

Peter Vitiello, PhD

Associate Professor & Director of Laboratory Research
Section of Neonatal-Perinatal Medicine, Department of Pediatrics

Acting Vice Chair of Research
Department of Pediatrics

CMRI Terrence L. Stull, MD Endowed Research Chair in Pediatrics
Oklahoma Children's Health Foundation

The University of Oklahoma Health Sciences Center
800 Research Pkwy, office 408 | Oklahoma City, OK 73104-5047
Office: 405.271.5215, ext. 41125 | Fax: 405.271.1236

peter-vitiello@ouhsc.edu
[Faculty profile](#)

Mission statement

The mission of the Vitiello laboratory is to make innovative discoveries through collaboration, creativity, and rigor. We apply molecular, cellular, and proteomic approaches to understand how oxidative perturbations and redox signaling influence tissue development, homeostasis and disease pathogenesis. We are specifically interested in redox-dependent molecular mechanisms influencing lung maturation and oxidative neonatal and pediatric pathologies including bronchopulmonary dysplasia, retinopathy of prematurity, and Friedreich's ataxia.

Education

2007 PhD Toxicology, University of Rochester School of Medicine & Dentistry
2002 BS Biology, Lafayette College

Appointments

2022-present Acting Vice Chair of Research, Department of Pediatrics
2020-present Associate Professor, Department of Pediatrics
Director of Laboratory Research, Section of Neonatal-Perinatal Medicine
Adjunct Associate Professor, Department of Biochemistry & Molecular Biology
Adjunct Associate Professor, Department of Physiology
The University of Oklahoma Health Sciences Center (OUHSC)

2021-present Member, Oklahoma Center for Respiratory & Infectious Diseases
Oklahoma State University

2021-present Member, Harold Hamm Diabetes Center
The University of Oklahoma Health Sciences Center (OUHSC)

2018-2020 Division Chief of Research, Department of Pediatrics
University of South Dakota Sanford School of Medicine (USD SSOM)

2018-2020 Associate Professor, Department of Pediatrics
2009-2018 Assistant Professor, Department of Pediatrics
University of South Dakota Sanford School of Medicine (USD SSOM)

2017-2020 Associate Scientist, Environmental Influences on Health & Disease Group

2010-2017 Assistant Scientist, Children's Health Research Center
 2009-2010 Staff Scientist, Children's Health Research Center
 Sanford Research

2014-2020 Adjunct Professor, Department of Chemistry & Biochemistry
 South Dakota State University

2007-2009 Postdoctoral Fellow, Department of Pediatrics, Neonatology Division
 University of Rochester School of Medicine & Dentistry

Honors & awards

2021 Outstanding Reviewer Award, *Antioxidants*
 2020 Outstanding Reviewer Award, *Experimental Biology and Medicine*
 2019 Distinguished Researcher Award, USD SSOM Department of Pediatrics
 2013-2014 T. Denny Sanford Pediatric Collaborative Research Award, Sanford Health
 2012-2013 Faculty Research Grant, USD SSOM
 2010-2011 Faculty Research Grant, USD SSOM
 2009 Best Poster Presentation, European Respiratory Society Meeting
 2008-2010 Pediatric Research Loan Repayment Program, NIH
 2008 Harold Hodge Award, University of Rochester School of Medicine & Dentistry
 2006 Bristol-Myers Squibb Travel Award, University of Rochester School of Medicine
 2006 William F. Neuman Award, University of Rochester School of Medicine
 2006 Gilbert B. Forbes Prize in Pediatrics, University of Rochester School of Medicine

Funding

Current

NIH-NIGMS P20GM134973 Burge (PI) 07/03/2023-06/30/2024
 Pilot Project Grant, Oklahoma Center for Microbial Pathogenesis and Immunity COBRE
The macrophage/tuft cell SUCNR1 axis in neonatal intestinal inflammation
 The objective of this project is to investigate how dysregulated succinate metabolism influences intestinal inflammation during pathogenesis of necrotizing enterocolitis.
 Role: collaborator

PHF Bridge Grant Tipple (PI) 07/03/2023-01/01/2024
Thioredoxin reductase-1 to prevent bronchopulmonary dysplasia
 The objective of this project is to investigate how selenium supplementation influences lung antioxidants and susceptibility to bronchopulmonary dysplasia.
 Role: co-I

PHF Bridge Grant Walters (PI) 01/02/2023-01/01/2024
Differentiation of airway epithelial cells during homeostasis, injury and disease
 The objective of this project is to investigate NOTCH signaling in the regulation of airway epithelium programming during injury responses.
 Role: co-I

PHF Clinician Scientist Development Grant Ganguly (PI) 07/01/2022-06/30/2024
Role of hydrogen sulfide machinery in neonatal airway epithelial programming
 The objective of this project is to investigate how hydrogen sulfide regulates airway epithelial developmental and injury-repair programming during hyperoxic injury.
 Role: mentor

PHF Clinician Scientist Development Grant Mathias (PI) 07/01/2022-06/30/2024
Redox modification of protein phosphatases regulating pulmonary vascular development
The objective of this project is to investigate if oxidative post-translational modifications to protein tyrosine phosphatases regulate pulmonary vascular development during hyperoxia injury.
Role: mentor

IA-936223 American Lung Association Tipple (PI) 07/01/2022-06/30/2024
Selenium-dependent mechanisms in neonatal lung development and hyperoxic responses
The objective of this project is to investigate maternal dietary selenium influences perinatal lung development and susceptibility to hyperoxic injury.
Role: co-I

NIH-NEI R21EY033075 Vitiello (PI) 07/01/2021-06/30/2023
Redox-dependent signaling in hyperoxia-induced retinal vascular arrest
The objective of this project is to understand if thioredoxins function as a molecular sensor of redox perturbations to influence hyperoxia-induced retinal vascular arrest during retinopathy of prematurity.
Role: PI

Completed

PHF Team Science Grant Vitiello (PI) 07/01/2021-06/30/2023
Treatment of retinopathy of prematurity and bronchopulmonary dysplasia with deuterated polyunsaturated fatty acids
The objective of this project is to test if maternal dietary supplementation of deuterated docosahexaenoic acid (DHA) protects offspring against oxidative pathologies of neonatal diseases caused by hyperoxic injury.
Role: PI

PHF Equipment Grant Vitiello (PI) 07/01/2022-06/30/2023
Oxygen manipulation in cell culture
The objective of this project is to increase the equipment capacity for modulation of atmospheric oxygen tension during cell/tissue culture.
Role: PI

PHF Seed Grant Walters (PI) 07/01/2022-06/30/2023
NOTCH-BMP-NRF2 signaling crosstalk regulates airway epithelial differentiation
The objective of this project is to investigate if HeyL regulates airway epithelial programming through BMP and/or Nrf2 signaling.
Role: co-I

CHF Fellows Research Award Ahmed (PI) 01/18/2022-12/31/2022
Overnutrition and leptin insensitivity in perinatal lung development
The objective of this project is to investigate how a maternal high-fat diet influences leptin signaling and metabolic signatures in developing lung.
Role: mentor

