

# ARCS

## ARCS PITTSBURGH NEWSLETTER SUMMER 2025

### Message from the Presidents

In these uncertain times—especially with the evolving landscape of NIH and other federal funding—the mission of ARCS Foundation is more critical than ever. Supporting the next generation of scientific leaders isn't just important—it's essential to our collective future. In conversations with Carnegie Mellon and Pitt we have become aware of how much our support is appreciated. Our scholars are concerned as well, but all of them are proceeding with their research and are so thankful for their ARCS awards.

This spring has been an exceptional season of engagement and inspiration. From our tour of the Center for Aviation Technology and Training, to the insightful "Conversations About Vaccines" with Dr. Terance Dermody, to a tour of CMU's TechSpark Center—our programming has truly reflected the excellence and passion that defines ARCS.

This newsletter celebrates the incredible research and innovation coming from our university partners, scholars, and alumni. Their work is a direct reflection of your ongoing generosity and commitment.

We hope to see you all at the Frick Environmental Center on **May 9th** for the **Scholar Showcase**. It will be a lovely evening featuring the research accomplishments of our third year scholars. As we look ahead, be sure to mark your calendar for more outstanding program activity and our **Annual Meeting** on **June 26th**. We look forward to sharing more moments of connection, discovery, and impact with you.

*With gratitude,*

**Anne & Linda**

*Co-Presidents*

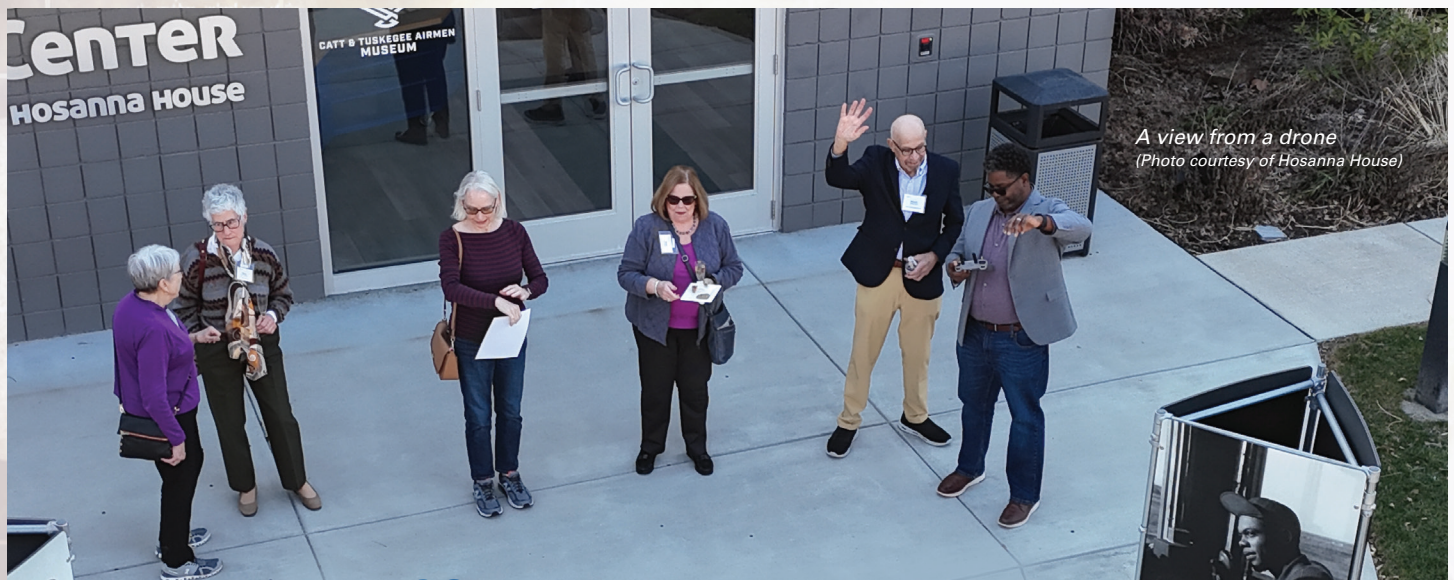
ARCS Foundation

Pittsburgh Chapter

“ Supporting the next generation of scientific leaders isn't just important—it's essential to our collective future.”







A view from a drone  
(Photo courtesy of Hosanna House)

## ARCS Members Take Flight at the Hosanna House Aviation Center

On March 13th, members and guests gathered at the Hosanna House Center for Aviation Technology and Training for an exciting, hands-on experience while learning how Hosanna House is inspiring underserved youth in our region to pursue careers in technology and aviation.

