

## Summary CV Busayo Oladun

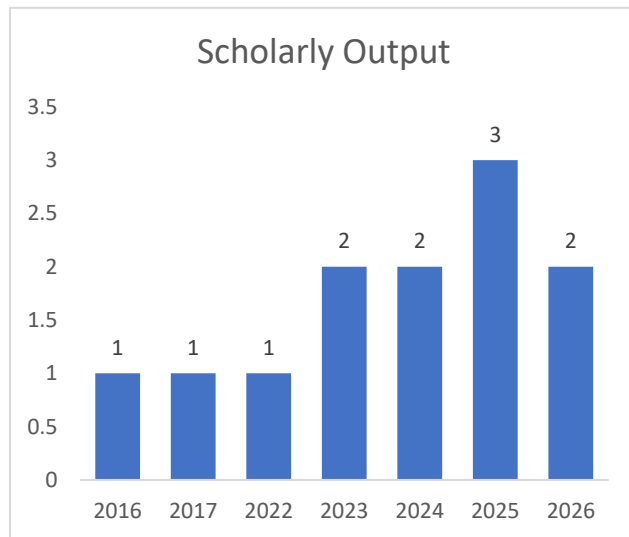
### Academic, Research and Service Summary

**Research:** My research aims to unravel the epigenetic mechanisms in the hypothalamus behind the development and progression of metabolic diseases, particularly obesity. My interest is in examining how adverse environmental conditions affect the expression of leptin and GLP-1 receptors. Additionally, I am examining the cross-link between epigenetic modifications of these metabolic hormone receptors and neurodegenerative diseases. To address these questions, I employ a range of evidence-based experimental approaches, including stereotaxic surgery, flow cytometry, immunofluorescence, ChIP-qPCR, and single-cell sequencing.

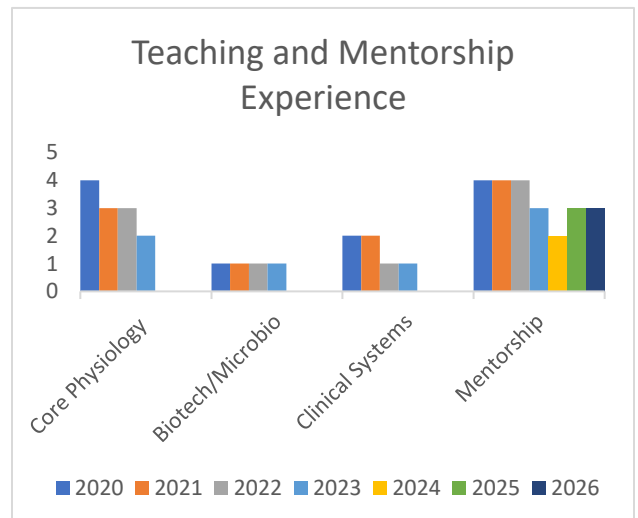
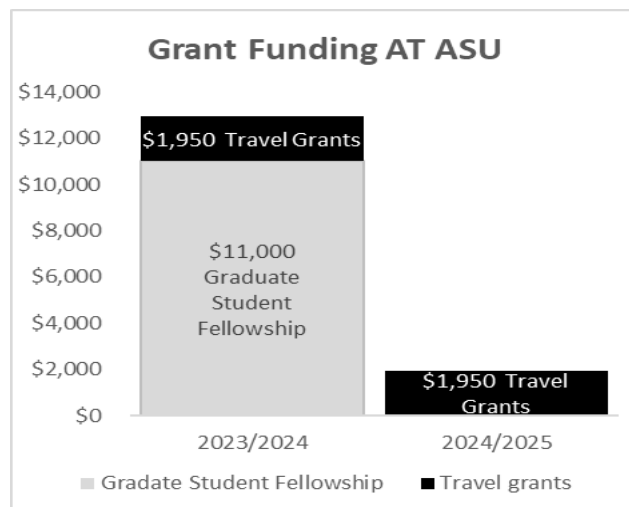
**Teaching and mentoring:** I have taught undergraduate students in physiology and biomedical sciences, including Endocrinology, Neurophysiology, Biotechnology, Microbiology, Gastrointestinal Physiology, Nerve and Muscle Physiology, Motor and Special Senses, and Blood and Immune Physiology. Beyond classroom teaching, I have supervised 15 undergraduate students and mentored 3 graduate students, supporting their academic development, research skills, and growth.

