



Arizona State University

Department of Physics

Newsletter

March 2026



As Spring keeps rolling along, there have been many exciting developments in the department.

Among the new people in our department are **Purnima Narayan** and **Angel Duarte** who have joined PIRT, and our newest student workers **Rueben**, **Samantha**, and **Reya** who you will see in our front office, and **Utkarsh** who is assisting Mike Kelly in all your facilities issues. You can find out more about them below.

We just got the news that **Arlinda Hill** has been elected Vice Chair of the APS Four Corners Section. Congratulations Arlinda!

For many, many years, **Frank Meyers** has taught PHS 208, the “Patterns of Nature” course. The course has flourished, and more than 16,000 students have taken the class to learn about reflection and refraction of light, lenses and microscopes, rainbows and prisms and other related topics. Now Frank has decided to retire from teaching the course. The Physics Department and ASU thank him for his many years of sterling service and wish him much happiness in his retirement. Thank you Frank!

The graduate students have selected **Nathan Burwig** as their representative. We look forward to working with Nathan to enable a positive and successful experience for our graduate students. More about Nathan can be found below.

On February 6, we held a “**Know Your Neighbor**” **Symposium** that brought together about 20 faculty to discuss their ongoing research projects. We learned about the many different research thrusts of the department – from 21 cm emission from the early universe to photo-emission and bright electron sources. The symposium was followed by a lively outing at Postino’s – a great way to close out a Friday afternoon.

The Eyring Materials Center held their annual **Winter School on High Resolution Electron Microscopy** from 12-16 January with many international experts in attendance (more details below).

The **Southwest Strings Meeting** was held February 20-21 bringing together many young string theorists.

This semester we have also had two distinguished colloquia.. First we had the Cowley Distinguished Lecture by Professor **Kazu Suenaga** (Osaka University) in honor of John Cowley who established ASU as a recognized world-leading center for high-resolution electron microscopy ([Center for High Resolution Electron Microscopy](#)). Then we had the Spence Distinguished Lecture by Professor **Paul Corkum** (University of Ottawa) in honor of John Spence who, among many other things, was a major scientific driver behind the effort to build the [CXFEL](#) on campus. Our own **Frank Wilczek** is giving a series of 4 fascinating lectures on time-symmetry violation and possible explanations for why it is so weak (but still non-vanishing).

Dave Smith told me the interesting fact that ASU Physics is currently [ranked #46](#) in the world and [ranked #1](#) in the sub-field of transmission electron microscopy by ScholarGPS. Good going Physics! More data on Physics programs across the country can be found on this [AIP website](#).

In other recognitions, our **Society of Physics Students** (SPS) Chapter has been recognized as an Outstanding Chapter. Well done SPS!

We are looking forward to several fun events. Our students **Zoe Bonasera** and **Lidia Cifuentes Santander**, together with **Becky**, are busy putting together a **Spring Picnic** on March 27. The **Undergraduate Symposium** is on April 3 and the **Spring Award Ceremony** will be held on April 24. **Graduation** is on May 11.

In other news, **Kong-Thon Tsen** ("Frank") will be retiring in May. Do congratulate him when you see him.

Thank you for your support on this [Sun Devil Giving Day](#)!

Until next time,

Tanmay

ASU Department
of Physics
Arizona State University

This department newsletter is meant to communicate developments, highlights, achievements, awards and events. If you feel you have written an important publication we would like to include a brief description written at a lay level. If you have something you'd like to include, please mail to becky.thornton@asu.edu and we can consider it for inclusion in the next newsletter.

While not in meetings, I will mostly be in the Chair's office or my research office (GWC530). You are welcome to drop in at either location. If you want to be sure you'll find me, please set up an appointment with Becky as she has access to my calendar. Email works best for me for communication.



Trivia Question:

Who in the Department of Physics has worked at ASU & UofA, in the departments of Chemistry, Biophysics, Health Science, Research, SOLS, University Innovation Alliance, WPCarey and Knowledge Enterprise?

