cardiovascular stiffness”		\$10,000
9.	Jackson Aging Center Pilot Award	Schmitt and Bruns (Co-PI)	
	“Linking cardiac aging with biological clock activity”		
10.	Wyoming NIH INBRE Equipment Grant	Schmitt, Johnson and Bruns (Co-PI)	\$20,000
	Small equipment grant for purchase of a fluorescent microscope and capture system for UW K&H investigators		

Student Grants

Total Funded (\$129,412)

1.	Wyoming Research Scholars Program	Schmitt, Marjie. Role: Mentor	5/14/2024-5/13/2025
	“The effects of PAD2 on the aging female heart ”		\$8000
2.	Wyoming INBRE Undergraduate Research Fellowship	Bhavsar, Vaishnavi. Role: Mentor	5/20/2024-7/26/2024
	“Impacts of cardiac-specific deletion of Bmal1 on circadian rhythms in skeletal muscles”		\$6,000
3.	RMACSM Student Research Grant	Mehl, Emma. Role: Mentor	2/1/2024-5/14/2024
	“Cardiac myocyte deletion of hypoxia inducible factor 1- α exacerbates RV dysfunction in aging mice”		\$1,000
4.	Wyoming INBRE Undergraduate Research Fellowship	Thornburg, Josh. Role: Mentor	5/15/2023-8/15/2023
	“Mechanistic variations between the right and left ventricles to understand cardiac aging”		\$6,000
5.	Wyoming INBRE Undergraduate Research Fellowship	Fontana, Kevin. Role: Mentor	5/15/2023-8/15/2023

	“The impact of deletion of cardiac AMPK on right and left ventricular function”		\$6,000
6.	Wyoming Research Scholars Program	Faqeeri, Sahar. Role: Mentor	6/1/2023/5/31/2024
	“Metformin to improve right ventricular function in diabetic cardiomyopathy”		\$6,500
7.	RMACSM Student Research Grant	Matthews, Julian. Role: Mentor	1/1/2023-5/18/2023
	“Reverse remodeling in pulmonary hypertension-induced right heart failure”		\$500
8.	Wyoming INBRE Undergraduate Research Fellowship	Keelin, Celeste. Role: Mentor	10/10/2022-5/16/2023
	“The requirement of cardiac AMPK for cardioprotection by metformin in the right ventricle”		\$2,240
9.	Wyoming INBRE Undergraduate Research Fellowship	Mehl, Emma. Role: Mentor	6/6/2022-7/30/2022
	“HIF-1 as a deep diving seal-derived factor to protect against cardiac ischemia-reperfusion injury”		\$6,000
10.	American Heart Association Predoctoral Fellowship	McNair, Ben. Role: Mentor	1/1/2022-12/31/2023
	“AMPK activation as a novel anti-fibrotic therapy in right heart failure”		\$64,072
11.	RMACSM Student Research Grant	Yusifov, Aykhan. Role: Mentor	5/1/2021- 4/30/2022
	“Exercise in childhood for enhanced later in life cardioprotection”		\$1,000
12.	Wyoming INBRE Undergraduate Research Fellowship	Borders, Megan. Role: Mentor	8/23/2021-5/14/2022
	“Exercise during childhood protects against cardiac dysfunction later in life”		\$1,920
13.	RMACSM Student Research Grant	Hughes, Courtney. Role: Mentor	1/1/2022-5/14/2022
	“Exercise as medicine for pulmonary artery banding-induced right heart failure”		\$500
14.	College of Health Sciences Student Research Grant	Polson, Sydney. Role: Mentor	5/1/2021-4/30/2022
	“Right ventricular myocardial contrast echocardiography in mice with heart failure”		\$1,000
15.	College of Health Sciences Student Research Grant	Yusifov, Aykhan. Role: Mentor	5/1/2021-4/30/2022
	“Adrenergic receptor activation in the heart across the life course”		\$1,000
16.	Wyoming INBRE Undergraduate Research Fellowship	Ernste, Danielle. Role: Mentor	5/15/2021-8/25/2021
	“Right versus left heart failure in mice by pulmonary artery banding (PAB) and transaortic constriction (TAC)”		\$5,400
17.	University of Wyoming BMS Program Doctoral Grant	Yusifov, Aykhan. Role: Mentor	2/26/2020-5/15/2021
	“Adrenergic signaling by age”		\$2,950
18.	University of Wyoming BMS Program Doctoral Grant	McNair, Ben. Role: Mentor	3/26/2021-5/15/2021
	“Fibrosis in the failing right heart”		\$2,750
19.	Wyoming INBRE Undergraduate Research Fellowship	Shorthill, Samantha. Role: Mentor	9/1/2020-5/15/2021
	“Effect of exercise on pulmonary hypertension in mice at sea level, Laramie, and high altitude”		\$1,980
20.	College of Health Science Student Research Grant	McNair, Ben. Role: Mentor	6/1/2020-5/31/2021
	“AMPK activation for high altitude-induced right heart failure in old mice”		\$1,000
21.	Wyoming INBRE Undergraduate Research Fellowship	Schlatter, Jacob. Role: Mentor	9/30/2019-5/18/2020
	“Physiological effect of mTOR inhibition on pulmonary hypertension in old mice”		\$1,900
22.	Wyoming INBRE Undergraduate Research Fellowship	Polson, Sydney. Role: Mentor	1/26/2020-5/18/2020
	“Diabetic cardiomyopathy: the forgotten right ventricle”		\$800
23.	Wyoming INBRE Undergraduate Research Fellowship	Ostler, Ian. Role: Mentor	1/25/2019-5/15/2019
	“Exercise as medicine for right-sided heart failure”		\$800
	“PAD2 and myocardial citrullination in the aging female heart”		

PUBLICATIONS

*Student Author, #Danielle Bruns as the Corresponding Author

Refereed Journals

- Shorthill, S.K.*, Jones, L.M.T., Woulfe, K.C., Cherrington, B.D., **Bruns, D.R.** (2024). “The Influence of Estrogen on Myocardial Post Translational Modifications and Cardiac Dysfunction in Women”. *Canadian Journal of Physiology & Pharmacology*.