**Service:** I am currently serving as the Graduate Student Government (GSG) Director of Awards. I am also the vice president of the ENS/POP Health Grad Club and serve as the Student Representative on the College of Health Solutions Laboratory and Safety Committee. Previously, I served as a GSG assembly member and as a research grant reviewer for two consecutive academic years.

### CV Section Summaries



| SERVICES AND VOLUNTEERING (# of activities)   |      |      |      |      |      |      |      |
|---|------|------|------|------|------|------|------|
| Types of services   | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
| Exercise and Nutritional Sciences & Population Health Graduate Club                       |      |      |      |      |      | X    | X    |
| Graduate Student Government (Reviewer, Assembly member and Director of Awards)            |      |      |      | X    | X    | X    | X    |
| College of Health Solutions Laboratory Committee  |      |      |      |      | X    | X    | X    |
| Scientific Journal Review   |      |      |      |      |      | X    | X    |
| Student Representative on the College of Health Solutions Laboratory and Safety Committee |      |      |      |      |      | X    | X    |



**Oladun Busayo Timothy**  
602-558-6428; [boladun@asu.edu](mailto:boladun@asu.edu) | [linkedin.com/in/busayo-oladun](https://www.linkedin.com/in/busayo-oladun)  
Updated on 04/21/2026

## **EDUCATION**

### **Ph.D. in Exercise and Nutritional Sciences**

Arizona State University, Phoenix, Arizona

*Dissertation: The Role of Hypothalamic JMJD3 in Regulating Energy Balance*

*Advisor: Min-Hyun Kim, PhD.*

**Expected May 2027**

GPA 4.0/4.0

### **Master of Science in Physiology**

University of Ibadan, Ibadan, Oyo State, Nigeria

*Master's thesis: Effect of adrenergic receptor blockers on cortisol-induced hyperglycemia and blood lactate in the common African toad*

*Advisor: Grace Isehunwa, PhD.*

**October 2015**

GPA 3.73/4.00

### **Bachelor of Science in Physiology**

Olabisi Onabanjo University, Nigeria

*Graduation thesis: Effect of Cotrimoxazole on blood glucose in male Wistar rats*

*Advisor: Taiwo E., PhD.*

**August 2010**

GPA 3.28/4.00

## **RESEARCH INTEREST**

Nutrigenomics

Obesity

Neuroscience

## **RESEARCH EXPERIENCE**

### **Graduate Research Associate, Nutrigenomics Lab,**

College of Health Solutions, Arizona State University, Phoenix, USA

Research advisor: Min-Hyun Kim, PhD

Perform DNA and RNA extractions from mouse tissues

- Optimize qPCR and quantification/ analysis for metabolic gene receptors
- Conduct protein extraction
- Conduct western blotting for protein detection
- Perform stereotaxic surgery in rodents
- Embed tissues in OCT and use a cryostat for brain sectioning
- Maintain mammalian cell cultures
- Liquid chromatography and mass spectrometry (LC-MS)
- Molecular cloning
- Genotyping
- Transgenic Mice
- Immunohistochemistry
- Performed robust data analysis

**2023 to date**

**Lead Researcher,** Department of Physiology,  
Lead City University, Ibadan, Oyo State, Nigeria

OLADUN C.V (Exercise and Nutritional Sciences, College of Health Solutions, Arizona State University)

**2020 -2023**

- Performed animal breeding
- Designed and carried out experiments
- Performed transcatheter perfusion
- Optimized brain microdissection
- Conducted protein extraction
- Developed behavioral assay in laboratory rodents
- Performed data analysis

**Research Assistant**, Department of Physiology,  
University of Ibadan, Ibadan, Oyo State, Nigeria

**2014-2023**

Research advisor: Grace Isehunwa, PhD, and Samuel Onasanwo, PhD

- Performed animal breeding
- Performed transcatheter perfusion
- Performed metabolic analysis in Common African toads
- Performed pain and inflammatory assessment in laboratory rodents
- Performed multi-phase plant extraction and characterization of bioactive compounds
- Performed behavioral assay in laboratory rodents
- Performed data analysis

### **TEACHING EXPERIENCE**

**Instructor**, Department of Physiology,  
Lead City University, Ibadan, Oyo State, Nigeria

**2020-2023**

- I taught 2<sup>nd</sup> year, 3<sup>rd</sup> year and 4<sup>th</sup> year Physiology, Anatomy, Nursing, Radiography, Pharmacy, and Medical students numbering over 1000 in total
- I taught blood physiology, neurophysiology, and respiratory physiology, endocrinology, nerve and muscle physiology, gastrointestinal physiology, biotechnology and microbiology.
- I developed the course contents, and I used student engagement methods through discussions, problem solving, and in-class activities, which improve retention, critical thinking, and deeper conceptual understanding.

