May 2025



## "SEE" STEM NEWSLETTER

## Eastern Washington University College of STEM Quarterly Newsletter







Walke lab student researchers and Microbial Ecology capstone students **sample Pacific Chorus Frogs at Turnbull National Wildlife Refuge** for infectious disease pathogens and beneficial microbial symbionts. Their research will inform conservation efforts for amphibians that are threatened by disease globally.





## TABLE OF CONTENTS

#### 

## **BIOLOGY**



#### **Student Work**

## The Effects of Salinity on the Cutaneous Microbiome and Bd Infection of the Pacific Tree Frog (Psuedacris regilla)

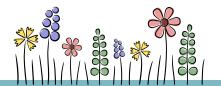
Master of Science in Biology Thesis Defense Hannah Kim

advised by Dr. Jenifer Walke

June 4th 3pm PST in SCI 219

Hannah will also have an illustrated gallery exhibition of this thesis to showcase her science communication skills through art. The exhibition will be on display on the second floor of SCI between May 15th-June 15<sup>th</sup>.

Hannah Kim "painted her biology thesis," and her illustrated gallery exhibition of her thesis showcases science communication skills through art. The exhibition will be on display on the second floor of SCI (outside of SCI219) between May 15th-June 15<sup>th</sup>. Please also join us for her master's thesis defense on June 4<sup>th</sup> at 3pm in SCI219: "The Effects of Salinity on the Cutaneous Microbiome and Bd Infection of the Pacific Tree Frog (Psuedacris regilla)."



## **BIOLOGY**



#### **Kids and Bees!**



The Walke lab and the Busy Bees club hosted a 'Kids and Bees' class for homeschoolers at Mobius Discovery Center in Spokane on May 16, 2025. Homeschooled kids ages 5-8 from across the region observed live honey bees from the EWU campus hives, tasted honey produced from various flower sources, did dissections and used microscopes to visualize bee anatomy up close, and learned about the bee life cycle. The students even had a race to see how much "pollen" these "busy bees" could collect into their "pollen baskets"! Students left with honey sticks, flower seeds to feed the bees, and hopefully a newfound appreciation for these important pollinators.

## **BIOLOGY**



#### **Engaged Learning**





**Biology Graduate student Kolby Emtman** was awarded two scholarships from local fishing and conservation clubs, (1) Lye and Sandra Parks award, by the Kelly Creek Flycasters Club in Lewiston, Idaho and (2) Bill Alspach & Dave Engerbretson Memorial Scholarship from the Clearwater Fly Casters, in Moscow, Idaho.

Kolby's MS project focuses on the importance of large migratory Westslope Cutthroat trout in the Priest River in northern Idaho. These fish are a favored target of local flycasters, making Kolby's project a perfect fit for these awards. This project is funded by the Kalispel Tribe of Indians Natural Resources Department.

The picture at the left is two graduate students from the Spruell lab and two collaborators from the Kalispel Tribe processing fish after completing a sampling session. The other picture is from left to right, Taylor Barnes, EWU undergraduate & Navy vet, and then graduate students Garrett Duncan and Kolby Emtman.

This year our collaboration with the tribe will allow us to employee five EWU undergraduates and two graduate students.





### Celebrating a Milestone: IEEE Senior Membership for Dr. Sanmeet Kaur and Dr. Michael Meyer



Dr. Sanmeet Kaur EWU Associate Professor in Computer Science and Cybersecurity



Dr. Michael Meyer EWU Assistant Professor in Electrical & Computer Engineering

Congratulate Drs. Kaur and Meyer on their Senior Members of the IEEE, the largest technical professional society in the world. This is a well-deserved milestone and we commend their continued commitment to academic and professional excellence.

Senior Member status is the highest grade for which IEEE members can apply and is granted only to those who meet rigorous professional and technical standards. With this honor, Drs. Kaur and Meyer join a distinguished group of professionals who are recognized for their technical leadership and service to the engineering community.

The recognition also comes with new opportunities: eligibility for leadership roles within IEEE, participation in the review of future Senior Member applications, and the ability to mentor and support peers in their professional journey. Dr. Kaur also serves as an IEEE WIE chair of Spokane section.