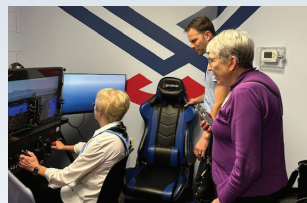
The event took place in the Tuskegee Airmen Museum, which holds artifacts on loan from the Smithsonian. The exhibit was designed with assistance from the Children's Museum. The Tuskegees were pioneering African American military pilots during World War II who broke through discrimination barriers and contributed to our country's military success.



Learning to use the flight simulator (Photo courtesy of Linda Burke)



Piloting a drone (Photo courtesy of Linda Burke)



Flying—virtually! (Photo courtesy of Anne Crawford)

Following the presentation, attendees had the unique opportunity to get into the pilot's seat—virtually! The airplane flight simulators provided a thrilling experience, allowing participants to test their skills and gain an understanding of the mechanics and challenges of flight. Our newest ARCS member, **Nancy Barry**, piloted a bumpy runway landing in Honolulu. Guests also had a chance to pilot drones, further immersing themselves in modern aviation technology.

Thank you to everyone who joined us for this unforgettable event! Stay tuned for upcoming programs that will keep your imagination soaring.

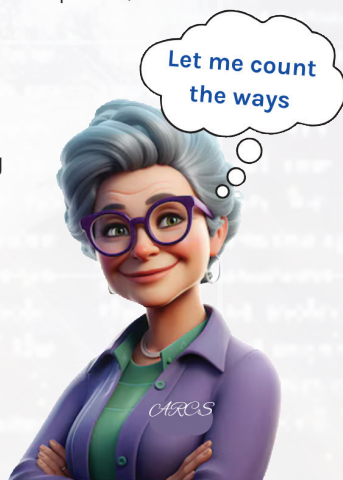


## A Note from Jeanne: Aunt Annie's Counting the Ways

14

**N**ow that we have given Aunt Annie (Angela Rose Camile Smith—ARCS for short) a platform, it seems she can't get off it and she ALWAYS has something to say! First, she wants to remind us that the recent cuts and freezes to federal funding for medical and other scientific research, even though they may be temporary in nature, have caused some anxiety and disruption. So it is even more critical to support ARCS Scholars as best we can. Aunt Annie is working hard but she's looking for your help. In fact, she's made a list! (What a surprise!)

Annie wants to remind us that there are numerous ways to support the ARCS mission of strengthening America's scientific leadership:



- **Monetary Donations**  
– (Otherwise known as “money”—obvious, I know, but we would be remiss not to mention it, especially because you may not have considered the idea of a recurring donation which may be set up online.)
- **Tribute or Memorial Donations**
- **Matching Gifts** – Many companies will match gifts that advance scientific research and education.
- **Donor Advised Funds (DAF)** – ARCS may be designated as a recipient of this type of account.
- **Qualified Charitable Distributions (QCDs)** – Those 70.5 or older may contribute from an individual retirement account (IRA).

- **Stock Donations** – Individuals may donate appreciated stocks or other securities.
- **Event Sponsorship** – You may support an ARCS event by joining the host committee, covering the cost for scholars or other guests to attend, or otherwise sponsoring an event.
- **Planned Giving** – You may choose to include a gift to ARCS in your estate plans. (More about this in coming months.)

Plus here are some thoughts that require NO money from you:

- o Introduce at least one new member to the organization this year. Even at a minimum membership contribution level, ten new members add up to a significant increase in our scholar funds.
- o Call a member to join you at an ARCS event—especially someone you haven't seen for a while. Don't let people feel that we've forgotten them or the value they add in friendship, leadership, and support of our mission.
- o **Let Paula Zawadzki (pazawadzki@comcast.net) or Rosemary Mendel (rosemary918@verizon.net) know of any foundation or corporate contacts we might reach out to for funding.**

**Jeanne B. Berdik**

**Chair, Fund Development Committee**

jbberdik@gmail.com

412-443-5495

More information related to ways to support the ARCS mission may be found on the Donation Page of the ARCS Foundation Pittsburgh website (<https://pittsburgh.arcsfoundation.org>) or you may always contact me to discuss your giving ideas or questions.

## Getting to Know Our New Members

**Nancy Barry** retired from Schneider Downs where she was an audit partner. She lives in Fox Chapel. **Linda Thier** introduced Nancy to ARCS.