### **UNIVERSITY SERVICE**

**Director of Awards**, Graduate Student Government (GSG), Arizona State University

**2025-2026**

- I create the awards to recognize teaching excellence, outstanding research, outstanding mentorship, and advocacy. I ensure applications are adequately reviewed, send award letters to winners, and present the awards under the auspices of GSG.

**Vice President**, ENS/POP Health Graduate Club, Arizona State University

**2025-2026**

- I support student engagement and professional development, fostering unity among graduate students in the college and the University at large.

**Graduate Student Government Assembly Member**, Arizona State University

**2024-2025**

- I represent the interest and concerns of graduate student within college of health solutions and the university, serving as a liaison between them and the university administration where I advocate for policies that improve graduate student academic and professional life.

**Research Grant Reviewer**, Graduate Student Government, Arizona State University **2023-2025**

- I evaluate submitted grant applications and determine which application receives funding

**Student Representative**, College of Health Solutions Laboratory and Safety Committee, Arizona State University **2025-2026**

- I represent student interests and concerns in matters related to laboratory practices and safety policies within the College of Health Solutions and monitor and review the laboratory safety programs.

## **PUBLICATIONS**

- i. **Busayo Oladun**, Smita Mall, Baochan Fan, Jisu Lee, Jung-Heun Ha, Joseph Roberts, Min-Hyun Kim (2026). Alternate-Day Fasting Enhances Leptin Sensitivity via JMJD3-Dependent Epigenetic Regulation of the Leptin Receptor in the Hypothalamus-*In Press* in the Journal of Nutritional Biochemistry
- ii. Smita Mall, **Busayo Oladun**, Min-Hyun Kim (2026). Maternal Nutrition and Hypothalamic Programming of Offspring Metabolic Health, *The Journal of Nutrition*, 2026,101515, ISSN 0022-3166, <https://doi.org/10.1016/j.tjnut.2026.101515>.
- iii. **Oladun BT**, Mall S, and Kim M-H (2025). Epigenetic modification of hypothalamic neuropeptides and receptors: A key to understanding metabolic dysfunction. *Front. Endocrinol.* 16:1645474. [doi: 10.3389/fendo.2025.1645474](https://doi.org/10.3389/fendo.2025.1645474)
- iv. **Busayo Oladun** , Min-Hyun Kim (2025). Hypothalamic JMJD3-Mediated Epigenetic Regulation of Leptin Signaling Attenuates High-Fat Diet-Induced Obesity. *Current Developments in Nutrition*, Volume 9, Supplement 2, 2025, 107193, ISSN 2475-2991, <https://doi.org/10.1016/j.cdnut.2025.107193>.
- v. Smita Mall, **Busayo Oladun**, Baochan Fan, Min-Hyun Kim (2025). Intermittent Fasting Enhances Leptin Sensitivity via Epigenetic Modification of Hypothalamic Leptin Receptor in Mice. *Current Developments in Nutrition*, Volume 9, Supplement 2, 2025, 107307, ISSN 2475-2991, <https://doi.org/10.1016/j.cdnut.2025.107307>.
- vi. **Busayo Oladun** and Min-Hyun Kim (2024): Epigenetic Regulation of Leptin Signaling by Hypothalamic JMJD3 Mitigates High-Fat Diet-Induced Obesity in Mice. *Current Developments in Nutrition*, Volume 8, Supplement 2, 2024, 103638, ISSN 2475-2991, <https://doi.org/10.1016/j.cdnut.2024.103638>
- vii. Ajibare AJ, Akintoye OO, Folawiyo MA, Babalola KT, Omotuyi OI, **Oladun BT**, Aransi-ola KT, Odetayo AF, Olayaki LA.(2024) Therapeutic potential of virgin coconut oil in mitigating sodium benzoate- model of male infertility: Role of Nrf2/Hmox-1/NF-kB signaling pathway. *Iran J Basic Med Sci* 2024; 27:

