# Keisa Williams Mathis, PhD, FAHA

Associate Professor of Physiology University of North Texas Health Science Center, Fort Worth, TX

### INFORMATION



# Internet and Social Media

- Website: <u>www.unthsc.edu/matlab</u>
- Facebook: <u>https://www.facebook.com/MatLabResearch</u>
- Twitter: @fizzydoc
- LinkedIn: https://www.linkedin.com/in/keisa-mathis-5a12b510/

Citizenship

**Place of Birth** 

Baton Rouge, LA

**Race/Nationalty** 

Black American

Sex/Gender (pronouns)

Female (she/her/hers)

USA

• TikTok: <u>https://www.tiktok.com/@thefizzydoc</u>

# **APPOINTMENTS**

#### **PRIMARY**

Associate Professor with Tenure-School of Biomedical Sciences (SBS) Department of Physiology and Anatomy (formerly Institute of Cardiovascular & Metabolic Diseases (IC Graduate School of Biomedical Sciences (GSBS)), University of North Texas Health Science Center (UNTHS	
<u>OTHERS</u> Adjunct Professor-College of Engineering Department of Biomedical Engineering, <i>University of North Texas (Main Campus), Denton, TX</i>	01/2021-Present
Assistant Professor Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS	01/2014-05/2014
Instructor Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS	04/2010-12/2013
EDUCATION AND TRAINING	
<b>EDUCATION AND TRAINING</b> Post-Doctoral Fellow Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS Mentor: Michael Ryan, PhD	07/2009-05/2014
<b>Post-Doctoral Fellow</b> Department of Physiology and Biophysics, <i>University of Mississippi Medical Center, Jackson, MS</i>	07/2009-05/2014 08/2005-05/2009

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Personal Contact 8629 Paper Birch Lane Fort Worth, TX • 76123 225-413-2756 (Cell) keisamathisphd@gmail.com

### **MS in Applied Physics**

Department of Physics, *Purdue University, West Lafayette, IN* **Faculty Advisor:** Nicholas Giordano, PhD

### BS in Physics, Mathematics Minor

Southern University and A&M College, Baton Rouge, LA Faculty Advisors: Diola Bagayoko, PhD and Stephen McGuire, PhD

### ACADEMIC AND PROFESSIONAL HONORS AND RECOGNITION

#### **HONORS**

2022	UNTHSC Faculty Achievement Award (University-wide Faculty of the Year;
	https://www.unthsc.edu/newsroom/story/2022-faculty-achievement-award-winner-
	announced/?utm_campaign=daily_news_email&utm_source=email)
2022	SBS Faculty Achievement Award Finalist
2022	UNTHSC Graduate Student Association Outstanding Faculty Member
2022	Golden Apple Award (SBS Teacher of the Year)
2022	Arthur C. Guyton Award for Excellence in Integrative Physiology, American Physiological Society (APS)
2021	1000 Inspiring Black Scientists, Cell Mentor, Cell Press
	( <u>https://crosstalk.cell.com/blog/1000-inspiring-black-scientists-in-america</u> )
2018	40 Under Forty, Southern University Alumni Federation
2016	Fellow of the American Heart Association (FAHA), American Heart Association
2016	Dale J. Benos Early Career Professional Service Award, American Physiological Society
2013	Juan Carlos Romero Postdoctoral Excellence Award, Water and Electrolyte Homeostasis (WEH) Section of the APS
2012	Finalist-Postdoctoral Research Recognition Award, WEH Section of the APS
2011	Caroline tum Suden Award (Postdoc), APS
2009	Finalist-Gordis Award, Research Society on Alcoholism
2009	Caroline tum Suden Award (Graduate Student), APS
2009	Graduate Oral Presentation Award (1 <sup>st</sup> place), <i>Louisiana Academy of Sciences, Southeastern Louisiana</i> University, Hammond, LA
2008-2009	K-12 Minority Outreach Fellow, APS
2007	Graduate Oral Presentation Award (2 <sup>nd</sup> place), <i>Louisiana Academy of Sciences, Southern University, Baton Rouge, LA</i>
2001-2003	Purdue Fellowship, Purdue University, West Lafayette, IN
2001	Honors Graduate, Southern University, Baton Rouge, LA
2001	Golden Key Honor Society, Southern University, Baton Rouge, LA
1997-2001	Timbuktu Academy Scholarship, Southern University, Baton Rouge, LA
1997-2001	Honors College Scholarship, Southern University, Baton Rouge, LA

### **OTHER ACHEIVEMENTS**

2020	Early Reviewer Program, Center for Scientific Review (CSR)
2013	Responsible Conduct of Research Certificate University of Mississinni

- 2013 Responsible Conduct of Research Certificate, University of Mississippi Medical Center
- 2011 International Society of Hypertension New Investigator Poster Award, Orlando, FL
- 2006-2009 Research Society on Alcoholism Student Merit Award, San Diego, CA (2009), Baltimore, MD (2006)

### TRAVEL AWARDS

2015	Physiology 2015 Travel Award, Physiological Society, Cardiff, UK
2014	Kidney Council New Investigator Travel Award, American Heart Association (AHA)
2013	Minority Travel Award, APS, Boston, MA
2011	FASEB/MARC Program Presentation Travel Award, Washington, DC
2007-2009	Research Society on Alcoholism Satellite Symposium Travel Grant, San Diego, CA (2009), Washington, DC
	(2008), Chicago, IL (2007)
2008	Professional Writing Skills Travel Award, American Physiological Society, Orlando, FL
2007	Alcohol and Trauma Satellite Meeting Travel Award, Shock Society, Baltimore, MD
2007	Professional Presentation Skills Travel Award, American Physiological, Bethesda, MD

06/1997-05/2001

# **RESEARCH FUNDING**

<u>PENDING</u> Science Diversity Leadership Award (Mathis, PI) Chan Zuckerburg Initiative Title/Description: Competitive research grant with service outreach and mentorship component	1/2023-12/2028
<b>R01 (N/A; Mathis, Co-I; Ma, PI)</b> <i>NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)</i> <b>Title/Description:</b> A new signaling pathway for regulation of cytokine/chemokine production in kidne	04/2022-03/2027 ey
<u>ACTIVE</u> Lupus Idea Award (LR210096; Mathis, PI) Department of Defense Title/Description: Preventing Renal Injury in Lupus Nephritis via Ultrasound Therapy	10/2022-9/2024
<b>R01</b> (R01HL153703-A1; Mathis, PI) <i>NIH National Heart Lung and Blood Institute (NHLBI)</i> <b>Title/Description:</b> Control of Renal Inflammation in Hypertension	05/2021-04/2026
<b>Mentored K01 to Promote Faculty Diversity</b> (K01HL139859, Mathis, PI) NIH NHLBI <b>Title/Description:</b> Neuroimmune Mechanisms Involved in the Pathogenesis of Hypertension and Rena	01/2018-12/2022 l Iniury
<u>COMPLETED</u> Department Seed Grant (Mathis & Cunningham, Co-PI) UNTHSC-Department of Physiology Title/Description: Intramural award to collect preliminary data for future grants	10/2021-08/2022
<b>Loan Repayment Program</b> (Mathis) NIH NHLBI <b>Title/Description:</b> Competitive award to pay off student loan debt of researcher	07/2020-06/2022
<b>Postdoctoral Training Fellowship for Calvin Brooks</b> (5T32AG020494-18; Mathis, Mentor) Neurobiology of Aging and Alzheimer's Disease Training Program (UNTHSC Pharmacology and Neuroscience) <b>Title/Description:</b> Departmental training grant	05/2021-04/2022
<b>Department Seed Grant</b> (Mathis, PI) <i>UNTHSC-Department of Physiology</i> <b>Title/Description:</b> Intramural award to collect preliminary data for future grants	02/2021-08/2021
<b>Research Kickstart Program – Phase I</b> (Mathis, PI) UNTHSC-Division of Research and Innovation <b>Title/Description:</b> Intramural award to replenish lost lab resources during COVID-19	07/2020
Novel Disease Grant (550778; Mathis, PI)03/01/2Lupus Research Alliance03/01/2Title/Description: Targeting Nicotinic Receptors to Reduce Inflammation Associated with SLE	2018-04/30/2021
<b>Intramural Research Honors Practicum for Shyam Vedantam</b> (Mathis, PI) <i>UNTHSC-TCOM</i> <b>Title/Description:</b> Neuroimmune control of renal inflammation in lupus hypertension	06/2017