**Karen Hughes** practiced anesthesia at Western Reserve Care, Tod Children's Hospital, and UPMC Presbyterian. She retired from Allegheny

Health Network where she was a certified registered nurse anesthetist. Karen and her husband, Chris, live on Mount Washington. She rides and competes in dressage with her Friesian, Wilco JH. **Rosemary Mendel** introduced Karen to ARCS.



## Timely Topics of Great Importance: Vaccines! All You Ever Wanted to Know

**A**RCS Pittsburgh is committed to maximizing member benefits through exciting and meaningful engagement. Our offerings include educational programs led by globally recognized research leaders, behind-the-scenes tours showcasing cutting-edge innovations in STEM fields, networking events with emerging science leaders, and volunteer opportunities suitable for every level of time commitment.

Recently we've focused our educational programming about **Timely Topics of Great Importance**, beginning with **"Vaccines! All You Ever Wanted to Know"** on April 15th at the John G. Rangos Sr. Research Tower at UPMC Children's Hospital of Pittsburgh—home to one of the fastest-growing pediatric research centers in the United States. ARCS Pittsburgh members were treated to an exclusive evening hosted by **UPMC Children's Hospital** and the **UPMC Children's Hospital Foundation**, featuring **Dr. Terence Dermody**.

Dr. Dermody, known for his high-impact research, leadership, and engaging presentation style, delivered a memorable program. He serves as the Vira J. Heinz Distinguished Professor and Chair of Pediatrics at the University of Pittsburgh School of Medicine, professor of microbiology and molecular genetics, and physician-in-chief and scientific director at UPMC Children's Hospital of Pittsburgh. In these roles, he leads a team of more than four hundred faculty members making significant contributions to pediatric medicine and virology research.

(Photo courtesy of Sarah Stallings)

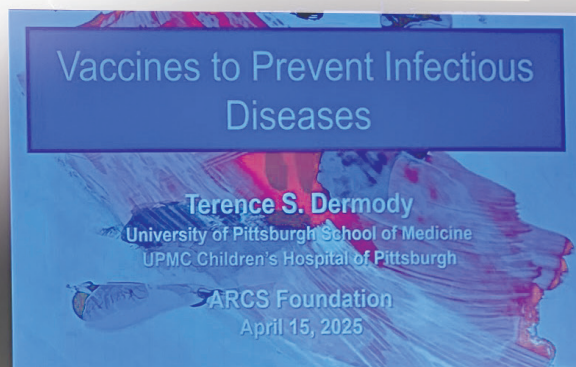
Among his many accomplishments, Dr. Dermody's award-winning teaching—recognized at Harvard, Vanderbilt, and now the University of Pittsburgh—was evident as he energetically (and humorously!) guided attendees through the story of vaccine development. His presentation covered the different types of vaccines, phases of testing for safety and efficacy, and concluded with a lively Q&A session. He thoughtfully answered questions such as:

- "Why are vaccines so controversial these days?"
- "What provides the best immunity and why?"
- "Can I be over-vaccinated with too many booster shots?"

He even discussed emerging research suggesting that vaccines may offer additional health benefits, such as a lower incidence of dementia in vaccinated individuals. His advice was clear and empowering: *expect your physician to listen carefully and answer your questions about any recommended vaccine.*

In addition to his presentation, Dr. Dermody introduced two ARCS Pittsburgh Scholars currently conducting research at UPMC Children's Hospital:

- **Emmanuel Leon Colon**, a fourth-year PhD student in the microbiology and immunology program at the University of Pittsburgh School of Medicine,





and recipient of the ARCS Scholar Award from the Elliott-Martin-Meadowcroft-Testoni ARCS Pittsburgh Scholar Award Endowment, which supports research at UPMC Children's Hospital.

• **Lindsay Wilson**, a first-year PhD student in the same program in the School of Medicine, and recipient of the ARCS Pittsburgh Simpson-Thier Children's Hospital Named Award.

Members lauded the event, with one saying, *"Absolutely terrific event tonight. Dr. Dermody is not only excellent but translates his knowledge so we can retain it—and what a terrific sense of humor!"*

Looking ahead, members can expect more compelling ARCS Pittsburgh programs under the Timely Topics of Great Importance banner. Be sure to **save the date for our next exclusive event on June 12th: "Behind the Science: Transforming Women's Health through Pharmaceutical Innovation."**

This program will feature a conversation with leaders from the **Magee-Womens Research Institute and Foundation**, the largest US research institute focused on women's health and reproductive biology: **Michael Annichine**, president and CEO, Magee-Womens Research Institute & Foundation; and **Lisa Rohan, PhD**, professor, Department of Pharmaceutical Sciences (School of Pharmacy) and Department of Obstetrics and Reproductive Sciences (School of Medicine), University of Pittsburgh.