NIH-NIGMS P20GM103620 Pearce (PI) 09/01/2018-08/31/2023
Center for Pediatric Research COBRE
Biochemistry Core
The Biochemistry Core supports projects associated with the Center for Pediatric Research by providing consultation and technical support for protein-protein interaction screening, multi-analyte detection, and lipid profiling.
Role: core lead

PHF Bridge Grant Bhatti (PI) 10/01/2021-09/30/2022
Targeting surfactant protein A to prevent retinopathy of prematurity
The objective of this project is to understand how surfactant protein A (SP-A) influences retinal vasculogenesis and test therapeutic administration of SP-A in an experimental model of retinopathy of prematurity.
Role: co-I

NIH-NHLBI R01HL135112 Vitiello (PI) 08/10/2017-12/31/2022
Hyperoxic modulation of thioredoxin signaling
The objective of this project is to investigate how thioredoxins function as molecular sensors of altered atmospheric oxygen tension in lung epithelium to facilitate redox signaling during parturition and perinatal hyperoxic injury.
Role: PI

The Finish Line Fund Vitiello (PI) 02/01/2018-01/31/2019
Redox signaling in Friedreich's Ataxia
The premise of this project is to test if mitochondrial thiol peroxidases act as redox-sensitive regulators of iron-sulfur clusters and oxidative pathologies in Friedreich's Ataxia.
Role: PI

NSF-EPSCoR 1355423 Rice (PI) 08/01/2014-07/31/2019
The 2020 vision: building research, education, and innovation partnerships for South Dakota
The objective of this project is to establish the Biochemical Spatiotemporal NeTwork Resource (BioSNTR), a transdisciplinary, multi-institutional infrastructure for systems bioscience research and education in South Dakota.
Role: faculty participant

NIH-NICHD R25HD072596 Vitiello (PI) 03/09/2012-08/31/2017
Science educator research fellowship
The objective of this project is to provide biomedical research experiences for science educators to enhance teaching effectiveness through pediatric research fellowships and pedagogical training.
Role: PI

NIH-NIGMS P20GM103620 Pearce (PI) 09/01/2013-08/31/2018
Project, Center for Pediatric Research COBRE
Thioredoxin signaling and pulmonary development during perinatal oxidative injury
The objective of this project is to investigate redox-dependent signaling via thioredoxins in lung epithelial cells during development and hyperoxic injury.
Role: project leader (graduated onto independent funds)

NIH-NIGMS P20GM103548 Mays (PI) 07/01/2012-06/30/2013
Preparation and multifaceted evaluation of non-natural isothiocyanates as novel anticancer agents
The objective of this project is to investigate structure-activity relationships of synthetic isothiocyanates by quantifying proliferative and antioxidant processes critical for chemoprevention of breast epithelial carcinogenesis.
Role: collaborator

NIH-NHLBI R01HL097141 O'Reilly (PI) 09/01/2009-07/31/2014
Neonatal oxygen and susceptibility to respiratory viral infections
The objective of this project is to determine how perinatal hyperoxic injury adversely affects innate and adaptive respiratory viral immune responses.

Role: postdoctoral fellow

NIH-NIEHS T32ES07026

Ballatori (PI)

07/01/2003-06/30/2008

Training in environmental toxicology

The objective of this project is to provide doctoral and postdoctoral training in toxicology.

Role: graduate student

Publications

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1dALOWgRcfDQj/bibliography/40665078/public/?sort=date&direction=descending>

1. Golubkova A, Leiva T, Snyder K, Schlegel C, Bonvincino S, Agbaga MP, Brush RS, Hansen JM, **Vitiello PF**, Hunter CJ. Response of the glutathione (GSH) antioxidant defense system to oxidative injury in necrotizing enterocolitis. *Antioxidants* 12(7), 2023. PMID: 37507924. PMC10376622.
2. Fanta CC, Tlusty KJ, Pauley SE, Johnson AL, Benjamin GA, Yseth TK, Bunde MM, Pierce PT, Wang S, **Vitiello PF**, Mays JR. Synthesis and evaluation of functionalized aryl and biaryl isothiocyanates against human MCF-7 cells. *ChemMedChem* v17(14), 2022. PMID: 35588002. PMC9308763.
3. Ganguly A, Ofman G, **Vitiello PF**. Hydrogen sulfide-clues from evolution and implication for neonatal respiratory diseases. *Children* v8(3), 2021. PMID: 33799529. PMC7999351.
4. Dunigan-Russell K, Silverberg M, Lin VY, Li R, Wall S, Nicola T, Crowe DR, **Vitiello PF**, Agarwal A, Tipple TE. Club cell heme-oxygenase 1 deletion: effects in hyperoxia-exposed adult mice. *Oxid Med Cell Long* v2908271, 2020. PMID 32587658. PMC7303751.
5. Moutal A, White KA, Chefdeville A, Laufmann RN, **Vitiello PF**, Feinstein D, Weimer JM, Khanna R. Dysregulation of CRMP2 post-translational modifications drive its pathological functions. *Mol Neurobiol* v56:6736-55, 2019. PMID 30915713. PMC6728212.
6. Norton A, Franse K, Daw T, **Vitiello PF**, and Kinkel MD. Larval rearing methods for small-scale production of healthy zebrafish. *East Biol* 33-46, 2019. PMID 31890349. PMC6936768.
7. Anderson RH, Lensing CJ, Forred BJ, Amolins MW, Aegerter CL, **Vitiello PF**, and Mays JR. Differentiating antiproliferative and chemopreventative modes of activity for electron-deficient aryl isothiocyanates against human MCF-7 cells. *ChemMedChem* v13:1695-1710, 2018. PMID 29924910. PMC6105534.
8. Olson J, Amolins M, **Vitiello P**. Creating a reliable, cost-effective ELISA simulation. *Am Biol Teach* v79:301-304, 2017. PMID 29033458. PMC5640158.
9. Forred BJ, Daugaard DR, Titus BK, Wood RR, Floen MJ, Booze ML, and **Vitiello PF**. Detoxification of mitochondrial oxidants and apoptotic signaling are facilitated by thioredoxin-2 and peroxiredoxin-3 during hyperoxic injury. *PLOS One* v12:e0168777, 2017. PMID 28045936. PMC5207683.
10. Booze ML, Hansen J, and **Vitiello PF**. A novel mouse model for the identification of thioredoxin-1 protein interactions. *Free Rad Biol Med* v99:533-43, 2016. PMID 27639450. PMC5107173.
11. Simpkins JA, Rickel KE, Madeo M, Ahlers BA, Carlisle GB, Nelson HJ, Cardillo AL, **Vitiello PF**, Pearce DA, Vitiello SP. Disruption of a cystine transporter downregulates expression of genes involved in sulfur regulation and cellular respiration. *Biol Open* v5:689-97, 2016. PMID 27142334. PMC4920189.
12. Forred BJ, Neuharth S, Kim D, Amolins M, Motamedchaboki K, Roux KJ, and **Vitiello PF**. Identification of redox and glucose-dependent Txnip protein interactions. *Oxid Med Cell Long* v5829063, 2016. PMID 27437069. PMC4942636.
13. Baack ML, Forred BJ, Jensen DN, Khan M, Larsen T, Wachal AL, and **Vitiello PF**. Consequences of a maternal high fat diet and late gestation diabetes on the developing rat lung. *PLOS One* v11:e0160818, 2016. PMID 27518105. PMC4982689.
14. Amolins MW, Ezrailson CM, Pearce DA, Elliott AJ, **Vitiello PF**. Evaluating the effectiveness of a laboratory-based professional development program for science educators. *Adv Physiol Educ* v39:341-51, 2015. PMID 26628658. PMC4669365.
15. Maas T, Amolins M, **Vitiello P**. Science achievement in secondary school students across rural and urban South Dakota locales. *SD Med* v68:197-9, 2015. PMID 26058258. PMC455340.