<b>Predoctoral Fellowship for Grace Pham</b> (16PRE29910012; Mathis, PI) <i>American Heart Association</i>	07/2016-06/2018
<b>Title/Description:</b> The contribution of vagal tone to hypothalamic-pituitary-adrenal axis activity in SLF hypertension	E-mediated
<b>Intramural Research Honors Practicum f</b> or Charles Maloy (Mathis, PI) UNTHSC-TCOM	10/2015
<b>Title/Description:</b> Renal and Hypertension Outcomes Following Vagal Nerve Stimulation in Mice with Erythematosus	Systemic Lupus
Scientist Development Grant (14SDG18320033; Mathis, PI) American Heart Association	1/2014-6/2018
Title/Description: The role of the cholinergic anti-inflammatory pathway in renal function and hyperte	ension
<b>General Start-Up Fund</b> (Mathis, PI) UNT Health Sciences Center	06/2014-05/2017
Title/Description: Funds granted by the institution upon hiring	
<b>Institute for Cardiovascular and Metabolic Disease Seed Grant</b> (Mathis, PI) UNT Health Science Center	07/2016-08/2017
<b>Title/Description:</b> Impaired neuroimmune mechanisms in lupus hypertension; competitive grant to accrease research programs of UNTHSC faculty within ICMD	celerate the
Intramural Seed Grant Program (Mathis, PI)	03/2015-08/2016
UNT Health Science Center, Division of Research & Innovation <b>Title/Description:</b> Ultrasound as an Alternative Therapeutic Option for Lupus; <b>c</b> ompetitive grant to ad accelerate the research programs of UNTHSC faculty	vance and
<b>Postdoctoral Fellowship</b> (1F32HL114272-01A1; Mathis PI) National Institutes of Health	2/2013-12/2013
<b>Title/Description:</b> The Role of T Lymphocytes in Hypertension during Chronic Inflammatory Disease	
<b>Postdoctoral Fellowship</b> (2T32HL105324-03; Granger, PI) <i>Hypertension and Cardiorenal Diseases Research Training Program (University of Mississippi Medical Center)</i> <b>Title/Description:</b> Departmental training grant	09/2012-01/2013
<b>Postdoctoral Fellowship</b> (POST4350019; Mathis, PI) <i>American Heart Association</i>	07/2010-06/2012
Title/Description: The Role of Renal Sympathetic Nerves in Lupus Hypertension	
Minority Supplement Award (3R01HL085907-04S1; Ryan, PI) National Institutes of Health Title/Description: Supplement to mentor's NIH R01	04/2010-06/2010
	08/2008-05/2009
Merck/Porter Physiology Fellow (Mathis, PI) American Physiological Society	08/2008-03/2009
Title/Description: Competitive predoctoral fellowship; highest scored	
<b>Predoctoral Fellowship</b> (5T32AA007577-09; Bagby PI) Biomedical Alcohol Research Training Program (LSU Health Sciences Center) <b>Description:</b> Departmental training grant	09/2005-08/2008

# PUBLICATIONS (https://www.ncbi.nlm.nih.gov/myncbi/keisa.mathis.1/bibliography/public/)

#### **JOURNAL ARTICLES**

1) Chaudhari S, D'Souza BM, Morales JY, Young-Stubbs CM, Shotorbani PY, Ma R, **Mathis KW**. Sex differences in the pathogenesis of autoimmune-induced hypertension. (*In revision; due 09.26.2022 – AJP Heart*)

- 2) Chaudhari S, Shotorbani PY, Tao Y, Kasetti R, Zode G, **Mathis KW**, and Ma R. Neogenin pathway positively regulates fibronectin production by glomerular mesangial cells. *AJP Cell Physiology*. 2022; 323(1):C226-C235. <u>PMID:35704698</u>
- Morales JY, Young-Stubbs CM, Shimoura CG, Kem WR, Uteshev VV, Mathis KW. Systemic administration of α7nicotinic acetylcholine receptor ligands does not improve renal injury or behavior in mice with advanced systemic lupus erythematosus. *Frontiers in Medicine*. 2021; 8:642960. <u>PMID: 33928103</u>
- 4) Pham GS\*, Shimoura CG\*, Chaudhari SS, Kulp DV, **Mathis KW**. Chronic unilateral cervical vagotomy reduces renal inflammation, blood pressure, and renal injury in a mouse model of lupus. *Accepted Am J Physiol Renal Physiol*. 2020; 319(2):F155-F161. <u>PMID: 32538149</u>
- 5) Pham GS, Wang LA, **Mathis KW.** Pharmacological potentiation of the efferent vagus nerve attenuates blood pressure and renal injury in a murine model of systemic lupus erythematosus. *AJP Regulatory*. 2018; 315:R1261-1271. <u>PMID:</u> 30332305
- 6) Pham GS and **Mathis KW**. Lipopolysaccharide challenge reveals hypothalamic-pituitary-adrenal axis dysfunction in murine systemic lupus erythematosus. *Brain Sciences*. 2018; 8(10). <u>PMID: 30287776</u>
- 7) Syed M, Ball JP, Mathis KW, Hall ME, Ryan MJ, Rothenberg ME, Yanes Cardozo LL, Romero DG. MicroRNA-21 Ablation Exacerbates Aldosterone-Mediated Cardiac Injury, Remodeling and Dysfunction. *AJP: Endocrinology and Metabolism.* 2018; 315(6):E1154-E1167. <u>PMID: 30153065</u>
- 8) Rodriguez R, Lee A, Mathis KW, Broome HJ, Thorwald M, Martinez B, Nakano D, Nishiyama A, Ryan MJ, Ortiz RM. Angiotensin receptor and TNF-α activation contribute to glucose intolerance independent of systolic blood pressure in OLETF rats. *AJP: Renal.* 2018; 315(4):F1081-F1090. <u>PMID: 29993275</u>
- 9) **Mathis KW**, Taylor EB, Ryan MJ. Anti-CD3 antibody therapy attenuates the progression of hypertension in female mice with systemic lupus erythematosus. *Pharmacological Research*. 2017; 120:252-257. <u>PMID: 28400152</u>
- 10) Fairley AS, **Mathis KW**. Cholinergic agonists reduce blood pressure in mouse model of systemic lupus erythematosus. *Physiological Reports*. 2017; 5(7):e13213. <u>PMID: 28400502</u>
- 11) **Mathis KW**, Wallace K, Flynn E, Maric C, LaMarca B, Ryan MJ. Preventing autoimmunity protects from hypertension and renal injury. *Hypertension*. 2014; 64(4):792-800. <u>PMID: 25024282</u>
- 12) Gilbert EL, Mathis KW, Venegas-Pont M, and Ryan MJ. 17β-Estradiol protects against the progression of hypertension during adulthood in a mouse model of systemic lupus erythematosus. *Hypertension*. 2014 ;63(3):616-623. <u>PMID: 24366082</u>
- 13) **Mathis KW**, Venegas-Pont M, Flynn E, Williams JM, Maric C, Dwyer T, Ryan MJ. Hypertension in an experimental model of systemic lupus erythematosus occurs independently of the renal nerves. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology*. 2013; 305(7):711-719. <u>PMID: 23926131</u>
- 14) **Mathis KW**, Venegas-Pont M, Masterson CW, Stewart, NJ, Wasson KL, and Ryan MJ. Oxidative stress promotes hypertension and albuminuria during the autoimmune disease systemic lupus erythematosus. *Hypertension*. 2012; 59(3):673-679. <u>PMID: 22291449</u>
- 15) Mathis KW, Venegas-Pont M, Masterson CW, Wasson KL, Ryan MJ. Blood pressure in a hypertensive mouse model of SLE is not salt-sensitive. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology.* 2011; 301:R1286-1292. <u>PMID: 21917908</u>
- 16) Venegas-Pont M, Mathis KW, Iliescu R, Ray WH, Glover P, and Ryan M. Blood pressure and renal hemodynamic responses to acute angiotensin II infusion are enhanced in a female mouse model of systemic lupus erythematosus. *American Journal of Physiology: Regulatory, Integrative and Comparative Physiology.* 2011; 301:R1281-1285. <u>PMID: 21900645</u>
- 17) **Mathis KW**, Molina PE. Systemic administration of an acetylcholinesterase inhibitor improves outcome and survival from hemorrhagic shock during acute alcohol intoxication. *Shock*. 2010; 34(2):162-168.
- 18) Whitaker A, Sulzer J, Walker E, **Mathis K**, Molina PE. Sympathetic modulation of the host defense response to infectious challenge during recovery from hemorrhage. *Neuroimmunomodulation*. 2010; 17:349-358. <u>PMID</u>: 20516716
- Mathis KW, Molina PE. Central acetylcholinesterase inhibition improves hemodynamic counter-regulation following severe blood loss in alcohol-intoxicated rodents. *American Journal of Physiology: Regulatory and Comparative Physiology.* 2009; 297(2): R437-R445. <u>PMID: 19515985</u>
- 20) Mathis KW, Molina PE. Transient central cholinergic activation enhances sympathetic nervous system activity but does not improve hemorrhage-induced hypotension in alcohol-intoxicated rodents. *Shock.* 2009; 32(4):410-415. <u>PMID:</u> <u>19197225</u>
- 21) Greiffenstein P, Mathis KW, Vande Stouwe C, Molina PE. Alcohol binge prior to trauma/hemorrhage impairs integrity of host defense mechanisms during recovery. *Alcoholism: Clinical and Experimental Research*. 2007; 31(4):1-12. <u>PMID: 17374050</u>
- 22) Mathis KW, Zambell K, Olubadewo J, Molina PE. Altered hemodynamic counteregulation to hemorrhage by acute moderate alcohol intoxication. *Shock.* 2006; 26(1):55-61. <u>PMID: 16783199</u>

