

Kerlin Balza

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EDUCATION

Bachelor of Science in Biomedical Engineering, University of Arkansas, Fayetteville, AR 08/2019 – 5/2023

High Distinction, University of Arkansas

GPA 3.858

Master of Science in Biomedical Engineering, University of Miami, Miami, FL

01/2026 – Present

Current GPA 4.000

WORK EXPERIENCE

Biomedical Technician, SUME, Santiago de Veraguas, Panama 2/2024 – 5/2024

- Worked in the biomedical department of SUME (Unique Prehospital Emergency Management System)
- Diagnosed the problems of different medical equipment found on ambulances and completed repairs
- Performed preventive and corrective maintenance for medical devices on ambulances
- Inspected, tested, and calibrated medical equipment such as monitors, defibrillators, transport ventilation systems, suction systems, oximetry, and sphygmomanometers, among others
- Documented information regarding installations, repairs, and inventory

Agriculture Lab Technician, University of Arkansas, Fayetteville, AR 6/2023 – 8/2023

- Worked in the Entomology and Plant Pathology Lab, planting and caring for plants in greenhouses, maintaining pure culture of plant-parasitic nematodes, and conducting infection assays
- Performed biomolecular experiments and collected/analyzed data
- Learned techniques such as DNA, RNA, and plasmid extraction, gene expression analysis, PCR, Western Blotting for protein detection, and protein-protein interaction techniques

Mentorship, University of Arkansas, Fayetteville, AR 8/2022 – 6/2023

- Worked for one year mentoring students as a part of the Panamanian program named “The Pre-Academic Program for SENACYT Scholars (PAPSS),” which is a collaboration between the University of Arkansas Graduate School and International Education and the Republic of Panama, National Secretariat of Science, Technology, and Innovation (SENACYT)
- Mentored new incoming students from Panama

Faulkner Performing Arts Center, University of Arkansas, Fayetteville, AR 8/2021 – 5/2023

- Worked 12hrs/week while completing 15 college credits per semester as a full-time student
- Hourly worker at the Faulkner Center at the University of Arkansas. Promoted to House Manager

Tutoring, Class+, University of Arkansas, Fayetteville, AR 1/2020 – 5/2020

- Worked 4hrs/week while completing 14 college credits per semester as a full-time student
- Tutored in Chemistry II

AWARDS AND HONORS

2025 **Senacyt Scholarship**, Republic of Panama. Selected to receive a scholarship to complete a master's program in Biomedical Engineering at the University of Miami in Miami, Florida, United States.

2023 **White Stole**, University of Arkansas for High Distinction. Earned a cumulative grade point average that placed me in the top group of students for the Spring 2023 Graduation

2023 **Latin Red Stole**, University of Arkansas. Awarded for academic merit and extracurricular activities as a Latina student

2023 **Speaker in the PAPSS Graduation Reception**, University of Arkansas. Selected to be the speaker in The Pre-Academic Program for SENACYT Scholars (PAPSS) reception, representing the 2023 graduating Panamanian students at the University of Arkansas

2022 **Booklet of Longstanding Partnership of the UofA with the country of Panama**. Featured from the Director of Communication and Marketing at the Graduate School and International Education at the UofA to highlight personal testimonials, experience, and future and positive impacts on Panama after graduation

2022 **George & Boyce Billingsley Endowment Scholarship at the University of Arkansas**. Awarded the George & Boyce Billingsley Endowment for the 2022-2023 academic year

- 2021 **College of Engineering Scholarship at the University of Arkansas.** Selected to receive the Northwest Chapter of the Arkansas Society of Professional Engineers Endowed Scholarship for the 2021-2022 academic year
- 2019 **Speaker at the SILC's Graduation Ceremony.** Selected as a speaker in the Spring International Language Center's ceremony representing the Panamanian group
- 2019 **Michigan Test.** Completed the English Michigan test with a high score obtaining a certificate in the Spring International Language Center's graduation ceremony
- 2018 **Senacyt Scholarship,** Republic of Panama. Selected to receive a complete scholarship from the Panama Government to study in the US for 5 years. 1 year including the language (English) in Spring International Language Center and 4 years to study Biomedical Engineering at the University of Arkansas

LANGUAGES

Fluent in oral and written Spanish and English

SCIENTIFIC PUBLICATIONS (Peer-reviewed)

Research Papers

1. Mundo, A. I., Muhammad, A., Balza, K., Nelson, C. E., & Muldoon, T. J. (2022). Longitudinal examination of perfusion and angiogenesis markers in primary colorectal tumors shows distinct signatures for metronomic and maximum-tolerated dose strategies. *Neoplasia*, 32, 100825.