- a. Jaya Krishnamurthy
- b. Becky Thornton
- c. Sam Munguia
- d. Mike Kelley

Keep reading to find the answer



Department Highlights:

- 1. Swashing: a propulsion-independent form of bacterial surface migration**
Journal of Bacteriology-



From **Navish Wadhwa**: Our recent [paper](https://www.microbe.tv/twim/twim-345/) was discussed in depth in the *This Week in Microbiology* podcast from the American Society of Microbiology.
<https://www.microbe.tv/twim/twim-345/>

- 2. ASU SPS Chapter Named Outstanding Chapter (2024–25)**-From **Doug Shepherd** and **Lidia Cifuentes**: We are proud to share that the Arizona State University Society of Physics Students (SPS) Chapter has been named a **2024–25 Outstanding Chapter** by the SPS National Council.

This national recognition reflects the outstanding leadership of **Doug Shepherd and Lidia Cifuentes** and the dedication of our SPS students. Their commitment to building a strong and engaged physics community at ASU continues to make a meaningful impact.

Our Team



Lidia Santander Cifuentes
President



Connor Ouellette



Madison Pieper



Juan Martinez
Event Coordinator



Anissa Little
Social Media Manager



Jackson Headon
Secretary



Brennen Wise
Vice President



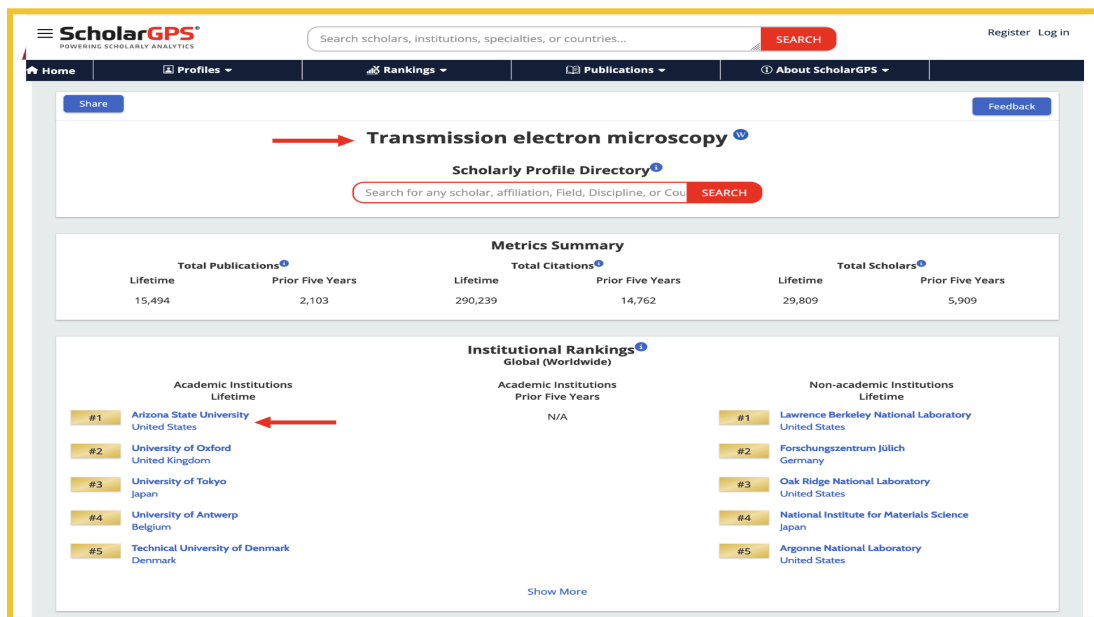
Gibson Bowling
Treasurer



Douglas Shepherd
Advisor

Congratulations to **Doug, Lidia, and all members of our SPS Chapter** on this well-deserved honor!

3. ASU is ranked #1 in Transmission electron microscopy!



4. The 2026 Winter School for High Resolution Electron Microscopy took place during the week of 12-16 January 2026.

Lectures were held in PSF 186, with laboratory demonstrations conducted across campus by ASU faculty, EMC/CHREM staff, and invited international experts. The School was hosted by the Eyring Materials Center (EMC) and organized under the auspices of the Cowley Center for High Resolution Electron Microscopy (CHREM).

Purpose

The purpose of the Winter School is to introduce the theory and practice of high resolution electron microscopy to scientists currently using transmission electron microscopes for materials science studies. People taking the course should have some familiarity with basic crystallography, diffraction contrast and routine microscope operation.

The Winter School course features extended practical sessions using a variety of FEI, JEOL, and Nikon transmission electron microscopes, where specific operating techniques will be taught.