# **REVIEWS**

- 23) Tao Y, Mallet R, Mathis KW, Ma R. Novel Contributions of Store-Operated Ca2+ Channel Signaling to Podocyte in Renal Function and Disease. (*Submitted 08.04.2022 Experimental Biology and Medicine*)
- 24) Chaudhari S, Pham GS, Brooks C, Dinh V, Stubb-Young C, Gusson CS, Mathis KW. Should renal inflammation be targeted while treating hypertension? *Frontiers in Physiology*. 2022; 13:886779. <u>PMID:35770194</u>
- 25) Chaudhari S, Cushen S, Oluwatobiloba O, Paresh J, Posey R, **Mathis K**, Goulopoulou S. Mechanisms of sex disparities in cardiovascular function and remodeling. *Comprehensive Physiology*. 2018; 9(1):375-411. <u>PMID: 30549017</u>
- 26) Mathis KW. An impaired neuroimmune pathway promotes the development of hypertension in the setting of chronic inflammation. *American Journal of Physiology: Regulatory*. 2015; 309(9):1074-1077. <u>PMID: 26084696</u>
- 27) Park S, **Mathis KW**, Lee IK. The physiological roles of apolipoprotein J/clusterin in metabolic and cardiovascular diseases. *Reviews in Endocrine and Metabolic Disorders*. 2014; 15(1):45-53. <u>PMID: 24097125</u>
- 28) Mathis KW, Broome HJ, Ryan MJ. Autoimmunity: an underlying factor in the pathogenesis of hypertension. *Current Hypertension Reports*. 2014; 16(4):424. <u>PMID: 24535221</u>

# **BOOK CHAPTERS**

29) Pham GS, **Mathis KW**. Autoimmunity, Estrogen and Lupus. In: Sex Differences in Cardiovascular Physiology and Pathophysiology: editors: Lamarca and Alexander. Alexander BT, Lamarca B, editors. USA: Elsevier Academic Press; 2019. Chapter 14; p.219-237. 392p. <u>link</u>

# **EDITORIALS**

- 30) Mathis KW, Reynolds CL, Williams CR. Being Black in Physiology. Kidney News. 2022; 14(4):19. link
- 31) **Mathis KW** and Balmain B. Mentoring Q&A Let's Get it Started: How to Transition to a Faculty Member and Build Your Own Lab. *The Physiologist Magazine*. May 2021: 10-11. <u>link</u>
- 32) Shimoura CG, Mathis KW. When memory does not serve you well. *Circulation Research*. 2020; 126(6):722-724. <u>PMID:</u> <u>32163345</u>
- 33) Williams EN, **Mathis KW**. Buffering Chronic Kidney Disease with Sodium Bicarbonate. *Clinical Science*. 2018; 132(17):1999-2001. <u>PMID: 30220653</u>
- 34) Mathis KW. Complementing T regulatory cells to combat hypertension. *Circulation Research*. 2018; 122(7);911-912. PMID: 29599271
- 35) Mathis KW. The W's of Networking in Physiology. The Physiologist. 2015; 58(4): 197-199. PMID: 26434159

# ABSTRACTS

- 1) Dinh VQ, Mathis KW. Seasonal Travel Stressors Modulates Hypertension in Adult Female Lupus Mice. Council on Hypertension 2022, San Diego.
- 2) Shimoura CG, Young-Stubbs CM, Chaudhari S, Dinh VQ, Mathis KW. Long-term augmentation of acetylcholine bioavailability halts the progression of lupus hypertension. Council on Hypertension 2022, San Diego.
- 3) Dinh VQ, Chaudhari SK, **Mathis KW.** Travel-Induced Stress at Varying Ages Modulates the Pathogenesis of Autoimmunity in Female Lupus Mice. UNTHSC Research Appreciation Day 2022.
- 4) Brooks CD, Young-Stubbs CM, Shimoura CG, Dinh VQ, Chaudhari SK, Uteshev VV, Mathis KW. Effect of systemic administration of α7-nicotinic acetylcholine receptor ligands on renal inflammation in young mice with systemic lupus erythematosus. UNTHSC Research Appreciation Day 2022.
- 5) **Mathis KW**, Shimoura CG, Young-Stubbs CM, Brooks C. Central Activation of the Cholinergic Anti-Inflammatory Pathway Improves Outcome in a Murine Model of Systemic Lupus Erythematosus. FASEB 36: S1. Experimental Biology 2022, Philadelphia. <u>https://doi.org/10.1096/fasebj.2022.36.S1.R6054</u>
- 6) Chaudhari S, D'Souza BM, Morales JY, Lima C, Young-Stubbs CM, Ma R, **Mathis, KW**. Renal TLR7 expression is associated with renal injury in female mouse model of systemic lupus erythematosus. Experimental Biology 2022, Philadelphia.
- 7) CG Shimoura, CM Young-Stubbs, C Brooks, **KW Mathis**. Selective activation of DMV neurons improves renal injury in systemic lupus erythematosus. AHA Council on Hypertension 2021 (virtual)
- 8) **KW Mathis**, JY Morales, CM Young-Stubbs, CG Shimoura, WR Kem, VV Uteshev. Potentiation of acetylcholine does not improve renal inflammation and behavior in female mice with late-stage systemic lupus erythematosus. FASEB 2021 (virtual)
- 9) RL Hartman and **KW Mathis**. Early life stress in summer months accelerates the progression of autoimmunity in female lupus-prone mice. FASEB 2021 (virtual) and RAD 2021 (virtual).
- 10) DV Kulp, CM Young-Stubbs, **KW Mathis**. Immunological alterations in murine systemic lupus erythematosus following α7-nicotinic acetylcholine receptor antagonism. RAD 2021 (virtual).
- 11) **KW Mathis**, C Young-Stubbs, and JY Morales. Sex Differences in the Development of Autoimmune-Associated Hypertension. *Hypertension*. 74:Suppl 1, New Orleans, 2019.

- 12) **KW Mathis,** GS Pham, DV Kulp. Disruption of splenic nerve-to-spleen neurotransmission worsens disease outcome in a murine model of systemic lupus erythematosus. FASEB J 33, Suppl 2019.
- 13) **KW Mathis**. Sex differences in the development of autoimmune-induced hypertension. UNTHSC Women's Brain and Cardiovascular Health Symposium, Fort Worth, TX 2019.
- 14) **KW Mathis**, H Stauss, GS Pham, DV Kulp, S Kim. Effects of vagus nerve stimulation in a murine model of systemic lupus erythematosus. FASEB, San Diego, CA 2018.
- 15) GS Pham, B Osuzawa, O Thomas, S Vendantam, DL Fancher, **KW Mathis**. Splenic 6-hydroxydopamine worsens renal inflammation and injury in a murine model of systemic lupus erythematosus. FASEB, San Diego, CA 2018.
- 16) S Vedantam, GS Pham, **KW Mathis**. Effect of acute bilateral vagotomy on tissue-specific inflammation in a murine model of systemic lupus erythematosus. FASEB, San Diego, CA 2018.
- 17) GS Pham, SS Chaudhari, DL Fancher, TP Michaels, L D'Cunha, **KW Mathis**. Unilateral cervical vagotomy protects against renal injury and hypertension in a mouse model of lupus hypertension. AHA Council on Hypertension, 70:AP290 San Francisco, 2017.
- 18) GS Pham, AS Fairley, **KW Mathis**. Chronic vagal stimulation enhances norepinephrine-mediated inhibition of splenic pro-inflammatory cytokine release in lupus hypertension. *Hypertension*. 2016; 68; A088.
- 19) SL Njemanze, M Syed, LR Nair, JP Ball, **KW Mathis**, MJ Ryan, ME Rothenberg, LL Yanes-Cardozo and DG Romero. Micro-RNA-21 ablation exacerbates aldosterone-mediated renal injury. FASEB, San Diego, CA 2016.
- 20) GS Pham, AS Fairley, CI Maloy, **KW Mathis**. Chronic vagus nerve stimulation attenuates renal inflammation in autoimmune-induced hypertension. FASEB (962.7), San Diego, CA 2016.
- 21) CI Maloy, AS Fairley, GS Pham, **KW Mathis**. Improvement in blood pressure and renal injury following vagal nerve stimulation. FASEB (964.6), San Diego, CA 2016.
- 22) AS Fairley, GS Pham, H Colby, O Osikoya, S Goulopoulou, CA Rickards, **KW Mathis**. Exploring Physiology with Elementary and Middle School Students. Experimental Biology, San Diego, 2016.
- 23) **KW Mathis**. Nerve-to-spleen pathway is critical in the development of hypertension in the setting of chronic inflammatory disease. Physiological Society, Cardiff, Wales, UK, 2015
- 24) **KW Mathis.** Evidence of an impaired neuroimmune pathway in autoimmune-associated hypertension. *FASEB*, Boston, 2015.
- 25) **KW Mathis**. Cholinergic agonists protect from the development of hypertension during chronic inflammatory disease. *Submitted: High Blood Pressure Research Council,* San Francisco, CA 2014.
- 26) M Syed, JP Ball, **KW Mathis**, M Hall, MJ Ryan ME Rothenberg, DG Romero. MicroRNA-21 ablation exacerbates aldosterone-mediated cardiac inflammation, fibrosis and hypertrophy. *Submitted: High Blood Pressure Research Council*, San Francisco, CA 2014.
- 27) K Wallace, **KW Mathis**, T Bowles, R Morris. Rats with hypertension, Hemolysis Elevated Liver Enzymes and Low Platelets (HELLP) have increased placental and circulating FASL. (LB713) *FASEB*, San Diego, CA 2014.
- 28) **KW Mathis**. Stimulation of a neuroimmune pathway protects from hypertension. (860.22) *FASEB*, San Diego, CA 2014.
- 29) **KW Mathis**. Nicotine reduces blood pressure in mouse model of systemic lupus erythematosus *FASEB*. 2013;27:1116.2.
- 30) **KW Mathis**, K Wallace, B LaMarca, MJ Ryan. Humoral immune system activation promotes the development of hypertension. *FASEB*. 2013;27:906.4
- 31) EL Gilbert, **KW Mathis**, MJ Ryan. 17β-estradiol attenuates renal TNFα and the progression of hypertension in mice with systemic lupus erythematosus. (904.4) *FASEB*, Boston, MA 2013.
- 32) **KW Mathis**, K Wallace, KL Wasson, CW Masterson, B LaMarca, MJ Ryan. T cells promote the progression of hypertension and renal injury during systemic lupus erythematosus. *Hypertension*. 2012;60:A174.
- 33) EL Gilbert, **KW Mathis**, M Venegas-Pont, and MJ Ryan. Disparate temporal regulation of blood pressure by estrogens during systemic lupus erythematosus. *Hypertension*. 2012;60:A10.
- 34) **KW Mathis**, KL Wasson, CW Masterson, MJ Ryan. T lymphocytes promote autoimmune-associated hypertension. (879.2) *FASEB*, San Diego, CA, 2012.
- 35) EL Gilbert, M Venegas-Pont, **KW Mathis**, KL Wasson, MJ Ryan. Estrogen protects against hypertension during autoimmune-mediated hypertension. (880.3) *FASEB*, San Diego, CA, 2012.
- 36) **KW Mathis**, M Venegas-Pont, CW Masterson, KL Wasson, MJ Ryan. Hypertension in mice with the chronic inflammatory disease systemic lupus erythematosus is not salt-sensitive. 2011 APS Conference: Physiology of Cardiovascular Diseases: Gender Disparities. *The Physiologist.* 2011;54(6). Jackson, MS, October 2011.
- 37) KW Mathis, M Venegas-Pont, CW Masterson, WH Ray, KL Wasson, MJ Ryan. Oxidative stress promotes hypertension and renal injury during the chronic inflammatory disease systemic lupus erythematosus. High Blood Pressure Council, Orlando, FL. (P238) High Blood Pressure Council, Orlando, FL, September 2011.