INTERNATIONAL EXPERIENCE

- Scholarship from IFARHU, an institution in Panama, to study engineering in "Universidad Tecnológica de Panamá" (2017)
- Completed 2 semesters of engineering at the university
- Selected as a part of the "Honor Section" in the university
- Selected to receive a scholarship from the Panamanian government to study Biomedical Engineering at the University of Arkansas
- Accepted at the "Universidad Carlos III de Madrid" to do an exchange program

LEADERSHIP EXPERIENCE

Core Member of the Panamanian Student Organization (PSO)

2020

- Plan activities to promote and share Panama's culture at the University of Arkansas and the NWA region
- Plan ideas to change the constitution of the PSO to include the coordinator of the Spanish Conversation Program as part of the core member of the organization to maintain the program for the next boards

Student Council, Spring International Language Center, Univ. of Arkansas

2018

- Plan activities to promote opportunities and events for international students while maintaining straight A's and perfect attendance
- Increased by 5% of international students' involvement in social and volunteering activities
- Selected for singing as a part of the school in the "International Music and Dance Night" at the University of Arkansas

ENGINEERING PROJECTS

"Filtered and Speaking Tracheostomy (FaST) System" – Senior Design Project

2022 - 2023

- Tracheostomy valve that integrates speaking valve with high-efficiency filtration system and 75% less volume of particle matter compared to unfiltered trach valves
- This device is designed for patients with long-term tracheostomies, such as patients recovering from surgical operations on their larynx. The purpose of this device is to enhance the patient's comfort and quality of life

"PAP SMEAR KIT" Project for the Global Health Class

2022

- Proposed to ensure that providers are using pre-sterilized equipment during invasive procedures such as cervical cancer and IUD insertion/removal
- Leader of the group "International Connections" formed by students from the US, India, and Panama

Dose Strategies Used in Colorectal Tumors - Scientific Paper

2022

- Co-authored the accepted and published scientific paper “Longitudinal examination of perfusion and angiogenesis 2 markers in primary colorectal tumors shows distinct 3 signatures for metronomic and maximum-tolerated dose strategies”
- Selected as an undergraduate research assistant in the Biomedical department at the University of Arkansas

Translational Biophotonics and Imaging Laboratory

2021 - 2022

- Selected to be part of the research lab to create technologies based on optical imaging or spectroscopic methods to help clinicians diagnose or treat diseases
- Analyzed images of tumors and quantified results to see the impact of the different treatment levels applied on mice
- Studied images of colorectal cancer to find the correct dose strategies

“TherAPPist” Software for the Clinical Observation and Needs Finding Class

2021

- Proposed software to maintain active and easy communication between both therapists and patients
- Developed from observations at the UAMS Outpatient Therapy Clinic

Water Filter for General Engineering Class

2020

- Presented a water filter with clean water higher than 65% of transmittance

SKILLS

- Experienced in Microsoft Office and Energia Coding Software
- Basic programming languages: C++, MATLAB
- Basics 3D Model: SolidWorks
- Research experience: tumors, biomolecular experiments

COMMUNITY INVOLVEMENT**Spanish Conversation Partner Program at the University of Arkansas**

2023

- Helped non-native Spanish speakers to improve their communication skills through meetings

Member of the Biomedical Engineering Society at the University of Arkansas

2023

- Participated in a society whose purpose is to facilitate the advancement and support of those in pursuit of research, scholarship, or career opportunities in the field of biomedical engineering

Member of the Latin America Ensemble Band at the University of Arkansas

2021 - 2023

- Selected as the lead singer of the band
- Performed as the lead singer of the band in events at the University of Arkansas and Fayetteville Square
- Participated in recordings that contributed to the Ensemble being awarded “Best Latin Ensemble” in the United States, Graduate category, by DownBeat Magazine in its 47th edition (2024)

Member of the Panamanian Student Organization (PSO)

2020 - 2023

- Selected for singing in the Panamanian events organized at the University of Arkansas

Softball Intramural Champion – UREC

2022

- Selected as a second base player in a mixed group, Co-Ed, in the intramural softball games

Member of the dancing club “The Movement,” University of Arkansas

2021

- Selected as a member of the dancing club to learn new dancing styles and teach Latin movements

Translational Biophotonics and Imaging Laboratory

2021 – 2022

- Selected as an undergraduate research assistant to analyze cancer and tumors developed in mice

Member of the Panamanian dance group “Conjunto Viva Panamá”

2021

- Selected for dancing in events organized at the University, Fayetteville, and other regions

Core Member of the Panamanian Student Organization (PSO)

2020

- Selected as the Social Chair of the PSO
- Managed the PSO’s social media (Facebook, Instagram, Twitter, Emails)
- Organized meetings, events, and activities to share Panamanian culture during the semester
- Planned events to involve students’ participation in the organization