



YEAR IN REVIEW

**PENNOVATION
WORKS**

Where Ideas Go To Work

2024

Introduction



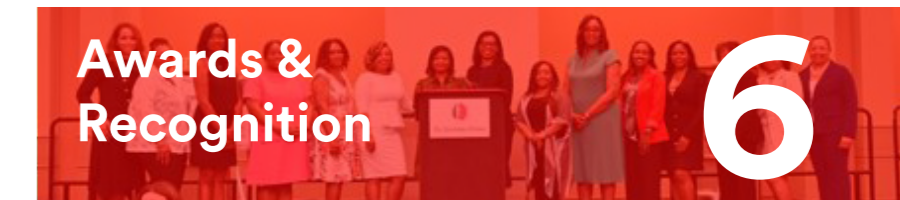
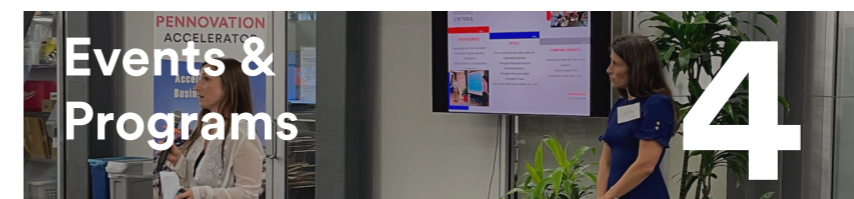
Denita Henderson

Managing Director

Hi, I'm Denita Henderson, Managing Director of Pennovation Works. 2024 was a landmark year for our innovation ecosystem. We proudly supported 141 companies and nearly 200 startup founders from across the region, providing state-of-the-art facilities, targeted programming and engaging community development events. I'm incredibly proud to share a few of our accomplishments.

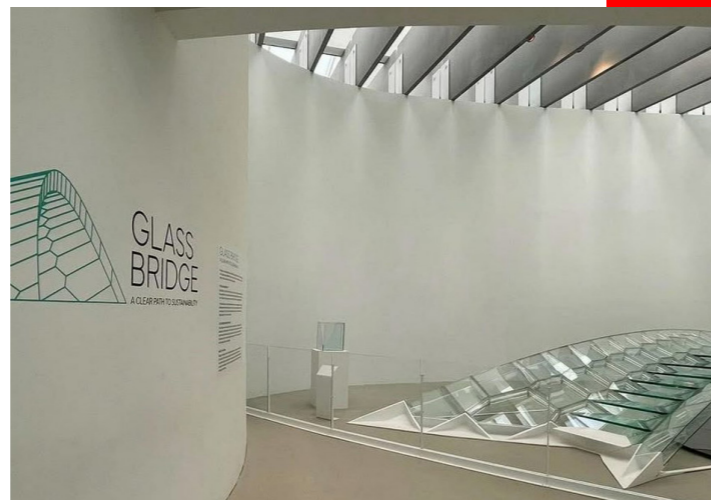
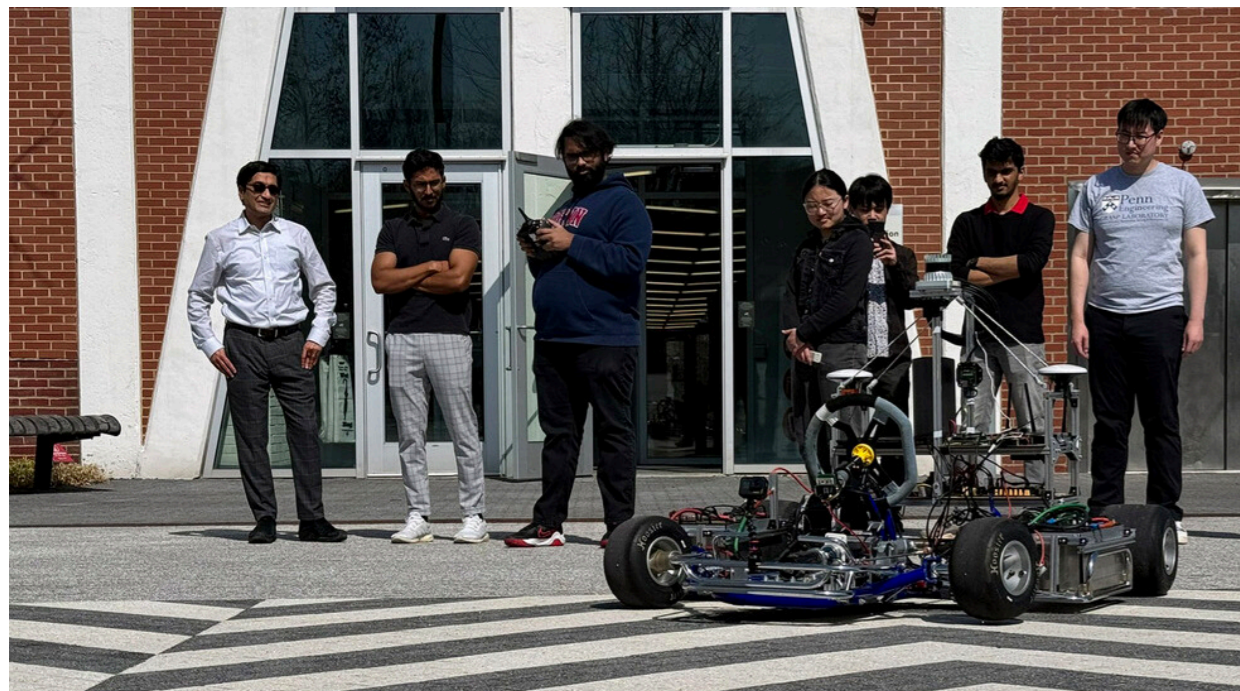
Our Pennovation Summer Accelerator was named program of the year by Technical.ly. Our Y.E.S. Initiatives, focused on youth, entrepreneurship and STEM, reached 170 middle and high school students. Through our sustainability efforts, we diverted and reduced waste and carbon emissions by over 1,500 pounds. These achievements, and those highlighted in our Year in Review, reflect the vibrant community we've built. Whether there's an innovator working on proof of concept at a single bench in our incubator, or a mature research and manufacturing operation with dozens of employees, Pennovation Works is truly the place "Where Ideas Go To Work."