There will be sessions on image processing and simulations using advanced digital image processing programs. Lectures and laboratory demonstrations will be given by ASU faculty and EMC/CHREM staff, as well as international experts.

Topics will include

Fundamentals of HREM
Imaging theory
Aberration correction
Fundamentals of STEM
4D STEM
Practical HREM/STEM operation
Techniques for image simulation
Image processing
Electron energy-loss spectroscopy
Monochromated EELS
Energy dispersive X-ray spectroscopy
Focused Ion Beam (FIB) methods
In situ techniques

Registration fees

Fee	Deadlines
Early \$1000	Oct. 15, 2025
Standard \$1200	Dec. 15, 2025

Participants may register and find accommodation information at:

cores.research.asu.edu/materials/hrem-winter-school

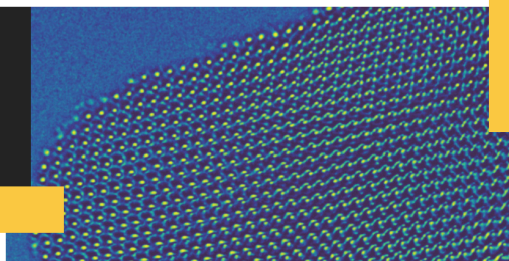
Winter School will run Jan. 12-16, 2026. School participants are responsible for their own lodging arrangements. Because January is a popular month for visiting the Phoenix area, it is advisable to reserve accommodations by early November.

Scholarships

Our sponsors provide a limited number of scholarships to support graduate students who might not otherwise be able to attend. To apply for a scholarship, please send:

1. Letter explaining why support is needed.
2. Letter of recommendation from an immediate supervisor.
3. Resume and a brief description of related research and microscopes used.

Scholarship applications must be received by Oct. 15, 2025



Held annually since the early 1980s, the Winter School is designed to introduce students and researchers to both the theoretical foundations and practical applications of high-resolution electron microscopy, particularly for those using transmission electron microscopes in their work. **The 2026 Winter School welcomed 33 participants, including several international attendees.**

Thank you **Dave Smith** for all your hard work with Winter School.

5. Know your Neighbor Symposium took place on February 6th. Members of the Physics Department shared with their neighbors their latest research and projects. Over 20 faculty members participated in this collaborative exchange of ideas!





6. We are pleased to share that **Arlinda Hill** has been elected to serve as **Vice Chair of the APS Four Corners Section**. This is a significant leadership role within the American Physical Society, supporting physics research and education across our regional community.

The position is part of a four-year commitment in the APS chair line, progressing from Vice Chair to Chair-Elect, Chair, and then Past Chair. Through this role, Dr. Hill will contribute to advancing the section's initiatives while representing both the Department of Physics and Arizona State University within the broader physics community.

Executive Committee Members

Chair: [Maria Rodriguez](#) (10/25–10/26)
Utah State University

Chair-Elect: [Verena Geppert-Kleinrath](#) (10/25–10/26)
Los Alamos National Laboratory (LANL)

Vice Chair: [Arlinda Hill](#) (10/25–10/26)
Arizona State University

Congratulations to Dr. Hill on this well-deserved **recognition and leadership opportunity!**



7. The graduate students have selected **Nathan Burwig** as their representative.



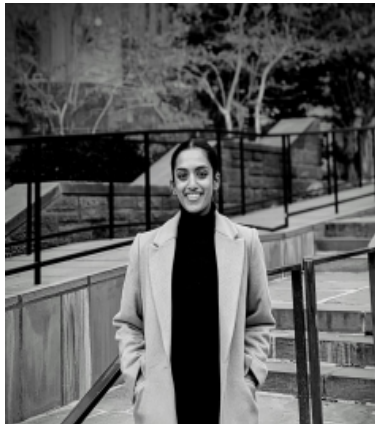
Nathan is a third-year cosmology student originally from Montana, and he is excited to serve as the GPS Graduate Student Representative. Nathan's research spans both observational methods and early universe cosmology. Outside of physics, you'll usually find him bouldering—either indoors or out on real rock whenever he can.

Announcements & Celebrations!

- ★ [Navisha Wadhwa](#) and [Julia Ute Doelger](#) are happy to share the latest photo of their new family of four. Two new future physicists!