- 38) M Venegas-Pont, **KW Mathis**, CW Masterson, WH Ray, AR Jones, P Glover and MJ Ryan. Antioxidant treatment lowers blood pressure and improves renal injury in a mouse model of systemic lupus erythematosus. FASEB, Washington, DC, 2011.
- 39) **KW Mathis**, M Venegas-Pont, WH Ray, CW Masterson, T Dwyer, MJ Ryan. Renal nerves contribute to renal injury, but not hypertension, during chronic inflammatory disease. FASEB, Washington, DC, 2011.
- 40) KW Mathis, M Venegas-Pont, WH Ray, T Dwyer, MJ Ryan. Renal denervation reduces albuminuria independently of arterial pressure in Systemic Lupus Erythematosus. (P468) High Blood Pressure Council, Washington, DC, October 2010.
- 41) **KW Mathis,** AM Whitaker, PE Molina. Acetylcholinesterase inhibitor improves hemodynamic counteregulation and survival from severe hemorrhagic shock during acute alcohol intoxication. Research Society of Alcoholism. *Alcoholism: Clinical and Experimental Research.* 2009;33(6S): 212A.
- 42) **KW Mathis** and PE Molina. Acetylcholinesterase inhibitor improves survival from hemorrhage in rodents. FASEB, New Orleans, LA, April 2009.
- 43) **KW Mathis** and PE Molina. Alcohol-induced hemodynamic instability during hemorrhagic shock is reversed by acetylcholinesterase inhibitor. *Alcoholism: Clinical and Experimental Research.* 2008;32(6S):30A. Washington, DC, July 2008.
- 44) **KW Mathis** and PE Molina. Central neostigmine administration reverses alcohol- and hemorrhage-induced hypotension. (1227.9) FASEB, San Diego, CA, April 2008.
- 45) **KW Mathis,** AM Whitaker, and PE Molina. Effective mechanisms in restoring blood pressure following hemorrhage. (1227.16) FASEB, San Diego, CA, April 2008.
- 46) KW Mathis and PE Molina. Central choline-mediated sympathetic outflow does not attenuate hypotensive response to blood loss in acute alcohol-intoxicated rodents. Research Society on Alcoholism. *Alcoholism: Clinical and Experimental Research.* 2007;31(6S):98A. Chicago, IL, July 2007.
- 47) **K Mathis** and P Molina. Transient sympathetic nervous system activation does not alter early tissue inflammatory responses to hemorrhagic shock. *Shock.* 2007;27(S1): 37 (P40) Baltimore, MD, June 2007.
- 48) **KW Mathis**, P Greiffenstein, C Vande Stouwe, PE Molina. Noradrenergic modulation of systemic response to infection. Society on Neuroimmune Pharmacology. Salt Lake City Utah, April 2007.
- 49) **KW Mathis** and PE Molina. Short-term central activation of descending sympathetic outflow does not restore alcohol-induced hemodynamic instability during hemorrhagic shock. (914.9) FASEB, Washington, DC, April 2007.
- 50) **KW Mathis**, Z Zhang, P Greiffenstein, PE Molina. Acute alcohol intoxication does not modulate cardiovascular and neuroendocrine response to immobilization stress. *Alcoholism: Clinical and Experimental Research*. 2006;30(6S1):74A. Baltimore, MD, June 2006.
- 51) PE Molina, C Vande Stouwe, **KW Mathis**, P Greiffenstein. Contribution of soft tissue trauma to pro-inflammatory response following trauma/hemorrhage. Shock. 2006;25(S1): 1-98. (P199) Broomfield, CO, June 2006.
- 52) **KW Mathis**, K Zambell, J Olubadewo, PE Molina. Alcohol binge suppresses early lung TNF expression following trauma and hemorrhagic shock. FASEB, San Francisco, CA, April 2006.
- 53) KC Williams, J Olubadewo, J Varela, J Carnel, C Vande Stowe, and P Molina. Short-term moderate alcohol intoxication impairs hemodynamic and immune response to hemorrhagic shock. (685.8) FASEB, San Diego, CA, April 2005.

# INVITED TALKS

# **INTERNATIONAL**

- 1) Invited Speaker, "Control of Renal Inflammation in Autoimmune-Induced Hypertension." Department of Pharmacology, Ribeirao Preto Medical School, University of Sao Paolo, Brazil, August 2021. (virtual)
- 2) Invited Lecturer, "Primer on Experimental Approaches to investigate Cardiovascular Physiology." 2nd Pan-American Congress of Physiological Sciences Congress, Havana, Cuba, May 2019.
- 3) Invited Speaker, "Nerve-to-spleen pathway is critical in the development of hypertension in the setting of chronic inflammatory disease." Physiological Society, Cardiff, Wales, UK, July 2015.

# NATIONAL

- 1) Invited Speaker, Vanderbilt University Medical Center, January 2023
- 2) Invited Speaker, Texas Tech University Health Science Center, October 2022
- 3) Invited Speaker, Drexler University School of Medicine, September 2022
- 4) Invited Speaker, University of Mississippi Medical Center, Department of Physiology, "Understanding the Pathogenesis of Lupus Hypertension and Renal Injury", Jackson, MS, July 2022