Please make sure you're receiving our emails with updates and details about this and future timely topics of great importance!

## Save the Date!

**June 12th** – Behind the Science: Transforming Women's Health through Pharmaceutical Innovation: A Conversation with Michael Annichine and Lisa Rohan, PhD, at the Magee-Womens Research Institute

**June 26th** – ARCS Pittsburgh Annual Meeting

## 2025 ARCS Light Award

**B**elieving that giving back is fundamental to a well-lived life, over the last forty years **Angie Maher** has served as a board member for many non-profit organizations in the Pittsburgh region. As a chartered financial analyst, she used her financial and accounting skills to help these organizations accomplish their important missions, playing a financial leadership role at the ARCS Foundation



Angie Maher (Photo courtesy of Angie Maher)

Pittsburgh, the YWCA, the Veterans Leadership Program, the FISA Foundation, and the American Chronic Pain Association, among others.

Much of her professional life was spent in the treasury departments of two Pittsburgh hospital systems. She rose from the role of financial analyst to serving as assistant vice president of treasury services at the Forbes Health System and was the director of treasury services at the Allegheny Health System. Later she became the CFO of a biopharmaceutical startup company doing anti-cancer drug discovery. Later still she joined PNC Bank as a vice president and the director of healthcare alliances.

Angie became an ARCS Foundation Pittsburgh board member in 2012 and finds that joining with other like-minded women to support graduate students in the STEM disciplines to be inspirational. These exceptional young scientists are the future of America.





## Scholar Alumni in Pittsburgh

Four ARCS Scholar alumni who received their awards from other chapters work in Pittsburgh:



(Photo courtesy of the University of Pittsburgh)

**Emily Elliott, PhD**, was a Metro-Washington Chapter ARCS Scholar in 2002 at the Johns Hopkins University, where she received her PhD in geography environmental engineering. Dr. Elliott, a professor in Pitt's

Department of Geology & Environmental Science, studies the environmental impact of human activities on nitrogen. Her research uses innovative techniques to trace nitrogen's movement through ecosystems. She is also the director of the Pittsburgh Collaboratory for Water Research, a trained science ambassador through the National Academy of Sciences, recognized by the American Geophysical Union for excellence in education and mentoring, and ARCS Pittsburgh member.



(Photo courtesy of the University of Pittsburgh)

**Michael Gold, PhD**, was a LA Chapter ARCS Scholar in 1988 at UCLA, where he received his PhD in neurobiology. Dr. Gold is a professor of neurobiology at the University of Pittsburgh. His research explores how

nerve cells change after injury and contribute to chronic pain. By studying both individual cells and patients, he aims to improve pain diagnosis and treatment. Dr. Gold is a leader in the broader pain research community and helped to establish the US Association for the Study of Pain to advance collaboration and innovation in the field.



(Photo courtesy of the University of Pittsburgh)

**Jill Glausier, PhD**,

was an Atlanta Chapter ARCS Scholar in 2007 at Emory University, where she received her PhD in Neuroscience.

Dr. Glausier, an assistant professor of psychiatry at Pitt, studies postmortem brain tissue to explore cognitive dysfunction in psychiatric disorders. Her research uncovers cortical circuitry and mitochondrial changes in schizophrenia, bipolar, and opioid disorders. She is also the associate program director of Pitt's NIH-funded NeuroBank and received the NIH NeuroBank Award of Excellence.

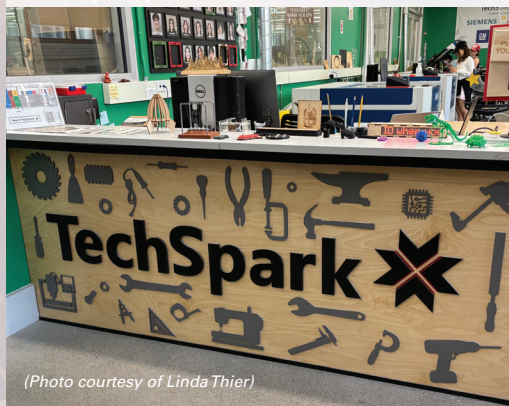


(Photo courtesy of Carnegie Mellon University)

**Jeanne VanBriesen, PhD**,

was an Illinois Chapter ARCS Scholar in 1993–1998 at Northwestern University, where she received her PhD in civil engineering. Dr. VanBriesen, Duquesne

Light Professor at Carnegie Mellon, recently completed a four-year term as a division director at the National Science Foundation. Her work integrates data science, systems analysis, and environmental engineering to advance sustainable water systems, improve treatment, and address energy impacts. A founding ARCS Pittsburgh member and the first ARCS Hall of Fame inductee, she is nationally recognized for her groundbreaking contributions to water quality, sustainability, and mentoring the next generation of engineers.