- ★ Welcome to the Physics Department AND also congratulations to [Purnima Narayan](#) and Maha on their new baby (another future physicist!) Purnima joined us this Spring as our latest Academic Professional working in our PIRT labs. Congratulations to you and your growing family!



★ Also new to PIRT is **Angel Durate** joining us as a lab and research Specialist.

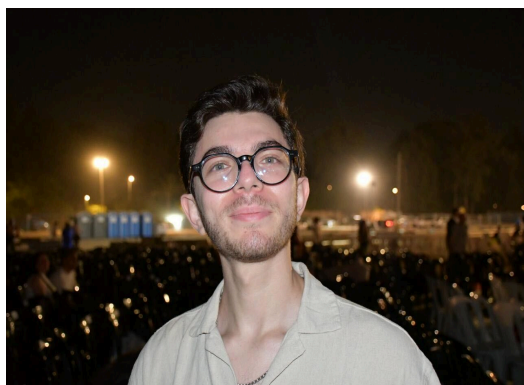
★ Please also help us welcome our newest student workers: **Utkarsh Vishal Chhajer** (Facilities), **Reya Maestas** (Colloquium, Business forms and Room Reservations), **Ruben Wulfson** (front desk), and **Samantha Munitz** (front desk). They have stepped into their new roles beautifully and been a huge asset to the success of our department. Welcome to Physics!



Utkarsh Vishal Chhajer-Utkarsh is a first-semester freshman at Arizona State University majoring in Aerospace Engineering with a concentration in Astronautics. He is passionate about space science and astrophysics, and prior to starting university, he had the opportunity to engage in research in space-related studies, participate in national-level science fairs, and contribute to asteroid research. He was involved in the preliminary discovery of an asteroid and is a NASA-certified Citizen Scientist for asteroid discovery. He was also fortunate to receive recognition as the youngest individual to publish a research paper in the field of space science. Outside of academics, he enjoys watching films, exploring new places, and discovering different cuisines.



Reya Maestas - Reya is in her final semester at Arizona State University, studying Marketing at W.P. Carey School of Business. Her internship last summer as a Legislative Intern on Capitol Hill inspired a new interest in political affairs. Post graduation, Reya plans on pursuing a career in media relations in Washington D.C., where she hopes to expand her professional network and continue gaining experience working at the Nation's Capitol.



Ruben Wulfson - Ruben is a junior currently majoring in Finance and has a strong interest in real estate and investing. He enjoys learning about financial markets, property valuation, and the many factors that influence real estate decisions. Looking ahead, Ruben hopes to build a career as a real estate investor working in both the United States and Mexico, with the goal of creating long-term value through thoughtful investments and projects.



Samantha Munitz - Samantha is a third year student at Arizona State University where she is majoring in Communication with a minor in Film and Media Studies. After graduation, she hopes to work in the entertainment industry as she has recently become passionate about casting!

We LOVE new arrivals to Physics-you are valued and we welcome you all to the family!

What's coming up?

- **Physics Department Spring Picnic March 27th @Daley Park 11am-2pm**
- **UG Symposium April 3rd**
- **Spring Awards April 24th**
- **Final Exams May 4-9**
- **Commencement May 11th**

In celebration of Staff Appreciation Day, our incredible staff were treated to lunch in recognition of the essential work they do every day.

Our staff play vital roles across the Department of Physics — from facilities coordination and department-wide communications to business reporting, financial forecasting, and reimbursements. They manage phone calls and walk-ins, support human resources from day one through retirement, process academic actions including promotion and tenure, order supplies, handle package management, coordinate room reservations, support grant administration, advise both graduate and undergraduate students, plan events, and build strong connections with faculty, students, and visiting guests.

Simply put — our staff make it happen.



Please join us in thanking our hardworking staff who truly keep our department running smoothly and functioning at its best. We are deeply grateful for your dedication, professionalism, and commitment to excellence.

Thank you for all that you do!



Grad Lounge Remodel

Over spring break, our graduate students rolled up their sleeves and brought new life — and plenty of color (and music!) — to the Grad Lounge. Through their creativity and teamwork, the space has been refreshed into a more vibrant and welcoming environment for the graduate community.



Thank you to our graduate students for their initiative, energy, and dedication to building a space that reflects the spirit of our department.