- 5) Invited Speaker, Burrell College, "The control of renal inflammation in autoimmune-induced hypertension and renal disease", Las Cruces, NM, July 2022
- 6) Invited Speaker, UTHSCSA, Department of Cellular and Integrative Physiology "The control of renal inflammation in autoimmune-induced hypertension and renal disease", San Antonio, TX May 2022 (virtual seminar)
- 7) Invited Speaker, Navigating and Overcoming Rejections, Experimental Biology, Philadelphia, PA, April 2022
- 8) Speaker, John Hopkins School of Medicine "The control of renal inflammation in autoimmune-induced hypertension and renal disease", Baltimore, MD, January 2022
- 9) Invited Speaker, LSUHSC Post-baccalaureate Research Education Program (PREP) Brown Bag Lunch, New Orleans, LA, January 2021 and October 2021 (virtual)
- 10) Invited Speaker, Baylor College of Medicine "The control of renal inflammation in autoimmune-induced hypertension and renal disease", Houston, TX, October 2021 (virtual)
- 11) Invited Speaker, "Neuro-immune Communication in Hypertension and Renal Disease," UNT (main campus), Department of Biomedical Engineering, Denton, TX, Fall 2020 (virtual)
- 12) Invited Virtual Speaker, the HOT Summer Seminar Series 2020, LSUHSC Department of Physiology, New Orleans, LA, July 2020.
- 13) Invited Speaker, ASPET/APS Joint Presidential Symposium Series, "Autoimmunity, Inflammation and Hypertension", Experimental Biology, April 2020. (Cancelled due to COVID-19)
- 14) Invited Chair/Moderator, APS/ASN Basic Research Forum for Emerging Kidney, Washington, DC, November 2019. (Cancelled due to family emergency)
- 15) Invited Speaker, "Dissecting Neuroimmune Mechanisms that Regulate Chronic Renal Inflammation", University of Nebraska Medical Center Department of Cellular and Integrative Physiology, Omaha, NE, November 2019.
- 16) Invited Speaker, "Sex Differences in the Development of Autoimmune-Associated Hypertension" Council on Hypertension, New Orleans, LA, September 2019.
- 17) Invited Speaker, "Disruption of Splenic Nerve-to-Spleen Neurotransmission Worsens Disease Outcome in a Murine Model of Systemic Lupus Erythematosus", Experimental Biology, Orlando, FL, April 2019.
- 18) Invited Speaker, "Neuroimmune Mechanisms Involved in Autoimmune-Induced Hypertension and Renal Injury." LSUHSC Department of Physiology, December 2018.
- 19) Invited Speaker, Neuroimmune Pathways Affecting Hypertension in Autoimmune Diseases, Getting on the Nerves: Mechanisms of Hypertension, American Society of Nephrology, San Diego, October, 2018 (Declined due to maternity leave)
- 20) Invited Speaker, "Effects of vagus nerve stimulation in a murine model of systemic lupus erythematosus." APS Water and Electrolyte Homeostasis Data Diuresis, April 2018.
- 21) Invited Speaker, "Broken Neuro-Immune Communication Exacerbates Autoimmune-Induced Hypertension and Renal Injury." Carl V. Gisolfi Seminar Series, Department of Health and Human Physiology, University of Iowa, September 2017.
- 22) Invited Speaker, "Nerve-to-spleen pathway is critical in the development of hypertension in the setting of chronic inflammatory disease." FASEB Summer Research Conference, Saxtons River, VT, July 2016.
- 23) Invited Speaker, "Neuroimmune pathway critical in the development of hypertension." Experimental Biology, NCAR Section of the American Physiological Society Featured Topic: Neural Control of Inflammation-Mediated Hypertension, San Diego, CA 2016.
- 24) Invited Speaker, "Stimulation of a neuroimmune pathway protects from hypertension". Featured Topic: Physiology and Pathophysiology. Sponsored by the American Physiological Society Water and Electrolyte Section. San Diego, CA, April 2014.
- 25) Invited Speaker, "Role of the immune system in the pathogenesis of hypertension". Department of Pharmacology, Tulane University, New Orleans, LA, January 2014.
- 26) Invited Speaker, "Mechanisms of hypertension: Role of the immune system". Department of Physiology, LSU Health Sciences Center, New Orleans, LA, September 2013.
- 27) Invited Speaker, "Activation of the cholinergic anti-inflammatory pathway prevents the development of hypertension and renal injury during chronic inflammatory disease." International Society of Hypertension (ISH): 3rd ISH New Investigators' Symposium. New Orleans, LA, September 2013.
- 28) Invited Speaker, "Mechanisms of hypertension in a mouse model of systemic lupus erythematosus." Department of Integrative Physiology, University of North Texas Health Sciences Center, Fort Worth, TX, September 2013.
- 29) Invited Speaker, "Mechanisms of hypertension in a mouse model of systemic lupus erythematosus." Department of Physiology, University of South Alabama, Mobile, AL, July 2013.
- 30) Invited Speaker, "Humoral immune system activation promotes the development of hypertension." Featured Topic: Mechanisms of Hypertension. Sponsored by the American Physiological Society Water and Electrolyte Section. Boston, MA, April 2013.

- 31) Invited Speaker, "Mechanisms of hypertension in a mouse model of systemic lupus erythematosus". William Carey University College of Medicine, Hattiesburg, MS, January 2013.
- 32) Invited Speaker, "Autoimmunity and hypertension". Young Investigator Symposium (American Society of Nephrology). Sponsored by the Americaneart Association-Council on the Kidney in Cardiovascular Disease (KCVD). San Diego, CA, October 2012.
- 33) Invited Speaker, "T lymphocytes promote autoimmune-associated hypertension". Featured Topic: Immune Cells. Sponsored by the American Physiological Society Water and Electrolyte Section. San Diego, CA, April 2012.
- 34) Invited Speaker, "Renal nerves contribute to renal injury, but not hypertension, during chronic inflammation." Featured Topic: Renal Nerves and Their Role in Cardiovascular Disease. Sponsored by American Physiological Society Neural Control and Autonomic Regulation Section. Washington, DC, April 2011.
- 35) Invited Speaker, "Acetylcholinesterase inhibitor improves counteregulation and survival from severe blood loss during acute alcohol intoxication." Gordis Finalist Oral Competition, Research Society on Alcoholism, San Diego, CA, June 2009.
- 36) Invited Speaker, "Central manipulation of the sympathetic nervous system during hemorrhagic shock in the alcoholintoxicated host." NIAAA Trainee Workshop, Indianapolis, IN, September 2007.
- 37) Invited Speaker, "Alcohol-induced hemodynamic instability during hemorrhagic shock is reversed by acetylcholinesterase inhibitor". Research Society on Alcoholism Satellite Meeting, Washington, DC, June 2007.
- 38) Invited Speaker, "Central choline-mediated sympathetic outflow does not attenuate the hypotensive response to blood loss in acute alcohol-intoxicated rodents." Alcohol and Trauma 2007, Shock Society Satellite Meeting, Baltimore, MD, June 2007.
- 39) Presenter, 21st Annual College of Science Symposium, Southern University, Baton Rouge, LA, March 2007.
- 40) Invited Speaker, "Short-term moderate alcohol intoxication impairs hemodynamic and immune response to hemorrhagic shock." Alcohol and Immunology Research Interest Group, Toronto, Canada, October, 2004.

# LOCAL

- 1) Invited Speaker, UNTHSC Summer Research Internship Programs, Summer 2015-2019, 2021-2022.
- 2) Invited Speaker, UNTHSC Department of Pharmacology and Neuroscience, April 2021.
- 3) Invited Speaker, Women's Brain and Cardiovascular Health Conference, Department of Physiology and Anatomy, UNTHSC, January, 2020.
- 4) Invited Speaker, "Novel Neuroimmune Interactions Regulate Inflammation in Autoimmune-Induced Hypertension." UNTHSC Microbiology, Immunology and Genetics, November 2017.
- 5) Invited Speaker, "Academic Biomedical Research", UNTHSC Camp Cardiac, July 2017.
- 6) Invited Speaker, "Navigating a Career in Science and Academia", SACNAS at UNTHSC, March 2015.
- 7) Invited Speaker, Role Model Speaker for Summer Undergraduates, UNTHSC Center for Diversity and International Programs, July 2014.
- 8) Speaker, UMMC/Mississippi Valley State University Mini Med School: UMMC Research Lab Experience, Jackson, MS, May 2014.
- Invited Speaker, "Hypertension in mice with the chronic inflammatory disease systemic lupus erythematosus is not salt-sensitive." 2011 APS Conference: Physiology of Cardiovascular Diseases: Gender Disparities. Jackson, MS, October 2011.
- 10) Invited Speaker, "Acute alcohol intoxication impairs counteregulatory responses during hemorrhagic shock," Graduate Research Day, LSU Health Sciences Center, April 2007.

# PANELS AND OTHER PRESENTATIONS

- 1) Panel Guest, UNTHSC Early Career Development Council Promotion and Tenure Workshop, May 2022.
- 2) Table Discussion Leader, "Work-Life Balance", The American Physiological Society Minority Travel Fellows Networking Breakfast, Philadelphia, PA, April 2022
- 3) Panel Guest, Basic Research Forum for Emerging Kidney Scientists (associated with American Society of Nephrology), November 2021 (virtual)
- 4) Panel Guest, AHA Supporting Undergraduate Research Experiences (SURE) Program, Stanford, Palo Alto, CA, July 2021 (virtual)
- 5) Invited Video, "A Picture is Worth a 1000 Words: Using Instagram to Boost Your Science", Career Central, Experimental Biology, Spring 2021
- 6) Panel Guest, FWMD Live: The Heart of Communicating Science, TCU/UNTHSC Facebook Live (AAMC-awarded), March 2021
- 7) Featured Speaker, AHA Enhance Research Communications Video and Module, Fall 2020
- 8) Panel Guest, Fireside Chat on Mentoring Relationships, The Basic Research Forum for Emerging Kidney Scientists, American Society of Nephrology (ASN), October 2020

- 9) Table Discussion Leader, "Interviewing Skills", The American Physiological Society Minority Travel Fellows Networking Breakfast, March 2015
- 10) Discussion Leader, "Networking in Physiology", ABRCMS (San Antonio), November 2014
- 11) Panel Guest, "Insights as an American Heart Association Reviewer", UMMC Department of Physiology, Jackson, MS, April 2014
- 12) Panel Guest, Graduate School Informational on "Applying and Interviewing for Faculty Positions", UMMC School for Graduate Studies in the Health Sciences/Office for Postdoctoral Studies, Jackson, MS, April 2014
- 13) Mechanisms of hypertension: Role of the immune system. Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, MS, September 2013
- 14) Neuro-immune interactions in the development of hypertension and renal injury. Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS, November 2013
- 15) Mechanisms of hypertension in a mouse model of systemic lupus erythematosus. Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS, December 2012.
- 16) Is there a role for renal sympathetic nerves in hypertension and renal injury during chronic inflammatory disease? Department of Physiology and Biophysics, University of Mississippi Medical Center, Jackson, MS, February 2011.
- 17) Panel Guest, American Physiological Society Experimental Biology High School Teacher/Student Workshop, New Orleans, LA, April 2009.
- 18) Central targets for improved counter-regulation to hemorrhage during acute alcohol intoxication. Final Dissertation Exam, Department of Physiology, LSUHSC, New Orleans, LA, April 2009.
- 19) Physiologist-in-Residence, American Physiological Society Science Teacher Forum, Warrenton, VA, July 2008.
- 20) Determining mechanisms involved in impaired counter-regulatory responses to hemorrhagic shock during alcoholintoxication. Oral Preliminary Exam, Department of Physiology, LSUHSC, New Orleans, LA, June 2008.
- 21) Panel Guest, LSUHSC Information & Recruitment Session, Southern University Baton Rouge, March 2008.
- 22) The physiology of obstructive sleep apnea. Oral Qualifying Exam, Department of Physiology, LSUHSC, New Orleans, LA, October 2006.
- 23) Panel Guest, Graduate School Informational, Black Graduate and Professional Student Association, LSU, Baton Rouge, LA, November 2005.
- 24) Impact of alcohol on the response to hemorrhagic shock: Differential effects of dose and duration of intoxication. Thesis Defense, Alcohol Research Center, LSUHSC, New Orleans, LA, May 2005.
- 25) Alcohol and trauma. Department of Physiology, LSUHSC, New Orleans, LA, November 2004.