#### Professional Recognition and Participation at IEEE WIE ILC, 2025 at San Jose

Dr. Kaur's induction took place during the IEEE Women in Engineering International Leadership Conference (WIE ILC), a global platform that brings together researchers, industry leaders, and educators to discuss innovation and leadership in engineering and technology.

Dr. Kaur was invited to contribute as a speaker in the Emerging Technologies track. Her talk, titled "Building Trust through Blockchain: Revolutionizing Healthcare Data Security," focused on the role of blockchain in enhancing the integrity and confidentiality of healthcare systems.

This dual recognition not only reflects Dr. Kaur's commitment to professional growth and academic excellence but also highlights the increasing visibility and contribution of our faculty in international forums.

## **CSEE**



#### **ACM Hackathon**

On May 17, the EWU computer science ACM club hosted the second annual Hackathon at the Catalyst building, a 12-hour coding marathon with 87 registered participants. Teams of up to four students from local high schools and universities were tasked with implementing a cool project of their choice from scratch. Local industry judges from FedEx, Washington Trust Bank, Trans Systems, and The Master's Touch rated projects that included a digital distorter for real-time guitar music, a Chip-8 emulator, an API for using machine learning to predict hockey outcomes, and multiple fun games.







Many of the placing teams came from our very own computer science students. ACM faculty advisor Chris Cain said that "events like this, especially including passionate high school students, help recruit students to continue pursuing their interest at the university level. Additionally, it results in a sharable project for students' GitHub repositories, is excellent experience for their resume, and provides networking opportunities with local companies." This event was made possible by the CSTEM Interclub Student Funding and the CSTEM Student Senate.

## **CSEE**



#### **ACM Hackathon - Student Report**

### The Revival of ACM: A Hackathon That Changed Everything

A once dormant and unresponsive ACM chapter that has been brought back to life by 5 determined Computer Science students—with the support of their peers, faculty, and volunteers. This is the story of how the ACM chapter's second annual Hackathon breathed new life into the Computer Science department.

At one point, ACM existed in name only. It was the forgotten table at Neighborfest, hidden away and ignored by its own department. But we turned the narrative around. This was the most successful hackathon our university has seen. The journey to this moment wasn't easy-it was full of late nights, setbacks, and challenges-but it was all worth it. This event is one people will talk about for years to come.



#### From Code to Chaos: The Day of the Hackathon

The only way to describe the organized chaos (as our Student Services Coordinator Janae Carrothers might say) that occurred in The Catalyst Building on Saturday, May 17, is through moments like ending the night in a karaoke battle featuring songs like "Part of Your World" from The Little mermaid, "Ain't It Fun" by Paramore, and Girl by Charli XCX. And yes, at one point, we held a spontaneous Mario Kart tournament when the coding got a little too intense. To all the students-more accurately, the incredibly talented coders-who had to call their parents at 12:30 a.m. to explain that winners had not yet been announced: this is your proof. We were responsibly irresponsible. This hackathon, initially planned to run from 9 a.m. to 9 p.m., turned into a 17-hour marathon. But that's what it took to make a statement: "Just because we're not on the main campus doesn't mean we should be forgotten." Fueled by caffeine, carbs, and maybe a little insanity, the event took place at the leased Computer Science building, the Catalyst—a location known for zero energy consumption and maximum sustainability. Let's just say, after 17 hours of power-hungry tech use, it might need a new reputation.





#### And the Winners Are... (Upper Division)

First Place: Audio-Bytes

Audio-Bytes, this duo arrived early–complete with an amp and TWO electric guitars, instantly standing out in a sea of laptops. This duo not only serenaded us at the end of the night with their cover of a "Whole New World" and played the guitar so beautifully as they demoed their once mysterious project but they also placed first in the upper division category. They turned real-time guitar notes into editable digital files because who needs to be paying a label to produce your music when you have code at home?

Second Place: One-Byte Stand

One-Byte Stand which was a rendition of a Chip-8 emulator

made by Isiah Hymes.