2. O'Connor A., Hatzenbiler D.M., Flom L.T., Bobadilla A.C., **Bruns D.R.**, Schmitt E.E. (2023). "Physiological and Morphometric Differences in Resident Moderate Altitude versus Sea Level Mice." *Aerospace Medicine and Human Performance*.
3. Yusifov, A.* , Borders, M.O.* DeHoff, M.A.* , Polson, S.M.* , Schmitt, E.E., **Bruns, D.R** (2023). "Exercise during the juvenile period protects against isoproterenol-induced cardiac dysfunction later in life". *Journal of Applied Physiology*.
4. McNair, B.D.* , Shorthill, S.K.* , **Bruns, D.R.** (2023). "More than just a small left ventricle: the right ventricular fibroblast and ECM in health and disease". *AJP-Heart*.
5. McNair, B.D.* , Polson, S.M.* , Shorthill, S.K.* , Yusifov, A.* , Walker, L.A. Weiser-Evans, M.C.M., Kovacs, E.J., **Bruns, D.R.** (2023). "Metformin protects against pulmonary hypertension-induced right ventricular dysfunction in an age- and sex-specific manner independent of cardiac AMPK". *AJP-Heart*.
6. **Bruns, D.R.**, McNair, B.D*., Peelor, F.F., Borowik, A.K., Pranay, A., Yusifov, A*., Miller, B.F. (2023). "Skeletal and cardiac muscle have different protein turnover responses in a model of right heart failure". *GeroScience*.
7. Yusifova, M*., Yusifov, A.* , Polson, S.M.* , Todd, W.D., Schmitt, E.E., **Bruns, D.R.** (2023). "Voluntary wheel running exercise does not attenuate circadian and cardiac dysfunction caused by conditional deletion of Bmal1." *Journal of Biological Rhythms*.
8. Fullerton, Z.S.* , McNair, B.D.* , Marcello, N.A.* , Schmitt, E.E., **Bruns, D.R.** (2022). "Chronic exposure to high altitude hypoxia promotes loss of muscle mass that is not rescued by metformin. *High Altitude Medicine and Biology*.
9. Yusifov, A*, Woulfe, K.C., **Bruns, D.R.** (2022). "Mechanisms and implications of sex differences in cardiac aging". *Journal of Cardiovascular Aging*.
10. Schmitt, E.E., McNair, B.D* , Polson, S.M.* , Cook, R.F.* , **Bruns, D.R.** (2022). "Mechanisms of exercise-induced cardiac remodeling differ between young and aged hearts." *Exercise and Sport Sciences Reviews*.
11. Yusifov, A.* , Chhatre, V., Koplín, E.K.* , Schmitt, E.E., Woulfe, K.C., **Bruns, D.R.** (2021). "Transcriptomic analysis of cardiac gene expression across the life-course in male and female mice". *Physiological Reports*.
12. McNair, B.D.* , Schlatter, J.A.* , Cook, R.F.* , Yusifova, M* , **Bruns, D.R.** (2021) "Inhibition of mTOR by rapamycin does not improve hypoxic pulmonary hypertension-induced right heart failure in old mice". *Experimental Gerontology*.
13. Yusifov, A.* , Zumo, J.* , Cook, R.F* , McNair, B.D* , Schmitt, E.E., Chhatre, V., Woulfe, K.C., **Bruns, D.R.** (2021). "Cardiac response to adrenergic stress differs by sex and across the lifespan". *Geroscience*.
14. Stephens, K.E.* , Chernyavskiy, P., **Bruns, D.R.** (2021). "Impact of altitude on COVID-19 infection and death in the United States: a modeling and observational study". *PLOS ONE*.
15. **Bruns, D.R.**, Yusifova, M., Walker, W., Schmitt, E.E. (2020). "The peripheral circadian clock and exercise: lessons from young and old mice". *Journal of Circadian Rhythms*.
16. McNair, B.D.* , Marcello, N.* , Smith, D.T., Schmitt, E.E., **Bruns, D.R.** (2020). "Changes in muscle mass and composition by exercise and hypoxia as assessed by DEXA in mice". *Medicina*.
17. Brown, K.D., Waggy, E.D., Nair, S., Schmitt, E.E., **Bruns, D.R.**, Thomas, D.P. (2020) "Sex differences in cardiac AMP-activated protein kinase in response to exhaustive exercise". *Sports Medicine International Open*.
18. Wolff, C.A., Reid, J.J., Musci, R.V., **Bruns, D.R.**, Linden, M.A., Konopka, A.R., Peelor, F.F., Miller, B.F., Hamilton, K.L. (2019). "Differential effects of rapamycin and metformin and metformin in combination with metformin on mechanisms of proteostasis in cultured skeletal myotubes." *J Gerontol A Biol Sci Med Sci*.
19. Schmitt, E.E., Johnson, E.C., Yusifova M., **Bruns, D.R** (2019). "The renal molecular clock: broken by aging and restored by exercise". *AJP-Renal*.
20. **Bruns, D.R.**, Tatman, P.D., Stenmark, K.R., Buttrick, P.M., Walker, L.A (2019). "The right ventricular fibroblast secretome drives cardiomyocyte differentiation." *PLoS ONE*
21. Woulfe, K.C. and **Bruns, D.R.** (2018). "From pediatrics to geriatrics: mechanisms of heart failure across the life-course." *Journal of Cellular and Molecular Cardiology*.