(Photo courtesy of Linda Thier)

## CMU Site Visit Recap

**Every year ARCS Pittsburgh visits one of our partner institutions.**

This year we visited Carnegie Mellon. Our visit kicked off with students leading us on a tour of the TechSpark Center in Hamerschlag Hall, which features advanced engineering and prototyping facilities. This was followed by a tour of CMU's newest engineering building, Scaife Hall. Our visit ended with a lovely lunch during which we had time to chat with several of the university's representatives.



## Our ARCS Pittsburgh Scholar Alumni: Staying in Touch with Michelle Karabin Harter, PhD

14

**D**r. Michelle Karabin Harter, an ARCS Pittsburgh Scholar from 2020–2021 through 2022–2023, completed her PhD in the Department of Bioengineering, School of Engineering, at the University of Pittsburgh in 2024. We're thrilled to share that Michelle is staying in Pittsburgh as a postdoctoral fellow in the ophthalmology department at StreetLab, part of the UPMC Mercy Vision Institute. She is conducting her postdoctoral research under the supervision of the world-renowned Dr. José-Alain Sahel, distinguished professor and chair of ophthalmology, the Eye & Ear Foundation Endowed Chair at the University of Pittsburgh School of Medicine, and director of the UPMC Vision Institute.

StreetLab's mission is to study how visually impaired individuals perform daily-life tasks, with the goal of evaluating innovative solutions and assessing the therapeutic benefits of interventions.

Michelle's rapid progress through her doctorate should come as no surprise. She was a nationally ranked athlete in track and field—specifically pole vaulting, which sparked her deep interest in biomechanics and the science of balance. Her doctoral research focused on vestibular hypofunction—or vestibular loss—a condition in which individuals lose their ability to stand or walk steadily, increasing the risk of falling and injury.

"Vestibular loss can result from ear infections, vertigo, migraines, or simply the aging process," Michelle explains. "Our ears have hair cells that help us hear. Similarly, hair cells in our vestibular system degrade with age." She notes that about 30% of Americans over the age of 40 experience some form of vestibular dysfunction.

Recognized early on as a standout in bioengineering, Michelle received an NIH F31 award to support her research in computational modeling of human movement, specifically investigating how balance is maintained during movement. She conducted her PhD research

under Professor Mark Redfern in the Human Movement and Balance Laboratory, which focuses on the biomechanics of movement.

Michelle created a computer simulation of walking with and without vestibular hypofunction, allowing her to recommend new rehabilitation and therapy strategies for affected individuals.

### The ARCS Effect

Michelle credits ARCS as a pivotal influence in her career. She became an ARCS Scholar in 2020 while deciding between graduate schools and PhD programs.

"When I learned I was a recipient, I took it as a sign to stay in Pennsylvania, attend the University of Pittsburgh, and follow my passion into biomechanics," she shares. "I'm grateful for the opportunities—financial and otherwise—that ARCS continues to give me."

Her ARCS award helped lay the foundation for her

current postdoctoral fellowship at StreetLab, where her balance research now extends to exploring how vision loss impacts balance and mobility. Her work aims to quantify daily life function in people with vision impairment and identify successful strategies that support independent mobility and quality of life.

Reflecting on the impact ARCS has had on her journey, Michelle shared this message for our broader community: "Thank you for the work you do to reward young adults looking to pursue advanced degrees. It really does make a huge impact."

Dr. Michelle Karabin Harter's story exemplifies the mission and long-term impact of ARCS Pittsburgh. Her research in biomechanics and balance is already making a difference—and promises even greater influence in the years to come.

We are so proud of Michelle and honored to have played a role in her journey. To all ARCS Scholar Alumni: we want to hear from you! Let us know where you are now and how your ARCS award helped shape your career.



Michelle Karabin (Photo courtesy of Michelle Harter)