Third Place: Canary

Canary (still don't know what he did input what he did in here) by Adrian Fudge (who has saved me from failing multiple

classes this year)

Judges' Favorite: CAPS by Caleb Stewar CAPS by Caleb Stewart who developed an API that predicts hockey game outcomes using machine learning. Legal sports betting? Meets tech.





#### **Prizes and Participation**

What made the long hours of coding, waiting, and socializing even more worth it were the prizes- personally selected by our ACM president—worth over \$1,000. These were distributed across both divisions, rewarding the dedication and creativity of our participants.





#### **Lower Division Winners**

First Place: The Fatal Four

The Fatal Four they called themselves and fatal they were. I come in not knowing what to expect with their project and leave feeling like I knew nothing about programming! They made a sequel to a game that goes by the name of Doug that won a previous hackathon. So team members Benjamin Zachman, Paloma Ford, Balpreet Singh, and Jensen Kuonen were just casually making their rounds to place in every hackathon! This game was called Doug2 where this time the creator of the game turned victim of the game must escape their own creation.. very meta.

This team also made sure to let us know that they were multifaceted by singing too HOT TO GO by Chappel Roan and Girl by Charli XCX.

Second Place: Benjamin Franklin the Sixth (Fan Club)

Benjamin Franklin the Sixth (Fan club) don't ask. I did not get the pleasure of knowing why they went with this name. Their game showed that block-style will never be out of style. Their mantra that kept them going but left me questioning my life decisions was "Aren't we all playing one big game?" I don't know Benjamin Franklin, The Sixth (Fan Club) ARE WE???

Third Place: Runtime Error by Joel Sivanish

Runtime Error made by Joel Sivanish who will go down as the earliest participant at this hackathon. Joel, how are you so punctual? Joel blessed us with a program that does in depth documentation for trace-route which for lower division classes would have been a useful tool.

Judges' Favorite: Commonalities

The team that made me run down three flights of stairs barefoot (the reasons will remain undisclosed). But just know I wouldn't have survived anything with my PR time of 30 seconds which was nothing compared to their team member Jack. This was a dating app that would connect users based on similarities-because according to them, opposites don't attract.



#### More Than Just Fun and Games

While this retelling may sound chaotic(we like to have fun at ACM), rest assured Eastern department heads and chairs: it wasn't pure "vibe coding". This event was quite the hotspot for networking. There were 90+ participants, judges, and mentors from various corners of the Computer Science industry.





#### Our incredible panel included:

- Kaimana Kahalekai Travel Tech Analyst, FedEx
- Jacob Hittinger & Devin Suave Washington Trust Bank
- Trevor Morris Engineer, Trans Systems Inc.
- Anre Tanner Software Developer, The Master's Touch Inc.
- Justin Salsbery & Collin Deel GSA's at Eastern's Computer Science Graduate Program

These mentors didn't just judge—they guided and inspired. They gave students, both from EWU and other schools, real-world exposure to the tech industry.

#### **An Inclusive Event Across Schools**

This wasn't limited to Eastern Washington University students. Participants came from high schools like Central Valley, Spokane Valley Tech, and Ferris High, and colleges including Washington State University, Spokane Community College, and Spokane Falls Community College.

#### The Team That Made It Happen

Now you must be wondering—who made all of this possible? Believe it or not, this was an entirely student-led effort. What began as a shared vision among five friends became a movement. We faced disagreements, long meetings, and logistical nightmares, but we pushed through because we cared. This would not have been possible without our ACM officers who showed what they wanted to see out of the Computer Science department that at times can feel isolated from normal college life.

We wanted to be the change and make a mark and so we did. With our dedication to the major, the students, and ACM this came together. We bonded in a way that fellow peers are not given the chance of.

- Hadi Mallah (President) who saved the club and brought us all together to create this wonderful event.
- Alexa Darrington (Secretary) Faculty liaison, outreach leader, and the person who kept us on track.
- Rizzi Milallos Who kept our website up to date, participated in student outreach, and was there to comb out the details that we might have missed.
- Jimmy Yang Budget mastermind, with military logistics experience that proved invaluable.
- Fatima Adam (Me!) Participated in student outreach and was PR and social media for the club by keeping real-time updates of the event on our instagram @ewuacm and helped design our t-shirts.
   Ironically, we forgot to take a group photo.