22. **Bruns, D.R.**, Ehrlicher, S.E., Khademi, S., Biela, L.M., Peelor, F.F., Miller, B.F, Hamilton, K.L. (2018) “Differential effects of vitamin C and Protandim on skeletal muscle adaptation to exercise”. *Journal of Applied Physiology*.
23. **Bruns, D.R.** and Walker, L.A. (2017). “Exercise and pharmacology as medicine for CVD: from bench to beside and back.” *Exercise and Sports Science Reviews*.
24. **Bruns, D.R.**, Ghincea, A.R., Ghincea, C.V., Autieri, M.V. Watson, P.A., Walker, L.A. (2017). “Interleukin-19 is cardioprotective in dominant negative CREB-mediated heart failure in a sexually dimorphic manner.” *World Journal of Cardiology*.
25. **Bruns, D.R.**, Buttrick, P.M., Walker, L.A. (2016) “Genetic ablation of interleukin-18 does not attenuate hypobaric hypoxia-induced right ventricular hypertrophy.” *AJP-Lung*.
26. **Bruns, D.R.**, Drake, J.C., Biela, L.M., Peelor, F.F., Miller, B.F., Hamilton, K.L. (2015). “Nrf2 signaling and the slowed aging phenotype: Evidence from long-lived models.” *Oxidative Medicine and Cellular Longevity*.
27. Drake, J. C., **Bruns, D.R.**, Peelor, F.F. 3rd, Biela, L.M., Miller, R.A., Miller, B.F., Hamilton, K.L. (2015). “Long-lived Snell dwarf mice display increased proteostatic mechanisms that are not dependent on decreased mTORC1 activity”. *Aging Cell*.
28. **Bruns, D.R.**, Brown, R.D., Stenmark, K.R., Buttrick, P.M., Walker, L.A (2014). “Mitochondrial integrity in a neonatal bovine model of right ventricular dysfunction”. *AJP-Lung*.
29. Drake, J.C., **Bruns, D.R.**, Peelor, R.F., Biela, L.M., Miller, R.A., Hamilton, K.L., Miller, B.F (2014). “Long-lived crowded litter mice have an age-dependent increase in protein synthesis to DNA synthesis and mTORC1-substrate phosphorylation”. *AJP-Endo*.
30. **Reuland, D. J.**, J. M. McCord, and K. L. Hamilton (2013). “The role of Nrf2 in the attenuation of cardiovascular disease”. *Exercise and Sports Science Reviews*.
31. **Reuland, D.J.**, Khademi, S., Castle, C.J., Irwin, D.C., McCord, J. M., Miller, B.F., Hamilton, K.L. (2012). “Upregulation of phase II enzymes through phytochemical activation of Nrf2 protects cardiomyocytes against oxidant stress”. *Free Radic Biol Med*.
32. Miller, B.F., Robinson, M.M., **Reuland, D.J.**, Drake, J.C., Peelor, F.F., 3rd, Bruss, M. D., et al. (2012). “Calorie restriction does not increase short-term or long-term protein synthesis”. *J Gerontol A Biol Sci Med Sci*.
33. Donovan, E. L., McCord, J.M., **Reuland, D.J.**, Miller, B.F., & Hamilton, K.L. (2012). “Phytochemical activation of Nrf2 protects human coronary artery endothelial cells against an oxidative challenge”. *Oxid Med Cell Longev*.

Book Chapters

Bruns, D.R., Walker, L.A. “Mitochondria and metabolism in right heart failure.” (2018). InTechOpen.

INVITED TALKS

1. “Forgotten no more: function and dysfunction of the right ventricle”. Wyoming Society of Radiologic Technologies Annual Meeting, 2024. Laramie, WY.
2. “Myocardial citrullination in cardiac aging”. Wyoming INBRE Annual Conference, 2024. Laramie, WY.
3. “Distinct mechanisms of aging in the cardiac right and left ventricles”. Oklahoma Geroscience Symposium, 2024. OKC, OK.
4. “Heart disease from bench to beside (and critters to people)”. College of Health Sciences Research Day, 2023. University of WY. Laramie, WY.
5. “Skeletal and cardiac muscle protein turnover in right heart failure”. American Aging Association Annual Meeting, 2023. OKC, OK.
6. “Tissue-specific protein turnover in right heart failure.” Oklahoma Geroscience Symposium, 2023. OKC, OK.
7. “Mechanisms of nocturia in older adults and their potential rescue by exercise”. Hydration 4 Health Scientific Conference, 2022. Remote.
8. “Identification of juvenile factors to treat age-related declines in cardiac adrenergic reserve”. Wyoming INBRE Annual Conference, 2022. Laramie, WY.