16. Floen MJ, Forred BJ, Bloom EJ, **Vitiello PF**. Thioredoxin-1 redox signaling regulates cell survival in response to hyperoxia. *Free Rad. Biol. Med.* v75:167-77, 2014. PMID 25106706. PMC4174305.
17. McKenzie CW, Klonoski JM, Maier T, Trujillo G, **Vitiello PF**, Huber VC, and Lee L. Enhanced response to pulmonary Streptococcus pneumonia infection is associated with primary ciliary dyskinesia in mice lacking Pcdp1 and Spzf2. *Cilia* v2:18, 2013. PMID 24360193. PMC3878133.
18. O'Reilly MA, Yee M, Buczynski BW, **Vitiello PF**, Keng PC, Welle SL, Finkelstein JN, Dean DA, and Lawrence BP. Neonatal oxygen increases sensitivity to influenza A virus infection in adult mice by suppressing epithelial expression of Ear1. *Am J Pathol* v181:441-51, 2012. PMID 22677423. PMC3409430.
19. Staversky RJ, **Vitiello PF**, O'Reilly MA. Epithelial-specific ablation of Bcl-X_L increases susceptibility to oxygen without disrupting lung development. *Am J Physiol Lung Cell Mol Physiol* v43:376-85, 2009. PMID 19880821. PMC2933553.
20. **Vitiello PF**, Wu YM, Staversky RJ, O'Reilly MA. P21^{Cip1} protects against oxidative stress by suppressing ER dependent activation of mitochondrial death pathways. *Free Rad Biol Med* v46:33-41, 2009. PMID 18948188. PMC2631574.
21. **Vitiello PF**, Staversky RJ, Keng PC, O'Reilly MA. PUMA inactivation protects against oxidative stress through p21/Bcl-X_L inhibition of Bax death. *Free Rad Biol Med* v44:367-74, 2008. PMID 18215742. PMC2276618.
22. Gehen SC, **Vitiello PF**, Bambara RA, O'Reilly MA. Down-regulation of PCNA potentiates p21-mediated growth inhibition in response to hyperoxia. *Am J Physiol Lung Cell Mol Physiol* v292:L716-24, 2007. PMID 17085526.
23. Yee M, **Vitiello PF**, Roper JM, Staversky RJ, Wright TW, McGrath-Morrow SA, Maniscalco WM, Finkelstein JN, O'Reilly MA. Type II epithelial cells are a critical target for hyperoxia-mediated impairment of postnatal lung development. *Am J Physiol Lung Cell Mol Physiol* v291:L1101-11, 2006. PMID 16861382.
24. Staversky RJ, **Vitiello PF**, Gehen SC, Helt CE, Rahman A, Keng PC, O'Reilly MA. P21^{Cip1/Waf1/Sdi1} protects against hyperoxia by maintaining expression of Bcl-X_L. *Free Rad Biol Med* v41:601-9, 2006. PMID 16863993.
25. **Vitiello PF**, Staversky RS, Gehen SC, Johnston CJ, Finkelstein JN, Wright TW, O'Reilly MA. P21^{Cip1} protection against hyperoxia requires Bcl-X_L and is uncoupled from its ability to suppress growth. *Am J Pathol* v168:1838-47, 2006. PMID 16723699.
26. O'Reilly MA, **Vitiello PF**, Gehen SC, Staversky RJ. P21(Cip1/Waf1/Sdi1) does not affect expression of base excision DNA repair enzymes during chronic oxidative stress. *Antioxid Redox Signal* v7: 719-25, 2005. PMID 15890018.
27. **Vitiello PF**, Rausch, MP, Horowitz KM, Kurt RA. Secondary lymphoid-tissue chemokine induced modulation of T cells. *Immunol Invest* v32:235-49, 2004. PMID 15195699.
28. **Vitiello PF**, Shainheit MG, Allison EM, Adler EP, Kurt RA. Impact of tumor-derived CCL2 on T cell effector function. *Immunol Lett* v91:239-45, 2004. PMID 15019295.
29. Kurt RA, Back M, Harma S, Adler E, **Vitiello PF**, Wisner KP, Tackitt S, Urba WJ. Altered chemokine receptor sensitivity in FVBN202 rat neu transgenic mice. *Breast Cancer Res Treat* v77:225-32, 2003. PMID 126029222.

Conference abstracts

1. Shcholok T, Islam MI, Nemati S, **Vitiello PF**, Karimi-Abdolrezaee S and Eftekharpour E. Neuronal laminopathy in hippocampus is associated with neurodegeneration and glial activation. *Canadian Oxidative Stress Consortium*, 2023.
2. Allen K, Patricia Silveyra P, Wen Chen W, Colón-Montañez K, **Vitiello PF**, and Bhatti F. The association of surfactant proteins A and D allelic variants with retinopathy of prematurity. *Pediatric Academic Society*, 2023.
3. Bailey-Downs L, Sherlock L, Crossley M, Pierce P, Wang X, Rogers LK, **Vitiello PF**, and Tipple TE. Perinatal selenium deficiency decreases survival and worsens alveolarization deficits in hyperoxia-exposed newborn mice. *Pediatric Academic Society*, 2023.
4. Pierce P, Wang X, Cooper A, Rivera-Negron A, Ailts J, Brown J, Remmen H, and **Vitiello PF**. Decreased mitochondrial respiration in cardiac fibers isolated from a mouse model of Friedreich's ataxia. *Pediatric Academic Society*, 2023.