A special shoutout to Eric L. and Nathan H.







#### **A Moment That Meant Everything**

At the end of the 17-hour chaos there was a silence that filled the room. The kind of silence that holds weight– the type that lets truth settle. It's not every day that you get to spend nearly a full day surrounded by people who took a chance to build, create, and connect.

Each of us entered the day unsure – unsure if our code worked, unsure if our ideas would land, unsure if the event would succeed.

But the success we were looking for wasn't in the final decisions. It was in our presence. We as individuals had shown up, as teammates, as leaders, as mentors, as one big community. It's when people come together with curiosity and heart, extraordinary things can happen. Not just on a screen but between the people behind them.

And in that silence we sat shoulder to shoulder looking around at each other before this heavy silence faded back into the familiar buzz, you could feel it. We all knew one thing:

We did something here.
Love,
Fatima and my fellow ACM officers







#### **Faculty Podcasts**



The podcast Drs. Yao and Nic did with James Ryan: <a href="https://www.youtube.com/watch?v=FkUKdKgl\_Fw">https://www.youtube.com/watch?v=FkUKdKgl\_Fw</a>



Chris Cain did an episode with James Ryan here:

<u>Play 2 Learn Episode 006</u>

<u>Chris Cain</u>



Senior Lecturer Sonja Durr's Community-Driven Design students created posters for the **Women Helping Women Fund's annual luncheon**. Over 1000 attendees enjoyed their work as they headed into the event.





Durr's Community-Driven
Design students also
worked with the Kalispel
Natural Resources
Department and Pend
Oreille Salmonid
Recovery Team to create
educational outreach
materials on important
fish in our region.

May 2025

## DESIGN ROUNDUP



NewTech Prep visited the Department of Design on Friday, May 16. Approximately 30 high school graphic design and digital media students joined EWU Design faculty for an introduction to the major and workshop activities including storyboarding, VR headset interaction, image generation, game design, button making, and Risographic printing.



On the evening of Thursday, May 15th, the Department of Design held the annual Low Key Level Up event at Catalyst, celebrating our graduating seniors, alumni, and regional academic and industry partners. We presented the first annual DESN FMLY alumni award to Brittany Stodgell and Millie Schnebly of Maker + Made (pictured with Professor Travis Masingale). This award recognizes alumni who exemplify the spirit of the Design program through their creative leadership, commitment to collaboration, and meaningful contributions to the community. Whether through mentorship, partnership, service, or direct support of the design program, these individuals continue to shape the future of design while giving back to the community that shaped them.



- On Saturday, May 3rd, Design hosted the **Spokane Advertising Federation's Preflight portfolio event** for regional design students at Catalyst. Design faculty also tabled and participated as judges in Spokane Schools Middle School STEM Competition at Spokane Valley Tech.
- Professor Ginelle Hustrulid will be a panelist for **EmpowerHOUR** on June 3, at 5 pm, at Roberts Mansion in Browne's Addition. The panel will "discuss their experiences in the industry, share their perspectives on creativity and what they are passionate about, and uplift our community with connection and uplifting conversation."



Professor Travis Masingale is working on a 23' x 8' **mural project** to be displayed in the Catalyst building outside the

Cybersecurity classrooms on the first floor.



Professor Masingale has also been working with three Design students (Alyssa Almond, Ursula Baken, and Sierra Crisp-Johnson) on signage for Itron to be placed in the Innovation Hub at Catalyst. They have a prototype and are meeting with production teams to spec-out further designs and get quotes for production.





Several Design students rocked their presentations at the **EWU Creative Works and Research Symposium**.

Two students worked with Professor Masingale:

Bea Smith presented "Advancing AI-Driven 3D Reconstruction: Implementing and Refining NeRF Technologies with Neuralangelo." Summary: "Bea Smith leveled up AI-driven 3D modeling, making the cutting-edge Neuralangelo model easier and faster to use. Say goodbye to tech headaches! Bea's innovations open doors to incredible possibilities—from saving history digitally to designing futuristic cars and immersive games."