9. "Not all roads to protection are equal: exercise-induced cardiac remodeling in the young and aged heart". Exercise and Metabolism Seminar, UC-Denver, 2021. Remote.
10. "From pediatrics to geriatrics: sex-specific mechanisms of heart failure across the life-course". College of Health Sciences Research Day, 2021. University of Wyoming. Laramie, WY.
11. "Rapamycin, metformin, and the aging right heart". Invited Speaker. Aging Science Talks, 2021. Remote.
12. "Activation of AMPK for the aging right heart". Invited Seminar. Oklahoma Medical Research Foundation, 2020.
13. "Right-sided heart failure: the heart is only as strong as its weakest ventricle". WY INBRE Video Conference Seminar Series, 2020.
14. "From pediatrics to geriatrics: heart failure across the life-course". College of Health Sciences Seminar Series, 2019. University of Wyoming. Laramie, WY.
15. "High altitude (patho)physiology: cardiovascular, pulmonary, and muscle adaptations to chronic hypoxia". Department of Zoology & Physiology Seminar Series, 2019. University of Wyoming. Laramie, WY.
16. "Pulmonary hypertension-induced right ventricular pressure overload simulates cardiac fibroblast periostin expression and dedifferentiation of adult cardiac myocytes". American Heart Association Scientific Sessions, 2018. Chicago, IL.
17. "Novel and direct myofilament-mediated action of metformin in the aging right heart". Gerontological Society of America Annual Scientific Meeting, 2018. Boston, MA.
18. "Molecular mechanisms of right heart failure". Molecular Monday Seminar Series, 2018. Department of Molecular Biology. University of WY. Laramie, WY.
19. "Back to the bench: A basic science approach to studying human health". Division of Kinesiology & Health Seminar, 2018. University of Wyoming. Laramie, WY.
20. "Therapeutic activation of AMPK for the aging right heart." Cardiology Research Conference, 2018. University of Colorado-Denver. Aurora, CO.
21. "AMP-activated protein kinase as a therapeutic target to improve hypoxia-related cardiac dysfunction in aging". Cardiology Research Conference, 2017. University of Colorado-Denver. Aurora, CO.
22. "Novel mechanisms of right heart failure". Colorado State University, Department of Health and Exercise Science Seminar Series, 2017. Fort Collins, CO.
23. "Pulmonary hypertension-induced right ventricular pressure overload triggers acute epigenetic reprogramming of pro-inflammatory cardiac fibroblasts". American Heart Association Scientific Sessions, 2016. New Orleans, LA.
24. "Interleukin-19: A novel sexually dimorphic cardiac cytokine." American Physiological Society Inflammation, Immunity, and Cardiovascular Diseases, 2016. Westminster, CO.
25. "The epigenetically modified pro-inflammatory cardiac fibroblast drives cardiomyocyte dysfunction in pulmonary hypertension-induced right ventricular pressure overload". Cardiology Research Conference, 2016. University of Colorado-Denver. Aurora, CO.
26. "Molecular mechanisms regulating cardiac dysfunction in hypobaric hypoxia-induced RV pressure overload". Cardiology Research Conference, 2015. University of Colorado-Denver. Aurora, CO.
27. "Activation of Nrf2 for maintenance of redox balance and exercise-induced mitochondrial biogenesis." Center for Environmental Medicine Spring Symposium, 2013. Colorado State University. Fort Collins, CO.
28. "Activation of Nrf2 and upregulation of phase II enzymes in cardiomyocytes by the phytochemicals in Protandim." Rocky Mountain American College of Sports Medicine Regional Meeting, 2011. Fort Collins, CO.

SELECT ABSTRACTS AND POSTER PRESENTATIONS

1. Shorthill, S.K., Klinger, F.R., Yusifov, A.F., Thornburg, J.P., Cherrington, B.D., **Bruns, D.R.** "Cardiac PAD2 expression and myocardial citrullination decline with age in female mice independent of estrogen." EMBO Workshop on Mechanisms of Citrullination in Health and Disease, 2024. Toulouse, France. *Selected for oral presentation*