5. Ahmed S, Wang X, Pierce P, Rogers LK, Baack M, and **Vitiello PF**. Maternal overnutrition resulting in disrupted leptin signaling in offspring is associated with impaired lung maturation in rats. *Pediatric Academic Society*, 2023.
6. Stewart V, Chen W, Chauhan N, Brown A, Anderson RE, Agbaga, MP, **Vitiello PF** and Bhatti F. Effect of maternal dietary deuterated DHA intake on oxygen-induced retinopathy in mouse pups. *Southern Society of Pediatric Research*, 2023.
7. Ganguly A, Carter CM, Tipple TE, Walters MS and **Vitiello PF**. *In vitro* air-liquid interface model to study neonatal airway epithelial programming and injury. *Southern Society of Pediatric Research*, 2023.
8. Shcholok T, Islam MI, Nemati S, **Vitiello PF**, Karimi-Abdolrezaee S and Eftekharpour E. Neuronal laminopathy in hippocampus is associated with neurodegeneration and glial activation. *Society for Redox Biology & Medicine*, 2022.
9. Fernandes J, Dunigan-Russell K, Zhong H, Lin V, Silverberg M, Wall S, Li Q, Li R, **Vitiello PF**, Tran V, Jones DP, Rogers L and Tipple TE. Metabolomic analysis of hyperoxia induced lung injury and attenuation by aurothioglucose. *Society for Redox Biology & Medicine*, 2022.
10. Song H, Wang X, Pierce P, Mordhorst B, Tipple TE, Jones K, Bhatti F and **Vitiello PF**. Identification of thioredoxin 1-dependent signaling pathways and cellular functions in mammalian cells. *Society for Redox Biology & Medicine*, 2022.
11. Pierce P, Wang X, Cooper A, Rivera A, Ailts J, Van Remmen H, Brown J and **Vitiello PF**. Decreased mitochondrial respiration in cardiac fibers isolated from a mouse model of Friedreich's ataxia. *Society for Redox Biology & Medicine*, 2022.
12. Golubkova AA, Leiva TA, Liebe HA, Snyder KB, Schlegel CA, Hansen JM, **Vitiello PF** and Hunter CJ. Response of the glutathione antioxidant system to oxidative stress in necrotizing enterocolitis. *Academic Surgical Congress*, 2022.
13. Stewart V, Chen W, Chauhan N, Brown A, Anderson RE, Agbaga, MP, **Vitiello PF** and Bhatti F. Effect of maternal dietary deuterated DHA intake on oxygen-induced retinopathy in mouse pups. *Neonatal-Perinatal Research Conference at Alamo City*, 2022.
14. Ahmed ST, Wang X, Pierce PT, Rogers LK, Baack M and **Vitiello PF**. Maternal overnutrition and leptin insensitivity in neonatal rat lung. *Neonatal-Perinatal Research Conference at Alamo City*, 2022.
15. Ahmed ST, Wang X, Pierce PT, Rogers LK, Baack M and **Vitiello PF**. Maternal overnutrition and leptin insensitivity in neonatal rat. *Perinatal Biology Symposium*, 2022.
16. Shcholok T, Islam MI, Nemati S, **Vitiello PF**, Karimi-Abdolrezaee S and Eftekharpour E. Neuronal laminopathy in hippocampus is associated with neurodegeneration and glial activation. *Canadian Association for Neuroscience*, 2022.
17. Ahmed ST, Wang X, Pierce PT, Rogers LK, Baack M and **Vitiello PF**. Maternal overnutrition and leptin insensitivity in neonatal rat lung. *AAP SONPM Perinatal & Developmental Medicine Symposium*, 2022.
18. Fernandes J, Dunigan-Russell K, Zhong H, Lin V, Silverberg M, Wall S, **Vitiello PF**, Tran V, Jones DP, Rogers L and Tipple T. Transcriptome-metabolome association studies in mouse lungs reveal differences between sex and strain in the glutathione antioxidant pathway. *American Physiological Society*, 2022.
19. Fernandes J, Dunigan-Russell K, Zhong H, Lin V, Silverberg M, Wall S, **Vitiello PF**, Tran V, Jones DP, Lynette Rogers L and Tipple T. Transcriptome-metabolome wide association studies in mouse lung reveal sex and strain-based differences. *Southern Society of Pediatrics*, 2022.
20. Ahmed ST, Wang X, Pierce PT, Rogers LK, Baack M and **Vitiello PF**. Maternal overnutrition and leptin insensitivity in neonatal rat lung. *Southern Society of Pediatrics*, 2022.
21. Laufmann R, Meyerink B, Aegerter C, Weimer JM and **Vitiello PF**. Loss of thioredoxin 1 in neurons leads to ataxia and premature mortality. *Society for Redox Biology & Medicine*, 2019.
22. Ailts J, Hurd B, Cucak A, Miskimins KW and **Vitiello PF**. Metformin-dependent exacerbation of pathologies in Friedreich's Ataxia. *Society for Redox Biology & Medicine*, 2019.
23. Cucak A, Vitiello S, Gakh O, Aruai G, May D, Chrisopulos R, Ailts J, Isaya G, Roux K, Gnimpieba E and **Vitiello PF**. Discovery of frataxin mitochondrial network reveals key regulators of Friedreich's Ataxia. *International Ataxia Research Conference*, 2019.

24. **Vitiello PF**. Redox signaling and physiology in the neonatal lung. *Pan-American Congress of Physiological Sciences*, 2019.
25. Aegerter C, Hoffman J, Mordhorst B, Fairchild A, Forred B, Tipple TE and **Vitiello PF**. Impairment of thioredoxin 1 disrupts perinatal alveolar development. *American Thoracic Society*, 2019.
26. Dunigan K, Li Q, Nicola T, Aegerter C, Li R, Wall S, Agarwal A, **Vitiello PF** and Tipple TE. Club cell specific heme oxygenase-1 deletion does not alter hyperoxic sensitivity in adult mice. *American Thoracic Society*, 2019.
27. Mordhorst BR, Faber S, Schotanus M, Jelsma T and **Vitiello PF**. Thioredoxin 1 is required for regulating systemic redox homeostasis and maintaining viability in the mouse. *Society for Redox Biology & Medicine*, 2018.
28. Laufmann R, Aegerter C, Meyerink B, White K, Weimer J and **Vitiello PF**. Loss of thioredoxin 1 in central nervous system neurons results in cerebellar ataxic behavioral deficits. *Society for Redox Biology & Medicine*, 2018.
29. Aegerter C, Hoffman J, Mordhorst B, Forred B, Fairchild A, Tipple TE and **Vitiello PF**. Impairment of thioredoxin 1 disrupts perinatal alveolar development. *Society for Redox Biology & Medicine*, 2018.
30. Mordhorst B, Forred B, Daugaard D, Jensen D and **Vitiello PF**. Loss of thioredoxin 2 expression decreases mitochondrial metabolism and oxidative phosphorylation. *Society for Redox Biology & Medicine Regional Symposium*, 2018.
31. Aegerter C, Forred B, Thomas X, Hernandez E, Fairchild A and **Vitiello PF**. Thioredoxin 1 is required for embryonic and perinatal growth signaling. *Society for Redox Biology & Medicine Regional Symposium*, 2018.
32. Cucak A, Mordhorst B, Gnimpieba E, Kim D, Roux K, Gakh O, Isaya G and **Vitiello PF**. Identification of frataxin protein networks. *Society for Redox Biology & Medicine Regional Symposium*, 2018.
33. Forred BJ, Floen MJ, Booze ML, Fairchild A, Baack S, Ashbacher A, Fâl   E, Weimer JM, Go Y and **Vitiello PF**. Nuclear thioredoxin 1 potentiates inflammatory signaling and cell death during hyperoxic injury. *American Thoracic Society*, 2018.
34. Aegerter C, Forred BJ, Thomas X, Hernandez, E, Fairchild A and **Vitiello PF**. Thioredoxin-1 is required for embryonic and perinatal growth signaling. *Society for Redox Biology & Medicine*, 2017.
35. Anderson R, Forred BJ, Amolins MA, Lensing C, Aegerter C, **Vitiello PF**, and Mays JR. Identification, synthesis, and enzymology of non-natural glucosinolate chemopreventive candidates. *American Chemical Society*, 2017.
36. Booze ML and **Vitiello PF**. A novel mouse model for identification of thioredoxin-1 substrates. *Society for Redox Biology & Medicine*, 2015.
37. Forred BJ, Booze ML, Titus B, Jensen DN, Wood RR, Daugaard DR, Floen MJ, and **Vitiello PF**. The mitochondrial thioredoxin system inhibits pro-apoptotic signaling during hyperoxic injury. *Proceedings of the American Thoracic Society*, D27, 2015.
38. **Vitiello PF**, Forred BJ, Jensen DN, Larsen T, and Baack M. Maternal high fat diet and late gestational diabetes mellitus impairs pulmonary vasculogenesis in offspring of diabetic mothers. *Proceedings of the American Thoracic Society*, A46, 2015.
39. Booze ML, Guevara W, and **Vitiello PF**. Hyperoxic injury disrupts redox-dependent thioredoxin-1 signaling in lung epithelial cells. *Proceedings of the American Thoracic Society*, C56, 2015.
40. **Vitiello PF**, Forred BJ, Jensen DN, Larsen T, and Baack M. Pulmonary vasculogenesis in offspring exposed to maternal diabetes of high-fat diet. *Pediatric Academic Societies*, 2879.261, 2015.
41. Fisher SE, Amolins MW, Yseth TK, Clark JJ, **Vitiello PF**, and Mays JR. Synthesis and evaluation of novel non-natural isothiocyanates. *American Chemical Society*, 247, 2014.
42. Floen MJ, Baack, S, and **Vitiello PF**. Role of Trx1 compartmentalization during hyperoxic lung injury. *Pediatric Academic Societies*, 2014.
43. Forred BJ, Neuharth S, Kim D, Floen MJ, Roux KJ, and **Vitiello PF**. Identification of Txnip interacting proteins using BiOD. *American Society for Biochemistry and Molecular Biology* 2014.
44. Weber EA, Padillo-Lopez S, Pearce DA, Vitiello SP, and **Vitiello PF**. Investigating respiratory activities of yeast deficient in thiol antioxidant enzymes. *American Society for Biochemistry and Molecular Biology*, 572.1, 2014.