### **COMMUNITY SPEAKING ENGAGEMENTS**

- 1) Career Day, June W. Davis Elementary School, May 2022
- 2) Career Day, Texas Elementary School of Arts, Edgecliff, TX, April 2019
- 3) Career Day, OD Wyatt High School, Fort Worth, TX, March 2019
- 4) Career Day, Dallas Park Elementary School, Fort Worth, TX, March 2019
- 5) Career Day, Dallas Park Elementary School, Fort Worth, TX, February 2018

### MENTORING EXPERIENCE

### MATHIS LABORATORY TRAINEES

Trainee/Degrees (at matriculation)	Type	Years	Awards/Honors (while matriculating)
Caroline Shimouda Gusson Lima, PhD	Postdoc	2019-Present	Review Editor, Frontiers Auton Neuro (2020) Moderated Poster Council on Htn (2021)
Sarika Chaudhari, MD/PhD *Presently Mathis Lab Manager*	Postdoc	2017	Invited Speaker EB Featured Topic (2022)
Grace Pham, MS *Presently Psychiatry Fellow at Baylor*	DO/PhD Student	2015-2020	Dissertation with Distinction (2020) EB Featured Topic Co-Chair (2019) RAD Phys Poster 3rd place (2018) RAD TCOM SGA Best in 2nd year (2017) RAD TCOM Research 2nd place (2017) RAD ICMD Oral 3rd place (2017) APS Graduate Student Ambassador (2017) APS Caroline tum Suden (2016) AHA Predoc Fellowship (2016)

Trainee/Degree	s (at matriculation)	Type	Years	Awards/Honors (while matriculating)	
Viet Dinh		PhD Student	2020-Present	MS (2022)	
				RAD SBS Oral 1 <sup>st</sup> place (2022)	
				Yurio Scholarship (2022)	
				3 <sup>rd</sup> place Trainee 3MT Competition (2021)	
				Council on Hypertension Travel Award (2022)	
				Student Association of Biomedical Sciences Travel	
				Award (2022)	
Rusty Hartman	(Class of 2021)	MS Student	2019-2021	Thesis (2021)	
Rubty Hurtinuit	(Clubb 01 2021)	Nio Student	2017 2021		
Dennis Kulp, M	S (Class of 2022)	DO Student	2017-2021	RAD TCOM Best in First-Year Class (2017)	
	(61 (2020)		2015	RAD TCOM Best in Fourth Year (2021)	
	m (Class of 2020)	DO Student	2017	TCOM Research Practicum Honors (2017)	
Maitryben Patel		DO Student	2015		
Charles Malloy	(Class of 2018)	DO Student	2015-2018	TCOM Research Practicum Honors (2015) 4 <sup>th</sup> Year Research Rotation (2018)	
Bradley D'Souza	à	Med Science MS	2019-2020	Practicum with Distinction (2020)	
Luke D'Cunha		Med Science MS		SAME Scholarship (2017)	
Orlexia Thomas		Volunteer	2017		
	akre, MD (pre-residency)	Volunteer	2017		
Tanya Michaels,	MS (pre-med)	Volunteer	2016		
Karlie Johnson (	Alcorn)	DURA	2022		
Brandon Lovela		SMART	2022		
Karlie Johnson (		SMART	2021		
Naima Batson (I		SMART	2019	Outstanding Poster Presentation (2019)	
Jeremy Williams		SMART	2018		
Billy Osazuwa (		SMART	2017		
	Jof Southern Miss)	SMART	2016		
Eduvie Ojegba (	Tuskegee)	SMART	2015		
Cassandra Your	og Stubbs	Lab Technician	2018-Present		
Jessica Morales,		Lab Technician	2018-2020		
Daniel Fancher		Lab Technician	2016-2017		
Amber Fairley		Lab Technician	2015-2016		
Calvin Brooks		PhD Rotation	2020-2022	Qualifying Exam w/Distinction (2021)	
William Maxhor	m	PhD Potation	2019	NIH T32 Fellow (2021)	
William Mayher Yu Tao	n	PhD Rotation PhD Rotation	2019 2019		
Emily Williams,	MS	PhD Rotation	2019 2019 2018-2019		
Suhhyun "Sarah		DO/PhD Rotation			
Bronte Gonzales		MS Rotation	2015		
<b>OTHERS</b>					
2020	Junior Faculty Mentor	0			
	UNT Health Science Cer	ıter, Fort Worth			
	Mentees: Mark Cunnir	ngham, PhD			
2016	National Research Me	entoring Network	(NRMN):		
	UNT Health Science Cer		( )		
	Mentees: Fanni Manny				
	<u></u>				
2014-Present	Dissertation/Thesis C	ommittee:			
	UNT Health Science Cer	iter, Fort Worth, T	X		
	MS Students:				
	Oluwaseun Omoba (Medical Science Research Track (MSRT); Class of 2022)				
	Christopher Pagano (N				
	Frances Proctor (Unive		/		

PhD Students: Yu Tao (Committee Member; TBD) Elliott Allums (University Member; withdrew) ' Renuka Chaphalker (University Member; Class of 2021) Steve Mabry (University Member; TBD) <u>Clinical Research Management Students:</u> Chad Elliot (Major Professor; withdrew) Austin Wong (Major Professor; withdrew) Eva Patel (Committee Member; Class of 2020)

### 2013-Present **Experimental Biology Conference Mentor:** *American Physiological Society* <u>Minority Travel Fellows:</u> Cindy Franklin (Incarnate Word), Gilbert Morales (UNTHSC) <u>WEH Mentoring-on-the Go</u>: Jenna Peterson (U of Minnesota-Duluth), Jess Ivy (U of Edinburgh, UK), Carmen de Miguel (U of Alabama-Birmingham) APS Inflammation Conference: Ijeoma Obi (U of Alabama-Birmingham)

#### 2009-2014 **Co-Mentoring-Ryan Laboratory:** University of Mississippi Medical Center, Jackson, MS <u>Undergraduate Students:</u> Khushkanwardeep Aujla, Nicholas Stewart, Taylor Coleman, Warren Masterson, Katie Wasson

Graduate Student: Emily Gilbert

# 2006-2009 **Co-Mentoring-Molina Laboratory:** LSU Health Sciences Center, New Orleans, LA <u>Medical Students:</u> Jeremy Daigle, O'Keith Dellafosse <u>Undergraduate Students:</u> Ciera Singleton, Rachael Rider, Tiffany Best, Ze Zhang

### **TEACHING EXPERIENCE**

### **UNTHSC**

#### \*Bold italics denotes course leadership in teaching (course director or co-director)

Course ID	Course	Section	Hours	Semester/Year
JAMP	Physiology and Anatomy Course	Endocrine Phys	14	Summer 2023
BMSC 6998	Individual Research	N/A		Summer 2023
BMSC 5109	DEI Course	DEI	10	Spring 2023
BMSC 5304	Medical Science	Gastrointestinal/Endocrine Phys	20	Spring 2023
PHAN 6400	Physiology in Health and Disease	Endocrine Phys	10	Spring 2023
PHAN 5302	Renal-Respiratory Advanced Phys	Renal Inflammation and Htn	3	Spring 2023
BMSC 6998	Individual Research	N/A		Spring 2023
			C.	<b>T</b> 110000
MPAS 5512	Human Physiology for PAs	Gastrointestinal Phys	6	Fall 2022
PHAN 6385	Student Works in Progress	N/A	5-10	Fall 2022
BMSC 6998	Individual Research	N/A		Fall 2022
BMSC 5150	Laboratory Rotations	N/A		Fall 2022
JAMP	Physiology and Anatomy Course	Endocrine Phys	14	Summer 2022
BMSC 6998	Individual Research	N/A		Summer 2022
BMSC 5109	DEI Course	DEI	10	S
				Spring 2022
BMSC 5304	Medical Science	Gastrointestinal/Endocrine Phys	20	Spring 2022
PHAN 6400	Physiology in Health and Disease	Endocrine Phys	10	Spring 2022
PHAN 5302	Renal-Respiratory Advanced Phys	Renal Inflammation and Htn	3	Spring 2022
BMSC 6998	Individual Research	N/A		Spring 2022
MPAS 5512	Human Physiology for PAs	Gastrointestinal Phys	6	Fall 2021
PHAN 6385	Student Works in Progress	N/A	5-10	Fall 2021
BMSC 6998	Individual Research	N/A		Fall 2021