2. **Bruns, D.R.**, Yusifova, M., Ruhmann, M.M., Todd, W.D. "The heart regulates skeletal muscle circadian rhythms by hypoxia-stimulated secretion of fibulin5". Society for Biological Rhythms, 2024. San Juan, Puerto Rico.
3. Satyanaranya, S., Welhaven, H.D., Marcello, N.A., McCoy, E., Scholten, E.T., **Bruns, D.R.**, Todd, W.D., Schmit, E.E. "Exercise alters the metabolome of circadian disrupted mice in a sex dependent manner." Wyoming INBRE Annual Conference, 2024. Laramie, WY.
4. Satyanaranya, S., Taylor, D.S., Nelson, A.C., **Bruns, D.R.**, Bedford, N.L., Schmitt, E.E. "The aging mouse as a novel model for nocturia". Wyoming INBRE Annual Conference, 2024. Laramie, WY.
5. Faqeer, S., Polson, S.M., Matthews, J.M., Bruns, D.R. "Oxidative stress and MnSOD in right ventricular diabetic myopathy". Rocky Mountain ACSM, 2024. Colorado Springs, CO.
6. Mehl, E.R., **Bruns, D.R.** "Distinct responses to hypoxia in striated muscle." Rocky Mountain ACSM, 2024. Colorado Springs, CO.
7. Hoopes, C.R., McNair, B.D., Thornburg, J.P., **Bruns, D.R.** "Characterizing right ventricle function in physiologically aged male mice." Western Medical Research Conference, 2024. Carmel, CA.
8. McNair, B.D., Thornburg, J.P., Matthews, J.M., Bhavsar, V., **Bruns, D.R.** "Incomplete reverse remodeling in aged mice exposed to pulmonary hypertension-induced right ventricular failure." American Physiological Society Annual Meeting, 2024. Long Beach, CA.
9. Shorthill, S.K., Yusifov, A.F., Klinger, F.R., Thornburg, J.P., Cherrington, B.D., Woulfe, K.C., **Bruns, D.R.** "Estrogen Regulation of PAD2 and Citrullination in the Aging Female Heart." American Physiological Society Annual Meeting, 2024. Long Beach, CA.
10. McNair, B.D., Yusifov, A., **Bruns, D.R.** "Distinct mechanisms of aging in the right and left ventricles". Keystone Symposium, 2023. Santa Fe, NM.
11. Pereira, V.M., Pradhanang, S., Chenchar, A.M., Polson, S.P., **Bruns, D.R.**, Schmitt, E.E., Nair, S. "*Platycodon grandifloras* reduces weight gain and attenuates hepatic steatosis". ASPET Annual Meeting, 2023.
12. Shorthill, S.K., Yusifov, A., Cherrington, B.D., Woulfe, K.C., **Bruns, D.R.** "PAD2 and citrullination in sex-specific cardiac aging". Rocky Mountain ACSM, 2023. Colorado Springs, CO.
13. Matthews, J.M., McNair, B.D., Polson, S.M., **Bruns, D.R.** "Right ventricular reverse remodeling following hypobaric hypoxia exposure in aged mice." Rocky Mountain ACSM, 2023. Colorado Springs, CO.
14. McNair, B.D., Shorthill, S.K., **Bruns, D.R.** "Fibrotic signaling pathways are higher in the RV compared to the LV." Rocky Mountain ACSM, 2023. Colorado Springs, CO.
15. Polson, S.M., Cook, C.Z., Thornburg, J.P., McNair, B.D., **Bruns, D.R.** "Diabetes-induced sex-specific biventricular dysfunction in a high-fat diet streptozotocin model of diabetic cardiomyopathy". Rocky Mountain ACSM, 2023. Colorado Springs, CO.
16. Straight, E.A., Fullerton, Z.S., Polson, S.M., McNair, B.D., **Bruns, D.R.** "Metformin does not attenuate right heart dysfunction in pulmonary artery banded mice". Rocky Mountain ACSM, 2023. Colorado Springs, CO.
17. LeMaster, B., Cloninger, J., Bedford, N., **Bruns, D.R.**, Schmitt, E.E. "Exercise as a possible treatment for nocturia via circadian realignment." Western Medical Research Conference, 2023. Carmel, CA.
18. Ernste, D.M., Fullerton, Z.F., Polson, S.M., Chew, B., **Bruns, D.R.** "Right versus left heart failure in mice by pulmonary artery banding (PAB) and transaortic constriction (TAC)." WY-INBRE Annual Research Conference, 2022. Laramie, WY.
19. O'Connor, A., Vaccaro, L., Bobadilla, A.C., **Bruns, D.R.**, Schmitt, E.E. "Acclimation to moderate altitude induces physiological adaptations in mice". WY-INBRE Annual Research Conference, 2022. Laramie, WY.
20. Polson, S.M., Cook, R.F., Yusifov, A., Yusifova, M., **Bruns, D.R.** "Deletion of potassium channel Kv1.5 causes biventricular heart failure in a sex-specific manner". Rocky Mountain ACSM Annual Meeting, 2022. Golden, CO.
21. Shorthill, S.K., McNair, B.D., Polson, S.M., **Bruns, D.R.** "Voluntary exercise protects against pulmonary hypertension induced right sided heart failure." Rocky Mountain ACSM Annual Meeting, 2022. Golden, CO.