45. Forred BJ, Neuharth S, Kim D, Floen MJ, Roux KJ, and **Vitiello PF**. Identification of Txnip interacting proteins using BiOD. *Society for Redox Biology & Medicine*, 2013.
46. Floen, MJ, Baack S, and **Vitiello PF**. Role of Trx1 compartmentalization during hyperoxic lung injury. *Midwest Society for Pediatric Research*, 2012.
47. Floen, MJ, Baack S, and **Vitiello PF**. Role of Trx1 compartmentalization during hyperoxic lung injury. *Pediatric Academic Societies*, 2012.
48. Floen MJ, Forred BJ, Bloom EJ, and **Vitiello PF**. Compartmentalized regulation of thioredoxin-1 during hyperoxic injury. *Society for Redox Biology & Medicine*, 2011.
49. Titus BK, Forred BJ, Floen MJ, and **Vitiello PF**. Hyperoxic regulation of mitochondrial cell death via Trx2. *Society for Redox Biology & Medicine*, 2011.
50. Bloom EJ and **Vitiello PF**. Hyperoxic modification of thioredoxin-dependent pathways. *Society for Redox Biology & Medicine*, 2010.
51. Staversky RJ, **Vitiello PF**, O'Reilly MA. Epithelial-specific ablation of Bcl-X_L increases susceptibility to hyperoxia-induced DNA damage but not vascular leakage. *Proceedings of the American Thoracic Society*, A108, 2009.
52. **Vitiello PF**, Yee M, Lawrence, BP, O'Reilly MA. Gene delivery of EAR2 alleviates neonatal oxygen-induced susceptibility to influenza virus. *Proceedings of the American Thoracic Society*, D47, 2009.
53. **Vitiello PF**, Yee M, Lawrence BP, O'Reilly MA. Decreased expression of EAR genes in adult lungs exposed to neonatal hyperoxia increases sensitivity to influenza A virus. *European Respiratory Society Conference*, 2009.
54. **Vitiello PF**, Staversky RJ, O'Reilly MA. P21 protects against hyperoxia-induced ER stress and cell death. *Proceedings of the American Thoracic Society*, B66, 2008.
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56. **Vitiello PF**, Gehen SC, Hashim JA, O'Reilly MA. P21 protection against hyperoxia is independent of its ability to potentiate the NF- κ B response. *Proceedings of the American Thoracic Society*, B59, 2007.
57. Staversky RJ, **Vitiello PF**, Keng PC, O'Reilly MA. Bcl-X_L protects against Hyperoxia-induced cell death by blocking p53-independent activation of Bax. *Proceedings of the American Thoracic Society*, B46: G58, 2007.
58. Wu YM, **Vitiello PF**, O'Reilly MA. P21 selectively modifies expression of anti-apoptotic Bcl-2 family members during hyperoxia. *Proceedings of the American Thoracic Society*, A45, 2007.
59. **Vitiello PF**, Wu YM, O'Reilly, MA. Cytoplasmic p21^{Cip1} protects against oxidative cell death through maintenance of Bcl-X_L and Mcl-1. *Keystone Symposia: Genome Instability and Repair*, 330, 2007.
60. **Vitiello PF**, Staversky RJ, Gehen SC, Johnston CJ, Finkelstein JN, Wright TW, O'Reilly MA. P21 protection against hyperoxia requires BCL-X_L and is uncoupled from its ability to inhibit cell proliferation. *Proceedings of the American Thoracic Society*, C27, 2006.
61. Roper JM, **Vitiello PF**, Emerson RL, Kingsley PD, Palis J, O'Reilly MA. EGFP-labeled type II alveolar epithelial cells from hSP-C/EGFP transgenic mice do not constitute a sub-population of type II cells within the lung. *Proceedings of the American Thoracic Society*, B58, 2005.
62. Gehen SC, Helt CE, **Vitiello PF**, Bambara RA, O'Reilly MA. Persistent oxidative stress stimulates the p21-dependent loss of PCNA. *Proceedings of the American Thoracic Society*, B26, 2005.