Let's Play!

Click the link below to test your knowledge of physics:

[*Physics Knowledge Challenge 2026*](#)

We need and appreciate YOUR support!

☀ Message from the ASU Department of Physics

The Arizona State University Department of Physics stands at the forefront of discovery — where imagination meets impact, and exploration knows no boundaries.

From breakthroughs in quantum materials and astrophysics to innovations in sustainable energy and imaging science, our faculty and students are redefining what's possible. Every experiment, every idea, and every “aha” moment is fueled by a shared passion for understanding the universe and improving life within it.

This spirit of discovery thrives because of you — our alumni, donors, and partners. Your generosity supports world-class research, transforms laboratories, and opens doors for the next generation of scientists and innovators.

As we look to the future, we see limitless opportunity: new frontiers in quantum research, biophysics, materials, and deeper insights into our cosmos, and a community united by curiosity, collaboration, and courage.

Thank you for believing in ASU Physics and for helping us shape a future as boundless as the universe itself.

Together, we turn curiosity into discovery — and discovery into change! Thank you for your support through the [ASU Foundation](#) today to help us impact tomorrow!

[Sun Devil Giving Day March 19th, 2026](#)





* Click image above to view video *

Thank you for your continued support!

Trivia Answer:

C. Samantha “Sam” Munguia

Samantha “Sam” Munguia is the Department’s Assistant Director Operations. She is a seasoned higher education administrator with over 18 years of experience in managing complex financial and business operations, including graduate program administration, research support, faculty affairs, and human resources. Known for her strategic approach and passion for proactive financial management, she has led large-scale initiatives in both sponsored and non-sponsored funding. Most recently, she served as the Financial Assistant Director at ASU’s University Innovation Alliance. She is dedicated to fostering an environment where faculty, staff, and students thrive, and she excels at implementing impactful solutions and leading diverse teams to achieve organizational success.



A proud Arizona native, she loves spending quality time with her loved ones and her pet Chihuahua, Lola. As a true horror enthusiast, she enjoys reading Stephen King novels, watching scary movies, and celebrating Halloween year-round.

Sam is a wealth of knowledge and vision. Thank you for all you do for our department!





Fill out an [online form](#) and personalize it with a short explanation that describes why you are sending the SUN Award. When you submit the online form, you and the recipient will be notified via email. Give someone an award today.



[Asu Physics | Facebook](#)



[Instagram](#)



[Department of Physics | LinkedIn](#)

Like, Subscribe & Follow Us!



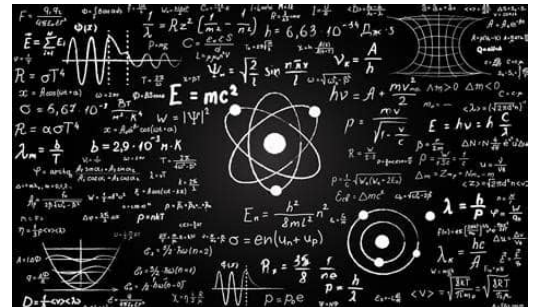
[Department of Physics - Arizona State University - YouTube](#)

Past Newsletters:

[Department of Physics Newsletter December 2025](#)

[Department of Physics Newsletter October 2025](#)

[Department of Physics Newsletter August 2025](#)



And finally ...

Nobel award winning physicist and his limo driver

A Nobel award winning physicist, who was afraid of flying, was on a speaking tour of the nation's top colleges. He travelled by limousine to each destination to give his speech.

After two dozen engagements, the physicist and the limousine driver were having dinner before the next speech. The limousine driver commented that he'd heard the speech enough times, and that even though he didn't understand it, he felt as if he could deliver it word-for-word. So the physicist agreed to trade places and let him give the speech, and the physicist would sit in the back and wear the limousine driver's uniform.

After giving the speech flawlessly, the limousine driver opened the floor for questions from the students (typically there were none). However, at this particular University there was a rather egotistical student who thought he was smart enough to compete mentally with the Nobel physicist. The question took 5 minutes to get out and would require a rather lengthy explanation and some complex calculus to answer.

Without batting an eye, the limousine driver responded to the young student by saying, "The answer to that question is so easy, I'll let my limousine driver, seated in the back, respond."

See you next time!