22. Yusifov, A., Knez, T.K., Borders, M.O., Polson, S.M., **Bruns, D.R.** "The CDO1 substrate L-cysteine attenuates isoproterenol-induced cardiac remodeling." Rocky Mountain ACSM Annual Meeting, 2022. Golden, CO.
23. Odogwu, D., Schmitt, E.E., **Bruns, D.R.** "Frailty index score in correlation to physiological health outcomes in aged mice". Rocky Mountain ACSM Annual Meeting, 2022. Golden, CO.
24. Fullerton, Z.S., Polson, S.M., Hughes, C.L., **Bruns, D.R.** "Partial pericardiectomy precludes right heart failure phenotype in pulmonary artery banded mice." Rocky Mountain ACSM Annual Meeting, 2022. Golden, CO.
25. Borders, M.O., Yusifov, A., DeHoff, M.A., Polson, S.M., Schmitt, E.E., Woulfe, K.C., **Bruns, D.R.** "Exercise during the juvenile period protects against cardiac dysfunction later in life." Rocky Mountain ACSM Annual Meeting, 2022. Golden, CO.
26. McNair, B.D., Polson, S.M., Shorthill, S.K., **Bruns, D.R.** "Cardiac AMPK is not required for cardioprotection by metformin in pulmonary hypertension induced right heart failure". Experimental Biology, 2022. Philadelphia, PA.
27. Yusifov, A., Borders, M.O., Woulfe, K.C., **Bruns, D.R.** "Age- and sex-specific differences in activation of the cardiac adrenergic cascade". Experimental Biology, 2022. Philadelphia, PA.
28. Nelson, R.N., Koplin, E.K., Polson, S.P., **Bruns, D.R.**, Schmitt, E.E. "The use of high frequency ultrasound for in vivo pregnancy to monitor and assess fetal development after endocrine disruption." Wyoming WWAMI Research Day, 2021. Laramie, WY.
29. McNair, B.D., Cook, R.F., Shorthill, S.K., Polson, S.M., **Bruns, D.R.** "Right heart failure in aged mice and the sex-specific outcomes of metformin". American Aging Association Annual Meeting, 2021. Madison, WI. *Selected for a poster teaser oral presentation.
30. **Bruns, D.R.**, DeHoff, M.A., Yusifov, A., Polson, S.M., Cook, R.F., Schmitt, E.E., Woulfe, K.C. "Exercise during the juvenile period protects against cardiac dysfunction later in life". Gerontological Society of America Annual Conference, 2021. Remote.
31. Blechschmid, T.H., Hartung, C.M., Schmitt, E.E., **Bruns, D.R.**, Carrico, C.P., Johnson, E.C. "Mechanisms of nocturia in older adults and the potential for exercise to alleviate them." Rocky Mountain ACSM, 2021. Remote.
32. Shorthill, S.K., Cook, R.F., McNair, B.D., Polson, S.M., Schmitt, E.E., **Bruns, D.R.** "Voluntary wheel running at high, moderate, and low altitudes differs in male versus female mice". Rocky Mountain ACSM, 2021. Remote.
33. Yusifov, A., Woulfe, K.C., Cook, R.F., McNair, B.D., Knez, T.K., **Bruns, D.R.** "Cardiac adrenergic activation differs by age and sex in response to isoproterenol." College of Health Sciences Research Day, 2021. Remote.
34. McNair, B.D., Cook, R.F., Shorthill, S.K., **Bruns, D.R.** "Advanced age exacerbates pulmonary hypertension-induced right ventricular dysfunction". Rocky Mountain ACSM Annual Meeting, 2021. Remote.
35. Yusifova, M., Marcello, N.A., Polson, S.M., Cook, R.F., Schmitt, E.E., **Bruns, D.R.** "Genetic deletion of BMAL1 in cardiac myocytes disrupts the cardiac molecular clock." Rocky Mountain ACSM Annual Meeting, 2021. Remote.
36. Polson, S.M., Hamilton, K.L., Linden, M.A., Braun, B., Cook, R.F., Yusifov, A., McNair, B.D., **Bruns, D.R.** "SGLT2 inhibition and exercise for the diabetic right ventricle." Rocky Mountain ACSM Annual Meeting, 2021. Remote.
37. Fullerton, Z.S., McNair, B.D., Marcello, N.A., Sewell, T.E., Schmitt, E.E., **Bruns, D.R.** "Exposure to high altitude promotes muscle loss that is not rescued by metformin". College of Health Sciences Research Day, 2021. Remote.
38. DeHoff, M.A., Yusifov, A., Cook, R.F., Schmitt, E.E., Nair, S., Smith, D.T., **Bruns, D.R.** "Exercise during childhood protects against cardiac dysfunction later in life." Rocky Mountain ACSM Annual Meeting, 2021. Remote.
39. Graves, H.L., Culnan, B.M., **Bruns, D.R.**, Schmitt, E.E. "Treadmill training improves aerobic capacity in aged male mice compared to voluntary wheel running." Rocky Mountain ACSM Annual Meeting, 2021. Remote.
40. Koplin, E.K., **Bruns, D.R.**, Schmitt, E.E. "Changes in voluntary wheel running during stages of pregnancy in the mouse." Rocky Mountain ACSM Annual Meeting, 2021. Remote.
41. Marcello, N.A., **Bruns, D.R.**, Schmitt, E.E. "Disruption of circadian rhythm by simulated jet lag in mice." Rocky Mountain ACSM Annual Meeting, 2021. Remote.
42. Yusifov, A., Chhatre, V., Koplin, E., Schmitt E.E., Woulfe, K.C., **Bruns, D.R.** Transcriptomic analysis of cardiac gene expression across the life-course in male and female mice. Experimental Biology, 2021. Remote.