Invited presentations

External

- | | |
|------|---|
| 2022 | University of Colorado Health Sciences Center, Perinatal-Neonatal Research Conference (Host: Laurie Sherlock, MD) "Thioredoxin regulation of lung epithelial programming during perinatal development & newborn hyperoxia injury" |
| 2022 | Brown University Warren Alpert Medical School, CardioPulmonary Vascular Biology COBRE (Host: Hongwei Yao, PhD) "Thioredoxin-dependent redox signaling in lung development" |
| 2022 | Society for Redox Biology & Medicine: Redox Biology Virtual Seminar (Hosts: Adam Case, PhD & Kimberly Dunham-Snary, PhD) "Thioredoxin-dependent redox signaling in lung development" |

- 2019 PANAM conference: Pan-American Congress of Physiological Sciences (Host: YS Prakash, MD-PhD) "Redox signaling and physiology in the neonatal lung"
- 2018 University of Nebraska Medical Center, Division of Pulmonary, Critical Care, Sleep & Allergy (Host: Todd Wyatt, PhD) "Writing the redox code: thioredoxin signaling in development & disease"
- 2018 Nationwide Children's Hospital, Center for Perinatal Research (Host: Lynette Rogers, PhD) "Writing the redox code: thioredoxin signaling in development & disease"
- 2018 University of Rochester Medical Center, Division of Environmental Medicine (Host: Michael O'Reilly, PhD) "Writing the redox code: thioredoxin signaling in development & disease"
- 2018 University of Alabama-Birmingham, Perinatal Grand Rounds (Host: Trent Tipple, MD) "Writing the redox code: thioredoxin signaling in development & disease"
- 2016 Brigham Young University, Department of Physiology & Developmental Biology (Host: Jason Hanson, PhD) "Redox signaling during oxidative lung injury"
- 2015 University of Nebraska-Lincoln, Redox Biology Center (Host: Don Becker, PhD) "Compartmentalized redox signaling during hyperoxic lung injury"
- 2015 University of Alabama-Birmingham, Center for Free Radical Research (Host: Trent Tipple, MD) "Compartmentalized redox signaling during hyperoxic lung injury"
- 2015 University of Iowa, Free Radical and Radiation Biology Department (Host: Rick Domann, PhD) "Cysteine-based redox relays during hyperoxic injury"
- 2013 Annual meeting for the Midwest Society for Pediatric Research "Effect of maternal high fat diet and late gestational diabetes mellitus on fetal lung development"
- 2010 Nationwide Children's Hospital, Center for Perinatal Research (Host: Trent Tipple, MD) "Redox regulation of growth in the neonatal lung"
- 2010 Lafayette College, Department of Biology (Host: Robert Kurt, PhD) "Oxidative injury in the developing lung"
- 2009 Ashland University, Department of Biology & Toxicology "Neonatal oxygen and susceptibility to respiratory viral infections"
- 2009 Canisius College, Department of Biology "Neonatal oxygen and susceptibility to respiratory viral infections"
- 2005 Annual meeting for the American Thoracic Society "Cytoplasmic expression of p21^{Waf1/Cip1/Sdi1} is associated with protection against hyperoxic injury"
- 2006 Bristol-Myers Squibb "Mechanisms of p21 protection against hyperoxia-induced injury"

Regional & Internal

- 2021 Oklahoma University Health Sciences Center, Department of Physiology (Host: Sinya Benyajati PhD) "Redox signaling in oxidative pediatric pathologies: bronchopulmonary dysplasia & Friedreich's ataxia"
- 2020 Oklahoma University Health Sciences Center, Department of Biochemistry and Cell Biology (Host: Ann Louise Olson PhD) "Redox signaling in lung development & neonatal disease"
- 2019 Augsburg University, Department of Chemistry (Host: Vivian Feng PhD) "Redox signaling in lung development & disease"
- 2019 Sanford Research, Great Plains Rare Disease Symposium "Mitochondrial redox signaling in Friedreich's Ataxia"
- 2018 South Dakota State University, Life Science Seminar Series (Host: Natalie Thiex PhD) "Writing the redox code: thioredoxin signaling in development & disease"
- 2018 St. Cloud State University, Department of Biology (Host: Tony Her MD) "Redox signaling in development, health & disease"
- 2018 USD, Department of Biomedical Engineering "Transgenic mouse models to understand redox signaling in health & disease"
- 2017 Sanford Research, Center for Pediatric Research Symposium "Writing the redox code: thioredoxin signaling in development & disease"

2014	Augustana University, Department of Biology (Host: Daniel Howard PhD) “Back to basics: the role of basic research in a clinical world”
2014	USD SSOM, Internal Medicine Grand Rounds “Ethics and professional integrity in research: scientific misconduct & plagiarism”
2014	USD SSOM, Pediatric Grand Rounds “Ethics and professional integrity in research: scientific misconduct & plagiarism”
2014	USD-Sanford Health Biomedical Research Symposium “Mitochondrial redox signaling and metabolism during oxidative injury”
2014	Sanford Research, PROMISE Community Lecture Series “Back to basics: the role of basic research in a clinical world”
2013	USD SSOM, Pediatric Residency Seminar Series “Redox-dependent signaling in the neonatal lung”
2013	USD SSOM, Pediatric Grand Rounds “Measuring metabolic activities in cellular models of pediatric disease”
2013	University of Sioux Falls, Natural Sciences Division (Host: Bill Soeffing PhD) “Redox sensing & signaling during oxidative injury in lung epithelium”
2013	SDSU, Biology & Microbiology Graduate Student Association (Host: Carl Fellbaum PhD) “The interview process: representing yourself on paper and in-person”
2013	USD SSOM, BBS Seminar Series “Redox-dependent signaling during oxidative injury”
2012	Northern State University, Department of Biology (Host: Alyssa Kiesow PhD) “Oxidative injury in the developing lung”
2010	USD SSOM, Pediatric Grand Rounds “Lung disease and transgenic mice: caveats of building a better mouse trap”
2010	Augustana University, Department of Biology, (Host: Mark Larson PhD) “Oxidative injury & repair in the developing lung”
2009	USD SSOM, BBS Seminar Series “Neonatal oxygen and susceptibility to respiratory viral infections”

Memberships

2021-present	Society for Pediatric Research (SPR)
2021-present	Southern Society for Pediatric Research (SSPR)
2020-present	American Physiological Society (APS)
2018-present	Pediatric Research Society (PRS)
2012-present	American Thoracic Society (ATS): Neonatal & Developing Lung Interest Group
2011-present	Society of Toxicology (SOT)
2011-2020	Northland Chapter of the Society of Toxicology (NLSOT)
2010-present	Society for Redox Biology & Medicine (SfRBM)

Teaching

Graduate

2020-present	BIOC6341-005 Metabolic Regulation; lecturer, OUHSC
2018	IPMM/CIP922 Redox Biology in Human Disease, lecturer; University of Nebraska
2017-2020	CPHD792 Molecular Mechanisms of Disease; lecturer, USD SSOM
2016	BIOC998 Redox Regulation, Oxidative Stress, and Selenoproteins; lecturer, University of Nebraska
2016-2020	CPHD792 Developmental Biology of Disease, lecturer; USD SSOM
2013-2016	PHGY792 PLTW Biomedical Science; course director, USD SSOM
2013-2016	PHGY792 PLTW Human Body Systems, course director; USD SSOM
2012-2016	MICR792/SEED792 Approaches in Pediatric Research; course director, USD SSOM
2012-2016	SEED592 PROMISE Educator Enrichment Workshop; course director, USD SSOM
2011	CPHD792 Developmental Biology of Pediatric Disorders; lecturer, USD SSOM

Undergraduate

2020 BIOL332 Cell Signaling; lecturer, Augustana University
2017 BIOL358 Molecular Biology, lecturer; Augustana University
2017 GENC671 Genetic Counseling Research II; lecturer, Augustana University
2011-2012 BIOL332 Cell Signaling; lecturer, Augustana University
2009 BIO150L Human Anatomy and Physiology Lab; section director, Nazareth College
2008 BIO155 General Biology; course director, Monroe Community College
2008 BIO103L General Biology Lab; section director, Nazareth College