Antoni Carlson presented "Exploring Multistyle LoRA Models for Architectural Image Generation." Summary: "Antoni Carlson turned hours of architectural rendering into seconds with his AI-powered approach. By crafting unique style-specific LoRA models and mixing them seamlessly, Antoni created stunning visuals full of personality and precision. Get ready to see architecture like never before!"

- Working with Professor Colin Manikoth was Dawson Rubino, presenting "Beyond WordPress: A Comparative Study of Content Management Systems." Summary: "Dawson Rubio went head-to-head with popular web platforms and discovered Astro's unmatched creative freedom and lightning-fast performance. His dynamic design website showcases EWU student portfolios in fresh, exciting ways. Static is the new dynamic!"
- Senior Lecturer Sonja Durr's Community-Driven Design students created posters for the Women Helping Women Fund's annual luncheon. Over 1000 attendees enjoyed their work as they headed into the event.

## GEOS AND ENVS



#### Student Research

Environmental Science major, Chris Close, was selected for the **Robustness and Resilience REU program** at Washington State University. The program focuses on large-scale system analyses, especially in aquatic ecosystems. Chris was chosen to work with Dr. Brunner, whose lab has been focusing on Ranavirus and other fungal and bacteria diseases that can occur in animal captivity. This research will be presented at the end of the summer.

#### **Medical Lake School District STEM Night**

#### Students Rocked the Medical Lake School District STEM night

The Geosciences Club, and Department of Geosciences, and more made a huge contribution for the MLSD STEM event! About 300 to 400 members of the community attended the event with highlights of students being able to spray hoses from a Spokane County Fire District 3 truck to knock over cones, eat liquid N ice cream, learn about minerals in Minecraft, and see a FAFB helicopter land on the MLMS field + free pizza from the ML Pizza Factory!







## GEOS AND ENVS



## **Geoscience Student Presentation to the BOT**





Jerusha Hampson was selected from EWU Symposium presentations to present her **research on PFAS in surface waters of the West Plains** to the Board of Trustees in May 2025. Dr. Pritchard reported some of these results at the Spokane River Forum and a special West Plains Water Coalition meeting on the Spokane River (<a href="https://www.spokesman.com/stories/2025/apr/16/spokane-riverkeepers-ewu-researcher-find-pfas-in-s/">https://www.spokesman.com/stories/2025/apr/16/spokane-riverkeepers-ewu-researcher-find-pfas-in-s/</a>)

## Additional Water testing for PFAS through EWU Geosciences

The City of Medical Lake extended an additional \$25,000 from a WA Dept of Ecology grant to EWU for additional testing of 60 wells in the west plains. After the City of Medical Lake and Dept. of Ecology announced the sampling we had over 120 people ask for testing within 24 hours.

EWU will conduct a **PFAS in groundwater project in Cheney**, downgradient of Cheney Water Well #5, please let folks know if they live in the Lance Hill Rd or S Mullinix Rd area, quick map below, please have them contact Dr. Chad Pritchard at <a href="mailto:cpritchard@ewu.edu">cpritchard@ewu.edu</a>.

https://www.cheneyfreepress.com/story/2025/05/29/news/volunteers-sought-for-well-testing/38870.html

## GEOS AND ENVS



## Come join the fun with EWU GEOS and INLC at the Palisades on June 7th!

We have done geology hikes with INLC at Waikiki Springs and with Dishman Hills Conservancy at Dishman Hills over the last few weeks, they have been a hoot. This **hike at the Palisades** will also include Friends of the Palisades members that will talk about the history of the park and future plans! Photo of Mystic Falls during a GEOS surface water sampling event in October 2024. Announcement for the talk: <a href="https://inlandnwland.org/event/june-7th-palisades-geology-hike-with-dr-chad-pritchard/">https://inlandnwland.org/event/june-7th-palisades-geology-hike-with-dr-chad-pritchard/</a>