43. McNair, B.D., Cook, R.F., Shorthill, S.K., **Bruns, D.R.** Cardiomyocyte-specific deletion of AMP-activated protein kinase exacerbates right ventricular dysfunction in pulmonary hypertension. *Experimental Biology*, 2021. Remote.
44. Woulfe, K.C., Zumo, J., Cook, R.F., McNair, B.D., Schlatter, J., Schmitt, E.E., Chhatre, V., **Bruns, D.R.** Chronological age impacts heart failure pathogenesis. Gerontological Society of America Annual Conference, 2019. Austin, TX.
45. Hibbs, C., Yusifova, M., McNair, B.D., **Bruns, D.R.**, Schmitt, E.E. Circadian patterns of free wheel running in young and old mice. Gerontological Society of America Annual Conference, 2019. Austin, TX.
46. Ostler, I.W, Cook, R., McNair, B.D., Schmitt, E.E., Coste, S, **Bruns, D.R.** The impact of voluntary exercise on cardiac remodeling in young and old mice. WY-INBRE Conference and Undergraduate Research & Inquiry, 2019. Laramie, WY.
47. Zumo, J., Cook, R.F., McNair, B.D., Schlatter, J., Schmitt, E.E., Woulfe, K.C. **Bruns, D.R.** "Age-specific cardiac remodeling outcomes induced by isoproterenol." Western Medical Research Conference, 2019. Carmel, CA.
48. McNair, B.D., Cook, R.F., Walker, L.A., **Bruns, D.R.** Investigating lung fibrosis in pulmonary hypertension and aging. University of Wyoming College of Health Sciences Research Day 2019. Laramie, WY.
49. Keller, A.C, Walker, L.A., Reusch, E.B.J., **Bruns, D.R.** Sex- and age- specific differences in cardiac contractility and energetics: therapeutic repurposing of metformin for the failing right heart. Center for Women's Health Research National Conference, 2018. Denver, CO.
50. **Bruns, D.R.**, Jeong, M, Buttrick, P.M., Walker, L.A. Therapeutic activation of AMPK for the aging right heart. Front Range Aging Consortium 2017. Fort Collins, CO.
51. **Bruns, D.R.**, Tatman, P.D., Stenmark, K.R., Buttrick, P.M., Walker, L.A. The activated cardiac fibroblast secretome drives cardiomyocyte dedifferentiation in pulmonary hypertension-induced RV dysfunction: A role for interleukin-1 β ? American Heart Association Basic Cardiovascular Sciences 2017. Portland, OR.
52. **Bruns, D.R.**, Jeong, M, Buttrick, P.M., Walker, L.A. Myofilament and biochemical responses of the right ventricle to hypoxia-related cardiac dysfunction in aging. American Physiological Society. Cardiovascular Aging Conference 2017. Westminster, CO.
53. **Bruns, D.R.**, Ghincea, A.R., Ghincea, C.V., Watson, P.A., Autieri, M.V., Thoemmes, S.F., Walker, L.A. Interleukin-19 is cardioprotective in dominant negative CREB-mediated heart failure in a sex-specific manner. Center for Women's Health Research National Conference, 2016. Colorado Springs, CO.
54. **Bruns, D.R.**, Thoemmes, S.F., Buttrick, P.M., Stenmark, K.R., Walker, L.A. The epigenetically modified pro-inflammatory cardiac fibroblast drives cardiomyocyte dysfunction in pulmonary hypertension-induced right ventricular pressure overload. American Heart Association Basic Cardiovascular Sciences 2016. Phoenix, AZ.
55. **Bruns, D.R.**, Buttrick, P.M., Walker, L.A. Genetic ablation of Interleukin-18 does not attenuate hypobaric hypoxia-induced right ventricular dysfunction. American Heart Association Basic Cardiovascular Sciences 2015. New Orleans, LA.
56. Ehrlicher, S.E., **Bruns D.R.**, Peelor, F.F., Khademi, S., Miller, B.F., Hamilton, K.L. Mitochondrial biogenesis in response to exercise or hydrogen peroxide treatment is not blunted by upregulation of endogenous antioxidants. *Experimental Biology*, 2015. Boston, MA.
57. **Bruns, D.R.**, Brown, R.D., Stenmark, K.R., Buttrick, P.M., Walker, L.A. Mitochondrial integrity in a neonatal bovine model of right ventricular dysfunction. Keystone Symposia on Molecular and Cellular Biology: Mitochondria, Metabolism and Heart Failure, 2015. Santa Fe, NM.
58. Ehrlicher, S.E., **Bruns D.R.**, Peelor, F.F., Khademi, S., Baeversstad, K.A., Miller, B.F., Hamilton, K.L. Development of a new method to assess the effect of reactive oxygen species on protein turnover. CURC, 2014. Colorado State University. Fort Collins, CO.
59. Hamilton, K.L., Drake, J.C., **Reuland, D.J.**, Peelor F.F., Biela, L.M., Miller, R.A., Miller, B.F. DNA synthesis in cardiac tissue: Growth and somatic maintenance in long lived models. San Antonio Nathan Shock Aging Center 2013 Conference on Aging: Stem Cells and Aging.

60. Miller, B.F., Drake, J.C., **Reuland, D.J.**, Peelor, F.F., Biela, L.M., Miller, R.A., Hamilton, K.L. Growth versus somatic maintenance and the synthesis of new DNA in skeletal muscle cells. San Antonio Nathan Shock Aging Center 2013 Conference on Aging: Stem Cells and Aging.
61. Baeverstad, K.A., **Reuland, D.J.**, Drake, J.C., Peelor, F.F., Biela, L.M., Ehrlicher, S.E., Hamilton, K.L., Miller, B.F. The influence of growth on the assessment of mitochondrial biogenic responses to exercise. CURC, 2013. Colorado State University. Fort Collins, CO.
62. **Reuland, D.J.**, Drake, J.C., Biela, L.M., Ehrlicher, S.E., Baeverstad, K.A., Peelor F.F., Miller, R.A., Miller, B.F., Hamilton, K.L. Nrf2-regulated antioxidant defenses in rodent models of longevity. Experimental Biology, 2013. Boston, MA.
63. Watkins, M.K., Ehrlicher, S.E., **Reuland, D.J.**, Miller, B.F., Hamilton, K.L. Validation of method using ²H₂O to measure rates of protein breakdown in myoblasts. Experimental Biology, 2013. Boston, MA.
64. **Reuland, D.J.**, Drake, J.C., Khademi, S, Miller, B.F., Hamilton, K.L. Treatment of cultured myotubes with rapamycin activates AMPK. Integrative Biology of Medicine, 2012. Westminster, CO.
65. **Reuland D.J.**, Biela, L.M., Peelor, F.F., Drake, J. C., Miller, B.F., Hamilton, K.L. Upregulation of endogenous antioxidant defenses by Nrf2 activation does not blunt exercise-induced mitochondrial biogenesis in rats. Experimental Biology, 2012. San Diego, CA.
66. **Reuland, D.J.**, Miller B.F., McCord, J.M., Hamilton, K. L. Activation of Nrf2 and upregulation of phase II enzymes in cardiomyocytes by the phytochemicals in Protandim. Rocky Mountain American College of Sports Medicine Regional Meeting, 2011. Fort Collins, CO.
67. **Reuland, D.J.**, McCord, J.M., Hamilton, K.L. Upregulation of heme oxygenase-1 through activation of Nrf2 by the phytochemicals in Protandim. Experimental Biology, 2010. Anaheim, CA.

