

Anastasia Martinez

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Education

Washington State University
BSc in Biochemistry in progress

Aug 2023 – Current

Collegiate Research Experiences

The Fight to Regulate: The Impact of Autoregulatory Grammar on the Expression of Transcription Factors

Sept 2024-Current

Washington State University, Dr. Sascha Duttke

- Investigating the nature of downstream self-regulation binding sites in activating transcription factors
- Cultured and harvested bacteria transformed with CRISPR plasmids of interest
- Cultured, transfected, and harvested human cells with CRISPR plasmids
- Optimized selective dosage for tissue culture transfection selection
- Designed and optimized PCR primers to target specific genes of interest for verification of CRISPR efficiency
- Designing and introducing synthetic DNA binding sites into human cells
- We expect to find a similarity between low affinity synthetic DNA sites and wild type sites

Enhancer Project

Apr 2025-Current

Washington State University, Dr. Sascha Duttke

- Investigating the nature and relationship of enhancers to transcription start sites and their influence
- Cultured and harvested bacteria transformed with CRISPR plasmids of interest
- Cultured, transfected, and harvested human cells with CRISPR plasmids
- Optimized selective dosage for tissue culture transfection selection
- Designed and optimized PCR primers to target specific genes of interest for verification of CRISPR efficiency
- We expect to produce data by fully removing enhancers to explore the nature of redundancy and function of enhancers in the genome

Presentations

Michael D. Griswold Symposium on Reproductive Health

Spokane, WA

The Fight to Regulate: The Impact of Autoregulatory Grammar on the Expression of Transcription Factors

May 2025

Anastasia Martinez, Mackenzie Meyer, Marina Savenkova, Sascha Duttke

Showcase for Undergraduate Research and Creative Activities

Pullman, WA

The Fight to Regulate: The Impact of Autoregulatory Grammar on the Expression of Transcription Factors

March 2023

Anastasia Martinez, Mackenzie Meyer, Marina Savenkova, Sascha Duttke

Honors and Awards

Auvil Scholars Fellowship

Jun 2025

Awarded for pursuit of undergraduate research for the 2025-2026 school year

Michael D. Griswold Symposium on Reproductive Health Abstract Selection Award

May 2025

Awarded for selection of abstract and presentation to participate in the program

MARC-WSU Program Trainee (NIH T34 GM141971)

May 2024

Selected as 1 of 4 juniors for the Maximizing Access to Research Careers program

Washington State Opportunity Scholarship

May 2023

Awarded for being a Washington State resident pursuing a high-demand STEM career

Rhea Dow Grant

May 2023

Awarded by the North Central Alumni organization for promising pursuits in secondary education

High School Research Experiences

DNA Sequencing Start-Up Business Project

Sept 2022-Jun 2023

North Central High School, Guided Research Project

- Collaborated in a group setting across multiple class periods to set goals of progression for project
- Created a business website using a website builder
- Used PCR and Sanger sequencing to process samples

Using eDNA to Track Reintroduction Efforts of Salmon Into the Little Spokane River

Jan 2022-Jun 2022

North Central High School, Guided Research Project

- Collected field samples of water from selective locations along Little Spokane River
- Filtered and analyzed field samples using qPCR to test for target species
- Analyzed qPCR curves using Linux

Identifying Native Rhizobacteria with Drought Resistance Traits

Sept 2021-Jan 2022

North Central High School, Guided Research Project

- Collected field samples of native plants for isolation of rhizobacteria
- Isolated, purified, and identified promising unknown bacterial species via Sanger sequencing
- Conducted isolation of desired characteristics of bacteria using selective plating

Skills

Laboratory Skills

PCR, Gel Electrophoresis, Plasmid DNA Preparation (Miniprep and Maxiprep), Tissue Culture, Transfections, Bacterial Transformations, CRISPR Design, Primer Design

Activities and Leadership

Section Leader of Mariachi Leones Del Monte

Sept 2024-Current

Coordinated team rehearsals, developed training materials to improve retention, designed a music distribution process for ongoing use, recruited new membership, and volunteered for group fundraisers

Volunteer Classroom Assistant at Calvary Spokane Church

Jun 2017-Aug 2024

Supported diverse age groups (up to 25 children), prioritized safety, delivered lesson content, and ran recreational activities

Professional Development

Michael D. Griswold Symposium on Reproductive Health

May 2025

Spokane, WA

Annual Biomedical Research Conference for Minoritized Scientists

Nov 2024

Pittsburgh, PA

Employment

Seasonal Cashier at Northern Quest Casino	May 2023-Current
<ul style="list-style-type: none">◦ Managed equipment inventory, responsible for organization, sanitation, and setup◦ Processed transactions as a Cashier, assisted and engaged customers◦ Stocked and provided accurate count-ins of product for inventory across all coolers in the venue	
In-home Childcare Provider	Oct 2022-Jan 2025
<ul style="list-style-type: none">◦ Managed all aspects of in-home childcare, including activity planning and meal preparation	
Sales Associate at Walmart	Sept 2021-May 2024
<ul style="list-style-type: none">◦ Processed transactions as a Cashier, implementing asset loss prevention strategies◦ Maintained and cleaned equipment◦ Performed inventory stocking and merchandising duties◦ Assisted and engaged customers, resolving inquiries and enhancing shopping experience	
Assistant Karate Instructor	Oct 2019-Mar 2020
<ul style="list-style-type: none">◦ Co-led karate classes, independently managing segments and student engagement◦ Directed and mentored 15-20 students at a time, delivering clear instruction and feedback◦ Managed equipment inventory, responsible for organization, sanitation, and setup	

Extracurricular Activities

Cougar Marching Band	Aug 2023-Dec 2025
Member of the WSU Cougar Marching Band	
Tau Beta Sigma	Sept 2024-Current
Sister of the honorary service sorority Tau Beta Sigma for better college bands and women in music	
WSU Associated Pep Bands	Aug 2023-Current
Member of associated seasonal pep bands for volleyball, men's basketball, and women's basketball at Washington State University	
WSU Mariachi Leones Del Monte	Jan 2024-Current
Member of the Mariachi group at WSU providing culturally educational performances as well as private personal events	