- viii. Badmus H.A., Olawuni M., Oladun B.T. (2023). Knowledge, Attitudes, and Practices of Cereal Farmers about Rodent Damage and Management in Ife Central Local Government, Osun State, Nigeria. *Afr. J. Biomed. Res. Vol. 26 (December, 2023) Supplement 1; 15 - 21*
- ix. **Oladun, B.T.**, Oyerinde, A., Oyadeyi, A.S., Ayinde, B.H., and Onasanwo, A.S. (2023). Effect of *Cocos nucifera* L. water on scopolamine-induced memory impairment in the Wistar rat. *Nig. J. Neurosci. 14(1): 17-26. <http://doi.org/10.47081/njn2023.14.1/003>*
- x. Oyadeyi Ayodele, **Oladun Busayo**, Oyerinde Abiodun, Babalola Kabirat, Ajibare Ayodeji (2022). *Experimental Physiology manual and Workbook.- ISBN-978-978-59647-4-5*
- xi. Isehunwa, G.O.; Oladun, O.T.; Akpan, J.E., and Alada, A.R.A. (2017): Effect of cortisol on plasma lactate levels following cortisol-induced hyperglycemia in common African Toads (*Bufo regularis*)-*niger.j.physiol.sci.32 (June 2017) 21-25.*
- xii. **Oladun BT.** and Taiwo, E. O.(2016): Effect of Septrin (Co-Trimoxazole) on blood glucose in Wistar albino rats – *International Journal of Healthcare Sciences IJHS Vol 4, issue 1 pp.192-195*

### **CONFERENCE PRESENTATIONS**

- i. **Busayo Oladun** and Min-Hyun Kim (October 2025). Histone Demethylase JMJD3 Restores Hypothalamic Leptin Signaling and Prevents Obesity in High-Fat Diet-Fed Mice: Arizona Physiological Society Annual Meeting, University of Arizona, October 17-18, 2025, Phoenix, Arizona, USA.
- ii. **Busayo Oladun** and Min-Hyun Kim (June 2025). Hypothalamic JMJD3-Mediated Epigenetic Regulation of Leptin Signaling Attenuates High-Fat Diet-Induced Obesity: American Society for Nutrition Conference, May 31-June 2, 2025, Orlando, Florida, USA.
- iii. **Busayo Oladun** and Min-Hyun Kim (November 2024). Epigenetic effects of feeding behavior: Investigating tissue-specific changes and metabolic outcomes: Institute for Social Science Research Graduate Student Poster Competition (Arizona State University), Tempe, AZ
- iv. **Busayo Oladun** and Min-Hyun Kim (July 2024). Epigenetic Regulation of Leptin Signaling by Hypothalamic JMJD3 Mitigates High-Fat Diet-Induced Obesity in Mice: American Society for Nutrition Conference, June 29-July 2, 2024, Chicago, USA.
- v. Oluwatobi S. Opesade, **Busayo T. Oladun**, Ayodele S. Oyadeyi (September 2023). Antiamnesic properties of glibenclamide in lipopolysaccharide-induced memory impairment in male Wistar rats: 8<sup>th</sup> Unibadan Conference of Biomedical Research, September 13-15, 2023.
- vi. **Busayo T. Oladun**, Victoria O. Odum, Oluwatobi S. Opesade, Samuel A. Onasanwo (February 2023). Impacts of some selected herbal bitters on cerebellar and hepatic oxidative stress in male Wistar rats: Physiological Society of Nigeria Conference, Ibadan, February 7-11, 2023.
- vii. **Oladun Busayo Timothy**, Oyerinde Abiodun, Oyadeyi Ayodele Stephen, Badmus Hafiz Ayinde, Samuel Adetunji Onasanwo (August 2022). Effect of coconut (*Cocos nucifera*) water

*on scopolamine-induced memory impairment in laboratory rats: Neuroscience Society of Nigeria Conference, Ibadan, 2022, July 31- August 3, 2022.*

- viii. **Busayo T. Oladun**, Gbenga S. Olayinka, Oyetola T. Oyebanjo, Abayomi M. Ajayi, Samuel A. Onasanwo (September 2021). Analgesic and anti-inflammatory potentials of *Chrysophyllum albidum* stem bark in laboratory rodents: 7<sup>th</sup> Unibadan Conference of Biomedical Research, September 15-17, 2021.
- ix. **Oladun, B.T., Isehunwa, G.O., and Alada A.R.A. (September 2015): Effect of adrenergic receptor blockers (propranolol and prazosin) on cortisol-induced hyperglycemia and blood lactate in Common African toads (*Bufo regularis*):** Physiological Society of Nigeria Conference, September 16-19, 2015.