TEACHING EXPERIENCE

2022-present	Human Medicine: Cardiovascular Systems Block Lead University of Wyoming, WWAMI Regional Medical Education
2018-2022	Human Medicine: Cardiovascular, Pulmonary and Renal Block Lead University of Wyoming, WWAMI Regional Medical Education
2016-2017	BIO 1000: Human Biology Metro State University
2015-2018	Problem-Based Learning: MD Curriculum Molecules 2 Man: MD Curriculum Small Group Facilitator. University of Colorado-Denver
2012	HES 476: Exercise and Chronic Disease Mentored Student Teaching, Health & Exercise Science, Colorado State University
2008-2010	HES 403: Exercise Physiology Laboratory Graduate Teaching Assistant, Health & Exercise Science, Colorado State University

PROFESSIONAL AND ACADEMIC SERVICE

PROFESSIONAL SERVICE

2024	NIH Study Section ad hoc Member: MPPB
2024	NIH Study Section ad hoc Member: SBIR/STTR: Respiratory Sciences (ZRG1 RCCS-B)
2023	NIH Study Section ad hoc Member: MPPA
2023-	American Aging Association 2025 Organizing Committee
2023	NIH Study Section ad hoc Member: CMAD
2023-	American Physiological Society Program Working Group- Cardiovascular Section Co-Chair
2023-	Editorial Board, Journal of Gerontology: Biological Sciences

2023 American Physiological Society Annual Meeting Cardiovascular Section Abstract Review
 2022 NIH Study Section ad hoc Member: MPPB
 2022- American Heart Association Predoctoral/Postdoctoral Peer Review Committee
 2022, 2024 US National Academy of Medicine Healthy Longevity Catalyst Award Reviewer
 2022- Editorial Board, Journal of Cardiovascular Aging
 2021 NIH Director's New Innovator Award Program Stage 1 Reviewer
 2021 Singapore Ministry of Education Academic Research Fund Reviewer
 2021 NIH Early Career Reviewer: MPPA
 2021 Experimental Biology Featured Topic Chair: Exercise and My-old-cardium
 2020- Editorial Board, Journal of Applied Physiology
 2020-2022 Wyoming Representative: Rocky Mountain American College of Sports Medicine
 2020-2022 American Heart Association Career Development, Transformational Pilot Award Peer Review Committee
 2019- Mountain West CTR-IN Grant Review Committee
 2018-2022 Gerontological Society of America Meeting Abstract Review
 2018- Swiss National Science Foundation Grant Review

Ad-hoc Reviewer

Circulation, Journal of Clinical Investigation, Journal of Molecular and Cellular Cardiology, Journal of Physiology, Medicine & Science in Sports & Exercise, Mechanisms of Aging and Development, Biology of Sex Differences

UNIVERSITY SERVICE

2024 University of Wyoming-Cardiff University Exchange Program Wyoming Co-Director
 2023 WWAMI Medical Education CVS Block Lead Interview Committee
 2023 Molecular Biology R1 Faculty Search Committee
 2023 Science Initiative Vivarium Design Committee
 2022 Molecular Biology R1 Faculty Search Committee
 2022- Science Initiative 2025 Faculty Advisory Committee
 2022- Advanced Research Computing Center (ARCC) Advisory Board Member
 2021- Molecular and Cellular Life Sciences (MCLS) Admissions and Steering Committee
 2020-2021 UW Academic Writing Fellows Mentor
 2020 Shared Governance Faculty Focus Group
 2016-2018 GEMS Program Judge and Applicant Review Committee, University of Colorado-Denver
 2014-2018 Student Research Forum Judge, University of Colorado-Denver
 2014-2015 Postdoctoral Research Day Planning Committee, University of Colorado-Denver

COLLEGE SERVICE

2024 CHS Dean Search Committee
 2021- CHS Faculty Development Committee

DIVISION SERVICE

2023 K&H Rehabilitation Science Assistant Professor Search Committee
 2023- K&H Seminar Programming Committee
 2022- K&H Doctoral Program Committee
 2022 WWAMI FCM Search Committee
 2022 K&H Staff Accountant Search Committee

2021	K&H PETE Assistant Professor Search Committee
2020	K&H/WWAMI Assistant Lecturer Search Committee
2019-2021	PEK RSO Faculty Advisor
2018-2021	Graduate Recruitment Initiative Planning Committee

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Heart Association, American Physiological Society, American Aging Association, International Society for Heart Research

COMMUNITY SERVICE/OUTREACH

2024	Women and Girls in STEM Event Volunteer
2024	Walk with a Doc Guest Speaker
2023	Alpha Phi Foundation Red Dress Gala Keynote Speaker
2023	Rock River High School Cardiovascular Science Outreach
2023-	Wyoming State Science Fair Judge
2023	Women in Math, Science, and Engineering Panelist: Strong Women in STEM
2023	University of Wyoming Swim & Dive Honorary Coach
2022-2023	Volunteer, Eppson Center for Seniors
2022	Youth Basketball Coach- City of Laramie Recreation
2021-2022	Youth Soccer Coach- Laramie Soccer Club and Laramie Parks & Recreation
2021	Surviving & Thriving After Cancer Guest Speaker
2020, 2024	Walk with a Doc Guest Speaker
2019-2023	Native American Summer Institute Instructor
2019	Shanghai University School of Sport Summer Program Instructor