BMSC 5150	Laboratory Rotations	N/A		Fall 2021
<i>JAMP</i>	<i>Physiology and Anatomy Course</i>	<i>Cardiovascular Phys</i>	30	<i>Summer</i> 2021
BMSC 6998	Individual Research	N/A		Summer 2021
BMSC 5304	Medical Science	Gastrointestinal/Endocrine Phys	18	Spring 2021
PHAN 6400	Physiology in Health and Disease	Endocrine Phys	5	Spring 2021
PHAN 6385	Student Works in Progress	N/A	5-10	Spring 2021
PHAN 5302	Renal-Respiratory Advanced Phys	Renal Inflammation and Htn	3	Spring 2021
BMSC 6998	Individual Research	N/A		Spring 2021
MPAS 5512 PHAN 6385 BMSC 6998 BMSC 5150	<i>Human Physiology for PAs</i> Student Works in Progress Individual Research Laboratory Rotations	<i>Gastrointinal Phys</i> N/A N/A N/A	<b>6</b> 5-10 	Fall 2020 Fall 2020 Fall 2020 Fall 2020
JAMP	<i>Physiology and Anatomy Course</i>	Cardiovascular Phys	30	<i>Summer</i> 2020
BMSC 6998	Individual Research	N/A		Summer 2020
PHAN 6400	Physiology in Health and Disease	Endocirne/Reproductive Phys	8	Spring 2020
PHAN 6385	Student Works in Progress	N/A	5-10	Spring 2020
BMSC 6998	Individual Research	N/A		Spring 2020
MPAS 5612 PHAN 6385 BMSC 5150 BMSC 6998	Human Physiology for PAs Student Works in Progress Laboratory Rotations Individual Research	Signal Transduction/Endo/Repro N/A N/A N/A	12 5-10 	Fall 2019 Fall 2019 Fall 2019 Fall 2019
BMSC 6998	Individual Research	N/A	2	Summer 2019
BMSC 5150	Topics in Biomedical Sciences	N/A		Summer 2019
BMSC 6391	Physiology in Health and Disease	Endo/Repro	6	Spring 2019
PHAN 6385	Student Works in Progress	N/A	5-10	Spring 2019
BMSC 6998	Individual Research	N/A		Spring 2019
MPAS 5612	Human Physiology for PAs	Sig Trans/Endo/Repro	12	Fall 2018
PHAN 6385	Student Works in Progress	N/A	5-10	Fall 2018
BMSC 6998	Individual Research	N/A		Fall 2018
BMSC 6998	Individual Research	N/A	2	Summer 2018
BMSC 5150	Topics in Biomedical Sciences	N/A		Summer 2018
PHAN 6385	Student Works in Progress	N/A	5-10	Spring 2018
BMSC 6998	Individual Research	N/A		Spring 2018
MPAS 5612 PHAN 6385 BMSC 6998 BMSC 5150	Human Physiology for PAs Student Works in Progress Individual Research Laboratory Rotations	Sig Trans/Endo/Repro N/A N/A N/A	12 5-10 	Fall 2017 Fall 2017 Fall 2017 Fall 2017
BMSC 5150	Topics in Biomedical Sciences	N/A	2	Summer 2017
BMSC 6998	Individual Research	N/A		Summer 2017
BMSC 6998	Individual Research	N/A		Spring 2017
MPAS 5612	Human Physiology for PAs	Sig Trans/Endo/Repro	12	Fall 2016
BMSC 6998	Individual Research	N/A		Fall 2016
BMSC 6998	Individual Research	N/A	2	Summer 2016
BMSC 5150	Topics in Biomedical Sciences	N/A		Summer 2016
BMSC 6998	Individual Research	N/A		Spring 2016

Course ID	Course	Section	Hours	Semester/Year
MPAS 5612	Human Physiology for PAs	Sig Trans/Endo/Repro	12	Fall 2015
BMSC 6998	Individual Research	N/A		Fall 2015
PHAN 5140	Seminar in Current Topics in Phys	N/A	5-10	Fall 2015
BMSC 5150	Topics in Biomedical Sciences	N/A	2	Summer 2015
BMSC 5150	Laboratory Rotations	N/A		Spring 2015
PHAN 5140	Seminar in Current Topics in Phys	N/A	5-10	Spring 2015
PHAN 5140 BMSC 5135	Seminar in Current Topics in Phys Intro to Faculty Res Programs	N/A N/A	5-10 1	Fall 2014 Fall 2014

### **OTHER TEACHING EXPERIENCE**

Course	Location	Section	Hours	Semester/Year
Nursing Pathophysiology	LSU Health Sciences Center	Endocrine	3	Spring 2008
Dental Hygiene Physiology	LSU Health Sciences Center	Respiratory	2	Spring 2009 Spring 2008 Spring 2007
Medical Physiology Tutor *After hours tutoring in both formal/s	LSU Health Sciences Center structured ( $\leq 10$ students) and relaxed (	General Phys		Spring 2007- Fall 2008
Nursing Physiology Teaching Assistant and Tutor	LSU Health Sciences Center	General Phys		Fall 2004-Spring 2009

\*After hours large formal teaching sessions ( $\leq$  60 students) where we reviewed material discussed in class in a lecture-style format. In addition, conducted/lead weekly laboratory experiments

General Physics Laboratory I & IIPurdue UniversityGeneral Physics--Fall 2001-Fall 2003\*Conducted lab for 2 hours, twice a week for 2 consecutive years (4 semesters).This teaching experience required careful introduction and<br/>explanation of the material and lab experiment, monitoring of students during experiments, maintenance of office hours, and lab report grading

General Physics RecitationPurdue UniversityGeneral Physics--Fall 2001-Fall 2003\*Conducted recitation once a week for 1 hour for 2 consecutive years (4 semesters). Recitation required reviewing homework assignments, exam<br/>proctoring, and some tutoring during office hours.--Fall 2001-Fall 2003

### PEER REVIEW

### **JOURNAL LEADERSHIP**

2022-2024	Editorial Board, Hypertension
2022-2025	Review Editor, Journal of Physiology (07/01/22-06/30/25)
2021-	Consulting Editor, AJP-Heart and Circulatory Physiology
2020-	Associate Editor, American Journal of Physiology (AJP)-Regulatory, Integrative and Comparative
	Physiology
2020-	Review Editor, Frontiers in Autonomic Neuroscience
2019-	Guest Editor, Frontiers in Medicine – Nephrology

### MANUSCRIPT AD-HOC REVIEWER

2022-	BMJ Open
2022-	GeroSciences
2021-	Frontiers in Physiology
2020-	Frontiers in Pharmacology
2020-	Frontiers in Immunology
2020-	AJP-Renal
2019-	AJP: Heart
2019-	Pharmacological Research
2019-	Ethnicity and Disease
2018-	Scientific Reports
2017-	AJP-Regulatory
2017-	Molecular Medicine Reports

- 2017- Oxidative Medicine and Cellular Longevity
- 2017- Journal of Dermatology and Clinical Research
- 2016- BMC Nephrology
- 2016- Journal of Immunology and Infectious Diseases
- 2016- Circulation Research
- 2016- Clinical Science
- 2014- Microcirculation
- 2014- Hypertension
- 2013- APS Education Advances in Review
- 2013- Antioxidants
- 2010- Journal of Hypertension

### STUDY SECTION-GRANT REVIEW

- 2022-2028 Standing Member, Pathobiology of Kidney Disease (PBKD) Study Section, Center for Scientific Review, National Institutes of Health (NIH)
- 2022 Lupus Research Alliance-Lupus Mechanisms and Targets Award and Lupus Innovation Award (Letters of Intent Only)
- 2022 Lupus Research Alliance Career Development Award (February)
- 2021 AHA Cardiac Biology Sciences Fellowship Study Section (November)
- 2021 NIH-Center for Scientific Review Pathobiology of Kidney Disease Study Section (October)
- 2021 Lupus Research Alliance-Lupus Innovation Award (Letters of Intent Only)
- 2021 NIH-Center for Scientific Review Pathobiology of Kidney Disease Study Section (June)
- 2020 NIH-Center for Scientific Review Pathobiology of Kidney Disease Study Section (October)
- 2020 American Heart Association- TPA Basic Cardiac Sciences 1
- 2019 American Heart Association-Cardiac Biology/Regulation Career/Fellowships
- 2018 UNTHSC Institutional Seed Grants
- 2018 American Heart Association- Career Development Award Basic Cardiac Sciences 1
- 2017-2018 UNTHSC Texas Center for Health Disparities Steps Toward Academic Research (STAR) Fellowship
- 2016-2017 American Heart Association-Cardiac Biology/Regulation BSc5
- 2015 American Heart Association-Vascular Sciences BSc3
- 2014 American Heart Association-Cardiac Biology/Regulation BSc7

### ABSTRACT AND AWARD REVIEW COMMITTEES

2022	Basic Research Forum for Emerging Kidney Scientists
2021	APS NCAR Section Awards
2016-2018	APS Dean Franklin Award
2016-2018	APS Shih Chun Award
2015	APS Undergraduate Research Excellence Fellowship (UGREF)
2015	APS Undergraduate Summer Research Fellowship (UGSRF)
2014	APS Minority Travel Fellowship
2014	APS Integrative Organismal Systems Physiology (IOSP) Undergraduate Research Fellowship Program
2014	APS Short-Term Research Education Program to Increase Diversity in Health-Related Research (STRIDE)
	Undergraduate Research Fellowship Program
2013-2018	APS Minority K-12 Outreach Fellow
2012-2014	APS Porter Physiology Fellowship