Mentoring partnerships

Faculty

2021-present Maxwell Mathias MD; OUHSC
2021-2023 Heather Vellers PhD; University of Oklahoma
2020-present Gaston Ofman MD; OUHSC
2020-present Lora Bailey-Downs PhD; OUHSC
2020-present Kathryn Burge PhD; OUHSC
2020-present Jeffrey Eckert PhD; OUHSC
2020-present Faizah Bhatti MD; OUHSC
2020-present Hala Chaaban MD; OUHSC
2020-present Abhrajit Ganguly MD; OUHSC
2020-2023 Jolyn Fernandes PhD; OUHSC
2020-2021 Frederico Vieira MD; OUHSC
2018-2020 Michelle Baack MD; Sanford Research

Postgraduate

2021-present Viktoria Stewart MD; Neonatology Fellow, OUHSC
2020-present Syed (Talha) Ahmed MD; Neonatology Fellow, OUHSC
2020-present Ritesh Sevakar PhD; Postdoctoral Fellow, University of Alabama-Birmingham (SfRBM mentoring program)
2019-present Nathalia Rocca PhD; Postdoctoral Fellow, National Institutes of Health (SfRBM mentoring program)
2019-2020 Anna Lisa Martino MD; Pediatric Resident, USD SSOM
2017-2018 Bethany Mordhorst PhD; Postdoctoral Fellow, Sanford Research
2013-2016 Michelle Booze PhD; Postdoctoral Fellow, Sanford Research
2012-2013 Muhammad Khan MD; Cardiovascular Fellow, USD SSOM

Graduate students

2023-present Alyssa Wheeler, PhD candidate; OUHSC
2023-present Ari Rivera Negrón; MS candidate; OUHSC
2020-present Diing (Gabe) Agany; PhD candidate; USD (USD Neuroscience, Nanotechnology & Networks program)
2020-2023 Brandon Davies; PhD candidate; Brigham Young University (SfRBM mentoring program)
2019-2020 Jared Ailts; MS candidate, USD SSOM
2018-2020 Rachel Laufmann; MS candidate, USD SSOM
2011-2014 Miranda Floen MD-PhD, USD SSOM

Medical students

2012-2015 Teresa Maas MD, USD SSOM

Dissertation committees

2019-2020 Bethany Freely; PhD candidate, USD SSOM
2018-2020 Rhiannon Sears; PhD candidate USD SSOM
2018-2020 Emily Storm; MD-PhD candidate, USD SSOM
2018-2020 Eli Louwagie; MD-PhD candidate, USD SSOM
2017-2020 Ruthellen Anderson; MD-PhD candidate, USD SSOM
2017-2020 Jordan Hoops; PhD candidate, South Dakota School of Mines & Technology
2015-2019 Alex Verma MD-PhD; USD SSOM
2013-2017 Birendra KC; PhD; USD SSOM
2012-2014 Michael Amolins, EdD; USD Department of Education

Undergraduate

2021-2023 Alec Cooper, University of Oklahoma
2019 Kate Bruening, Texas A&M University
2018-2019 Michaela Schotanus, Dordt University
2018 Joseph Larson, Augustana University
2018 Sydney Faber, Dordt University
2017-2018 Johnny Hoffman, University of Evansville
2017 Eduardo Turcios, Augustana University
2017 Xaviera Thomas, Lafayette College
2016-2017 Alexandra Fairchild, Augustana University
2016 Emmanuel Fâlé, Gannon University
2016 Erika Hernandez, Lafayette College
2015 Austin Ashbacher, Augustana University
2015 Ryan Johnson, Augustana University
2015 Jasmeen Saini, Lafayette College
2014 Wendy Guevara, North Carolina State University
2014 Danielle Jensen, South Dakota State University
2013 Ryan Wood, University of Nebraska-Lincoln
2013 Emily Weber, Augustana University
2012 Rathika Mallepally, University of Texas-Austin
2011 Cody Lensing, Augustana University
2011 Chanesse Schaeffer, Augustana University
2010 Elliot Bloom, Augustana University

High school

2022 Ria Sachdev, Casady HS
2019 Brennan Hurd, O’Gorman HS
2016 Johnny Hoffman, Brandon HS
2013 Skyla Neuharth, Harrisburg HS
2012 Danielle Jensen, Tri-Valley HS
2012 Shanna Baack, Lincoln HS
2011 Brianna Titus, West Central HS

K-12 science teachers

2014-2015 Darwin Daugaard, Dell Rapids HS
2013-2014 Michael Amolins, Harrisburg HS

Service & outreach

Disciplinary service: reviewer

2023 Guest editor: “Redox Mechanisms of Injury and Disease”, *Life Sciences*

- 2022 Guest editor: “Experimental Model of Neonatal Diseases”, *Journal of Visualized Experiments (JoVE)*
- 2021 Guest editor: “Acute lung injury”, *Redox Biology*
- 2021 Guest editor: “Antioxidants and lung diseases”, *Antioxidants*
- 2020-present Topic editor, *Antioxidants*
- 2020-present Editorial board, *Oxygen*
- 2020-present Reviewer board, *Antioxidants*
- 2020-present Reviewer board, *Nutrients*

Peer review: scientific journals

- *Aging*
- *American Biology Teacher*
- *American Journal of Physiology – Lung Cellular and Molecular Biology*
- *American Journal of Respiratory Cell and Molecular Biology (AJRCMB)*
- *Antioxidants*
- *Biology of Sex Differences*
- *Cell Proliferation*
- *Children*
- *Electronic Journal of Biology*
- *Free Radical Biology & Medicine*
- *Frontiers*
- *Frontiers in Clinical Drug Research*
- *Frontiers in Pharmacology*
- *Frontiers in Physiology*
- *International Journal of Chronic Obstructive Pulmonary Disease*
- *International Journal of Molecular Sciences*
- *Journal of Applied Physiology*
- *Journal of Biological Chemistry*
- *Journal of Clinical Medicine*
- *Journal of Visualized Experiments (JoVE)*
- *Molecular Neurobiology*
- *Molecules*
- *Nutrients*
- *Oxidative Medicine & Cellular Longevity*
- *Pediatric Research*
- *Pediatric Pulmonary*
- *PLOS One*
- *Redox Biology*
- *ROS*
- *Scientific Reports*
- *Toxics*

Peer review: grant agencies

- 2022-present NIH Environmental Determinants of Disease (EDD) Study Section, standing member [formerly Systemic Injury and Environmental Exposure (SIEE)]
- 2022-present American Heart Association, ad hoc
- 2022-2023 OUHSC Harold Hamm Diabetes Center, ad hoc
- 2021 NIH Systemic Injury and Environmental Exposure (SIEE) Study Section, ad hoc
- 2021 NIH Respiratory Integrative Biology and Translational Research (RIBT) Study Section, ad hoc
- 2021 NIH MIRA for Early Stage Investigators Special Emphasis Panel ZRG1 CB-H (55), ad hoc
- 2020 NIH Systemic Injury and Environmental Exposure (SIEE) Study Section (Nov), ad hoc
- 2020 NIH Systemic Injury and Environmental Exposure (SIEE) Study Section (Feb), ad hoc
- 2018-2021 American Lung Association, ad hoc
- 2018 NIH Lung Injury, Repair and Remodeling (LIRR) Study Section, ad hoc
- 2017 NIH Special Emphasis Panel ZRG1 CVRS G (03), ad hoc
- 2014 NIH Lung Injury, Repair and Remodeling (LIRR) Study Section, ad hoc