#### **Innovation Lab Events**

On Friday, May 9th, we hosted an exciting **tote bag sewing event**, bringing together a diverse group of students eager to craft their own personalized bags. Over two dozen students joined us in the lab, where they explored a wide array of fabrics, vibrant colors, and unique decorations to bring their designs to life. Whether they were seasoned sewers or complete beginners, everyone found joy in the creative process, sharing tips, laughter, and inspiration along the way. The atmosphere was filled with enthusiasm as instructors taught stitching techniques and students added their own flair to each tote. By the end of the event, everyone walked away not only with a one-of-a-kind creation but also with new skills and fond memories of a fun, hands-on experience



# ALL OF OUR CELEBRATIONS AND AWARDS!





This year's honoree of the 2025 Trustee's Medal is characterized by dedication, leadership, compassion, energy, and the true Eagle spirit. Please congratulate Dr. Melissa Graham on receiving the Trustee's Medal, recognizing exceptional achievement in one or more of the following areas: teaching excellence; significant contributions to a professional field; and development of academic programs aligned with the EWU mission. Melissa's work exemplifies all three. Her contributions to MESA, to her students, and to EWU's culture of belonging are extraordinary and enduring.

Melissa has been a dedicated educator and leader at Eastern Washington University for over two decades, beginning her career as a mathematics instructor in 2004. A proud EWU alumna, she holds a Ph.D. in Mathematics and Science Education from Washington State University, as well as master's and bachelor's degrees from EWU in mathematics, secondary mathematics education, and physics.

As the founding Director of EWU's MESA University Center, Melissa has built a transformative program that is reshaping how we support underrepresented students in STEM. Her work has earned regional and national attention, and her efforts were instrumental in securing funding and shaping the vision for the Center from its inception. Melissa's vision for student success and equity has reshaped how we think about belonging in CSTEM. She leads with authenticity, humility, and courage.

# ALL OF OUR CELEBRATIONS AND AWARDS!



#### Trustees' Medal, cont.

Beyond her administrative leadership, Melissa is an inspiring educator in the Department of Mathematics. Her student evaluations consistently reflect her ability to make complex concepts approachable and her deep care for students:

"Professor Graham is amazing in every way at what she does. I know that myself and my fellow peers will remember her fondly due to her excellent work. She cares about all of her students and focuses on their ability to retain the information." – Math 210 student

"I have nothing but amazing things to say about Professor Graham. She is the type of teacher everyone wishes for, especially in such a difficult subject as math." – Math 209 student

Melissa's professional and scholarly work reflects a deep commitment to justice and inclusion in STEM education. She has received multiple internal and external grants supporting initiatives like Girls+STEM Camp, equity-based professional development for teachers, and research into culturally responsive mathematics instruction. She also co-led EWU's Inclusive Teaching Academy, which received national recognition from INSIGHT Into Diversity in 2024.







Jennifer Hicks, students, and the EWU Career Center at a **ProVisit to Buck Knives** on May 15, 2025







Our wonderful CSTEM donor Jim Martin was honored with the **Dean's Excellence Award.** 

Photo, from left to right: Vee and Jim Martin, and David Bowman









Aaron and Darby McLean, Alumni Awards (left), David and Kris Bowman (right)

**Alumni Awards** from
April 26, 2025



Jennifer Hicks and Stu Steiner



#### President's Community Luncheon -

Women in STEM From May 12, 2025 Mobius Discovery Center



Photo, left: Delaney Putnam, Jocie Cracroft, and Megan Durfey of Novelis present a check to David Bowman for scholarships for students in EWU CSTEM

Photo, right:
Darby McLean,
EWU President
McMahan, and
Dr. Ashley Lamm





Photo, left, Women in STEM Panelists



Night of Champions, May 10, 2025



Left to right: Darby and Aaron McLean, Ron Baer Photo, right:
Melissa and
Mike Graham,
Diana and Rob
Sauders



Photo, left: Joe Ames, Jennifer Hicks, and Meg Palmer





Meeting Industry
Positron Visit
Liberty Lake, WA

Photo, left: EWU Alumni Adam Huson, Professor Esteban Rodriguez-Marek, Jennifer Hicks, and EWU Alumni Daniel Stokes





## Eagle Summit April 25, 2025



Photo, left: Alexis Alexander Board of Trustees