### **HONOURS AND AWARDS**

- i. **George Bray Outstanding Student Research Award in Obesity:** This award is given to only two students for outstanding research related to the causes, treatment, or prevention of Obesity.
- ii. **Emerging Leaders Poster Competition Winner:** This award is sponsored by Barilla America and given to young investigators with the best research presented at Nutrition 2025, Orlando, Florida.
- iii. **1.3 miles Sparky's Race Challenge, November 7, 2024:** I took first place in the age-grade race for the 1.3 miles at the ASU Sparky's Challenge, 2024.
- iv. **Graduate College Travel grants:** I was awarded a \$300 travel grant to support my conference attendance in 2024 and 2025, respectively.
- v. **College of Health Solutions Travel Grants:** I was awarded a \$700 travel grant to support my conference attendance in 2024 and 2025, respectively.
- vi. **Graduate Student Government Travel Grants:** I was awarded a \$950 travel grant to support my conference expenses in 2024 and 2025, respectively.

### **CHAIR, COMPLETED BACHELOR'S THESES (Student and thesis topic)**

- i. Oluwatobi Opesade (2023). Antiamnesic properties of Glibenclamide in LPS-induced neurotoxicity in Male Wistar rats. (Graduate Student, University of Rhode Island)
- ii. Oyindamola Akinfaderin (2023). Effects of Glibenclamide on LPS-induced neurotoxicity model of anxiety and depression in male Wistar rats. (Plymouth University, United Kingdom)
- iii. Akanmu Lydia Bukola (2022). Anti-inflammatory potentials of some selected herbal bitters in the cerebellum of male Wistar rats. ( Research assistant, Federal Medical Center, Abeokuta, Nigeria)
- iv. Victoria Odum (2022). Effects of herbal bitters on cerebellar and hepatic oxidative stress in male Wistar rats.

- v. Osasuwmen Asemota (2022). Effect of some selected herbal bitters on liver enzymes of male Wistar rats.
- vi. Cynthia Ajayi (2021). Effect of coconut water on plasma lipids of scopolamine-induced memory-impaired male Wistar rats.
- vii. Wendy Peter (2021). Effect of coconut water on oxidative stress markers of scopolamine-induced memory impairment in male Wistar rats.

### **PEER REVIEW**

- I serve as a peer reviewer for the Journal of Applied Microbiology
- I serve as a reviewer for the Journal of Medical Internet Research.
- I serve as a reviewer for the International Journal of Research and Scientific Innovation.
- I serve as a reviewer for Spectrum: Interdisciplinary Undergraduate Research, University of Alberta, Canada.
- I serve as a GSG research grant reviewer for the graduate students applying for funding for their research.

### **PROFESSIONAL ASSOCIATION**

- Arizona Physiological Society (AZPS)
- American Society for Nutrition (ASN)
- International Society for Neurochemistry (ISN)
- Neuroscience Society of Nigeria (NSN)
- Physiological Society of Nigeria (PSN)

### **SKILLS**

- Stereotactic Surgery in laboratory rodents
- Immunofluorescence
- Transgenic mouse line development
- Tissue processing
- Development of DNA plasmids
- Data analysis: GraphPad Prism, SPSS, SAS
- Productivity: Microsoft Office (Word, Excel, PowerPoint)
- Proficiency in English and Yoruba languages

### **REFEREES**

Dr. Min-Hyun Kim  
Assistant Professor, Exercise and Nutritional Sciences  
College of Health Solutions,  
ASU, USA  
[Min-hyun.kim@asu.edu](mailto:Min-hyun.kim@asu.edu)

Dr. Karen Sweazea  
Associate Professor, Exercise and Nutritional Sciences  
College of Health Solutions  
[Karen.sweazea@asu.edu](mailto:Karen.sweazea@asu.edu)

Dr. Shu Wang  
Professor, Exercise and Nutritional Sciences  
College of Health Solutions  
[Shu.wang.10@asu.edu](mailto:Shu.wang.10@asu.edu)