# SERVICE AND EXTRACURRICULAR ACTIVITIES

# **LEADERSHIP**

2021	Executive Director, Black in Physiology, Inc (national)
2020	Chair, GSBS DEI Working Group Seminar Series, UNTHSC (local)
08/2020	Co-Founder of Black in Physiology (national)
07/20-06/22	Chair, Membership and Communications Committee, AHA Council on Hypertension (national)
2020	Alternate Council, Joint Admissions Medical Program (JAMP)

### **UNTHSC COMMITTEES**

2022	Member, Physiology and Anatomy Faculty Search Committee
2020-2021	Member, Pharmacology and Neuroscience Small Animal Imaging Search Committee
2020	Member, GSBS Admissions Committee
2020-	Member, GSBS Diversity, Equity and Inclusion (DEI) Working Group
2020	Member, Physiology and Anatomy Faculty Search Committee
2020-	Alternate Council, JAMP
2018-2022	IACUC Committee Alternate Member
2018-	Advisory Member, Initiative for Maximizing Student Development (IMSD) Internal Advisory
	Committee, Texas Center for Health Disparities
2017-2018	Member, GSBS Executive Committee (w/Interim Dean, Dr. He)
2016	Member, Health Institutes Faculty Mentor Working Group (w/Dr. Dillon)
2016-	Co-Chair, Department Communications Committee, Department of Physiology and Anatomy

### APS COMMITTEES

2022-	APS WEH Secretary/Treasurer Elect, APS (national)
2021	The APS New Product Development (NPD) Insights Panel, APS
07/21-06/24	Member, Diversity, Equity and Inclusion Committee, APS
06/19-	Communications and Newsletter Chair, Sex and Gender Research Interest Group (SGRIG) Steering
	Committee, APS
2017	Honorary 50 <sup>th</sup> Anniversary of the Porter Physiology Committee, APS
2016-2018	Awards Committee Member, APS
2016-2018	Steering Committee, Science Policy and Communication Liaison, NCAR Section of the APS
2012-2014	Porter Physiology Development Committee, APS

### AHA COMMITTEES

07/22-06/23	Immediate Past Chair, Membership Committee, AHA Council on Hypertension
06/21-06/22	Nominating Committee, Council on the Kidney in Cardiovascular Disease (KCVD) Leadership
	Committee, AHA KCVD
07/19-06/22	Member, Research Peer Review Subcommittee, AHA National
03/19-02/21	Member, Research Committee Task Force on Enhancing Research Communications, AHA National
07/18-06/22	Member, National Research Committee, AHA National
07/18-06/22	Diversity Champion, KCVD Leadership Committee, AHA KCVD
07/18-06/20	Vice Chair, Membership and Communications Committee, AHA Council on Hypertension
12/17-06/22	Member, Hypertension Leadership Committee, AHA Council on Hypertension
2014-2018	Early Career Committee Commission, AHA KCVD

### **OTHER NATIONAL COMMITTEES**

07/22-06/23	Advanced Placement Anatomy	and Physiology	Advisory Board,	College Board
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- 4/2021 Co-Chair, Programming Committee, Conference for Black Physiologists, Black in Physiology
- 07/19-05/21 Member, Advisory Committee to the Director (ACD) Working Group on Enhancing Reproducibility and Rigor in Animal Research, *NIH*

### **INTERNATIONAL COMMITTEES**

2017 Planning Committee, International Early Career Symposium, Brazil International Union of the Physiological Sciences (IUPS)

### CONFERENCES/SESSIONS ORGANIZED

- 2021-2022 Conference for Black Physiologists (C4BP), Black in Physiology
   2022 Proposal Writer and Co-Chair, EB Featured Topic (WEH): Diseases that Impact the Black Community: This is Our Why
   2019 Proposal Writer and Chair, EB Featured Topic (NCAR): Autonomic Anti-inflammatory Mechanisms: Which Branch Trumps?
- 2018 Co-Chair, Experimental Biology Featured Topic: NCAR Hot Topics

# **OUTREACH**

2022 PhUn15 – Physiology Understanding in 15 minutes or less! K-12 Outreach Video, *The Mathis Laboratory* (<u>https://www.youtube.com/watch?v=bHy6uMX1xak</u>)

2019-Present	Physiology Understanding (PhUn) Tours, Texas Center for Arts + Academics Schools: Texas Elementary School
	of Arts, Fort Worth Academy of Fine Arts; Fort Worth ISD Schools: William James Middle School, OD Wyatt High
	School; Crowley ISD Schools: Dallas Park Elementary, June W. Davis; Irving ISD
2017-2018	Insider Experience Tours, UNTHSC
2015-Present	UNTHSC Lab Tours, Students from Dublin HS (2015), Arlington ISD (2015, 2019); Garland HS (2017-2018);
	Mentors for Life (2015-2017)
2015	Vestido Rojo Exhibit, Fort Worth American Heart Association
2008-2018	PhUn Week, American Physiological Society
2003-2008	Volunteer, LSU Health Sciences Center/New Orleans Public School Science Partnership

### **OTHER PROFESSIONAL SERVICE ACTIVITIES**

2021	Judge, Women's Brain and Cardiovascular Health Conference
2019	Moderator, Regulation of Blood Pressure by the Central Nervous System, Council on Hypertension
2017	Moderator, Inflammation, Immunity and Cytokines, Council on Hypertension
2016	Moderator, Immune Mechanisms of Hypertension, Council on Hypertension
2016-Present	Interviewer, Medical Science Masters Students (mock interviews for medical school), UNTHSC
2015	Moderator, Experimental Biology Featured Topic: CNS Mechanisms of Blood Pressure Regulation, American
	Physiological Society
2014-2016	Interviewer, Texas College of Osteopathic Medicine (entering students), UNT Health Science Center
2012	Moderator, Experimental Biology Featured Topic: Immune Cells, American Physiological Society
2011	Moderator, Gulf Coast Physiology Annual Meeting Oral Session, Jackson, MS
2011	Postdoctoral Journal Club Co-Chair, University of Mississippi Medical Center, Jackson, MS
2009-2015	David Bruce Award Judge, American Physiological Society (2009, 2011, and 2013; 2015 group leader)

### **COMMUNITY SERVICE**

2015-2016	Southern University Alumni Federation-Dallas-Fort Worth, Scholarship Committee
2012	Science Fair Judge, Northwest Rankin Elementary School, Flowood, MS
2011	Science Fair Judge, Timberlawn Elementary, Jackson, MS
2003-2007	Yearbook Staff, LSU Health Sciences Center
2006-2007	Scholarship Committee, Alpha Kappa Alpha Sorority, Incorporated, Tau Kappa Omega Chapter
2001-2003	Historian, Black Graduate Association, Purdue University
2000-Present	Member, Alpha Kappa Alpha Sorority, Incorporated Society

# PROFESSIONAL DEVELOPMENT

### COURSES AND WORKSHOPS

2021	National Coalition Building Institute Diversity and Inclusion Leadership Training
2020	Steps Toward Academic Research (STAR) Leadership Program Fellow, Texas Center for Health Disparities (TCHD), UNTHSC
2020	Fite Physiology and Anatomy Leadership Workshop
2019	Peg Atkinsson Grant Writing Workshop
2019	NIH Grant Writing Study, National Institute on Minority Health and Health Disparities (NIMHD)
2019-2020	Teaching Excellence Faculty Seminar Series, Center for Innovative Learning, UNTHSC
2016-2017	Teaching Excellence Faculty Seminar Series, Center for Innovative Learning, UNTHSC
2016	Research Leaders Academy Scholar, American Heart Association

# **CONFERENCES ATTENDED**

2022	American Physiological Summit
2021	LUPUS and CORA
2021	NIH NHLBI K to R01 Conference (virtual)
2020	FASEB Translational Neuroimmunology Conference: From Mechanisms to Therapeutics (virtual)
2020-	UNTHSC TCHD Health Disparities Conference (2020-2021 virtual)
2019-2021	Lupus Research Alliance Discovery Annual Conference (2020-2021 virtual)
2019-Present	UNTHSC Department of Physiology Women's Brain and Cardiovascular Health Conference
2018	AHA Diversity Summit
2016	UNTHSC Institute for Cardiovascular and Metabolic Disease Conference

2016	FASEB Neural Mechanisms in Cardiovascular Regulation	
2016	AHA Research Leaders Academy	
2016	APS Inflammation Conference	
2015	Physiological Society	
2014	Annual Biomedical Research Conference for Minorities (ABRCMS)	
2012	American Society of Nephrology	
2011	APS Gender Conference	
2009-	Council on Hypertension (2009-2014, 2016-2017, 2019, 2020-2021 (virtual)), 2022	
2006-2009	Research Society on Alcoholism	
2006-2009	Shock	
2005-2022	Experimental Biology (2005-2009, 2011-2019, 2021-2022)	
2004-2011	Gulf Coast Physiological Society (2004, 2009, 2011)	

#### PROFESSIONAL SOCIETY MEMBERSHIPS

2022- Th	e Physiological Society
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- 2020- Black in Physiology
- 2009- American Heart Association
- 2004- American Physiological Society
- 2007-2009 Research Society on Alcoholism
- 2007-2009 Shock Society
- 2007-2009 Louisiana Academy of Sciences
- 2004-2005 Society for Leukocyte Biology
- 1997-2001 American Physical Society Society of Physics Students