Disciplinary service: committees

- 2022-present Pediatric Academic Societies (PAS), abstract reviewer
- 2021-present Southern Society for Pediatric Research (SSPR) Council (2023-present)
Basic science young investigator award judge (2021-2022)
- 2018-present American Thoracic Society (ATS)

Neonatal and Developing Lung Interest Group (NDLIG), co-chair (2022-present)
 Whitsett Award, abstract reviewer (2019-present)
 Neonatal and Developing Lung Interest Group (NDLIG) (2019-present)
 Session moderator (2018)
 2017-2022 American Lung Association, Scientific advisory committee
 2012-present Society for Redox Biology & Medicine (SfRBM)
 Professional development committee (2019-present)
 Program committee (2019-2020)
 Plenary session moderator, annual meeting (2018)
 Poster judge, annual meeting (2016-2020)
 Council member (2015-2022)
 Chair, PR/external marketing committee (2015-2017)
 Abstract reviewer, annual meeting (2014-present)
 PR/external marketing committee (2014-2022)
 2012-2013 Northland Chapter SOT, Councilor

Institutional service: committees

2023-present Committee on Committees, OUHSC
 2023-present Summer Undergraduate Research Experience (SURE), selection committee, OUHSC
 2021-present Diversity Alliance Task Force, OUHSC (research subcommittee)
 2021-2022 Animal Program Advisory Committee, OUHSC
 2020-present Fellowship Committee, Neonatal-Perinatal Medicine, OUHSC
 2020-present Scholarship Oversight Committee, Neonatal-Perinatal Medicine Fellowship program, OUHSC
 2020-2022 Pediatric Research Committee, OUHSC
 2019-2020 Faculty leadership & promotions committee, Sanford Research
 2018-2019 Leading for Results Academy for rising leaders, Sanford Health
 2018-2020 Biochemistry Core Director, Sanford Research
 2018-2020 Recruitment committee, Sanford Research
 2018-2020 Organizing committee, Center for Pediatric Research Symposium
 2017-2019 PROMISE Scholars selection committee, Sanford Research
 2017-2020 T. Denny Sanford collaborative oversight committee, Sanford Research
 2017-2020 Marketing committee, Sanford Research
 2015-2017 Research committee, USD SSOM
 2014-2016 Faculty advisor, BBS Graduate Student Organization, USD SSOM
 2013-2015 Organizing committee, Sanford Health-SDSU Research Symposium
 2013-2014 MD-PhD admission committee, USD SSOM
 2012-2015 Institutional biosafety committee, Sanford Research
 2010-2015 Pediatric mentoring program, USD SSOM

Community service: committees & boards

2023-present Board member, American Lung Association of Oklahoma
 2018-2020 Board chair, South Dakota STARBASE
 2017-2018 Board secretary, South Dakota STARBASE
 2015-2019 Board member, American Lung Association of the Upper Midwest
 2014-2018 Board member, South Dakota STARBASE
 2014-2016 External evaluator, HHMI Science Horizons Program, Lafayette College
 2013-2014 Affiliate director, Project Lead The Way, Sanford Research
 2012-2016 Program coordinator, Science Educator Research Fellowship (SERF), Sanford Research
 2011-2016 Board member, South Dakota American Lung Association

Community service: presentations, interviews & press releases

- 2019 Keloland "Rare disease creates rare friendship"
<https://www.keloland.com/news/local-news/rare-disease-creates-rare-friendship/1995464495>
- 2019 Sanford Health News "Man fundraises for research-study inspiration: his daughter"
<https://news.sanfordhealth.org/research/man-fundraises-for-research-study-inspiration-his-daughter/>
- 2019 Augustana University, Academy for Seniors "Integrating community partnerships in biomedical research"
- 2018 Sioux Falls Business "\$12 million dollar research grant supports children's health, lab development"
<http://siouxfalls.business/12-million-research-grant-supports-childrens-health-lab-development/>
- 2017 South Dakota Public Broadcasting "Mice may hold the key to disease therapies"
<http://listen.sdpb.org/post/mice-may-hold-keys-disease-therapies>
- 2017 South Dakota Public Broadcasting "Dan Brendtro and Pete Vitiello raise money to fight rare disease"
<http://listen.sdpb.org/post/dan-brendtro-and-pete-vitiello-raise-money-fight-rare-disease>
- 2017 KSOO "Dan Brendtro and Pete Vitiello trying to save a life"
<https://soundcloud.com/user-781825766/dan-brendtro-and-peter-vitiello-trying-to-save-a-life>
- 2017 Keloland "Research for a cure"
<http://www.keloland.com/news/article/healthbeat/research-for-a-cure>
- 2017 Argus Leader "Father races to fund study into rare disease that afflicts daughter"
<https://www.argusleader.com/story/news/2017/12/02/father-races-fund-study-into-rare-disease-afflicts-daughter/909081001/>
- 2016 KSOO: A Better You "Sanford researcher educates educators"
<http://ksoo.com/a-better-you-sanford-researcher-educates-educators/>
- 2016 Argus Leader "Sanford Research draws global team"
<http://www.argusleader.com/story/news/business-journal/2016/09/13/sanford-research-draws-global-team/90311976/>
- 2015 Argus Leader "Nonprofits receive SD Fund grants"
<http://www.argusleader.com/story/news/2015/10/09/nonprofits-receive-sd-fund-grants/73654928/>
- 2014 Keloland "A summer camp for education"
- 2013 Argus Leader "Grant to pay for children's research: scientists get \$11.6M to study genetic diseases"
- 2013 Keloland "New partnership brings Sanford Research and PLTW together"
- 2013 KSFY "Sioux Falls school teams up with Sanford Research for CSI experience"
- 2012 Sioux Falls Business Journal "Sanford Research creates fellowship program for science teachers"
- 2011 Daily Globe "All about science"
- 2011 Keloland "Sanford invites community into lab"
- 2011 South Dakota Public Broadcasting "Sanford PROMISE"
- 2011 Argus Leader "Sanford Research reaches out to increase interest in science"

Community service: outreach

- 2022-present Advisory Committee, Project Lead The Way (PLTW)
- 2015 Presenter, Sioux Falls Downtown Lions Club
- 2014 Coordinator, UNMC SEPA Health & Science Fun Camp
- 2013-2015 Judge, SD HOSA-Future Health Professionals Conference
- 2012 Presenter, Worthington Bioscience Conference
- 2011-2013 Presenter, Science Olympiad
- 2011 Presenter, Camp Gilbert
- 2011 Presenter, Career Expo at Southeast Technical Institute
- 2011 Judge, SD Science & Engineering Fair

2010-2013 Presenter, Scrubs Camps SD