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1 INNOVATION ECOSYSTEM BY THE NUMBERS

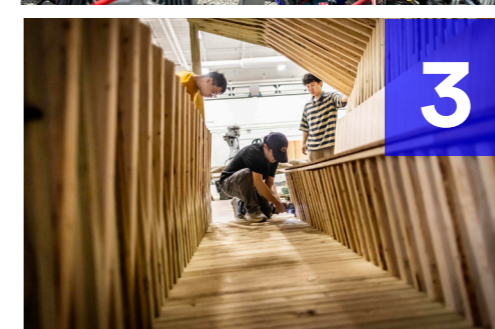
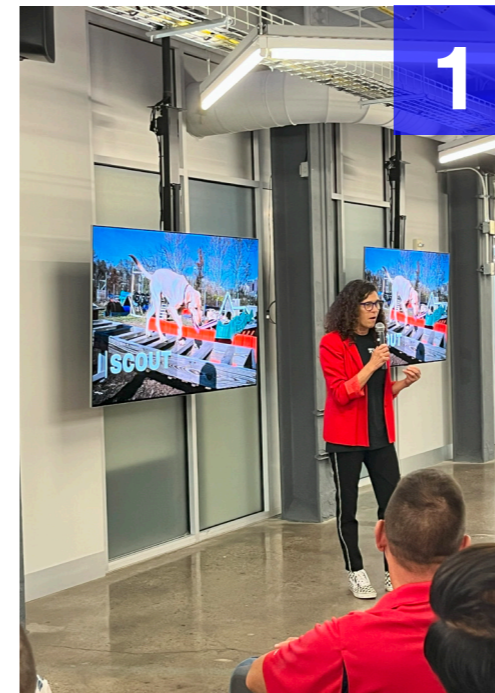




2 RESEARCH ROUNDUP

SOLVING REAL WORLD PROBLEMS THROUGH RESEARCH

At Pennovation Works, industry partners and researchers work to solve real world problems. The ecosystem provides a variety of spaces and resources to assist members in advancing their research in new and innovative ways. [Click on the images below](#) to learn more about how these researchers, entrepreneurs, and students transform their ideas into viable commercial ventures.



1 Penn Vet Working Dog Center (PVWDC) and Cindy Otto, DVM, PhD were featured in Netflix's documentary *Inside the Mind of a Dog*. The film explores the science behind how dogs think, and how they are selected and trained to be service dogs.

2 Penn Engineering and The Autoware Foundation showcased their F1TENTH project, where students are graded on the design, assembly, and programming of self-driving cars.

3 Researchers from the Stuart Weitzman School of Design, School of Nursing, and Penn Engineering developed a solar-powered wooden bus shelter that provides shade and radiant cooling.

4 MindCORE, Penn's hub for the integrative study of the mind, had their new fMRI scanner installed in their space at the Pennovation Lab. The machine is the centerpiece of the new Neuroimaging Facility where scientists will study how human brains and behavior are linked.

5 Penn Vet Working Dog Center (PVWDC) held a graduation for their latest Law Enforcement K9 Training Program cohort. The program provides qualified law enforcement canine handlers, or police canines, from local, state and federal agencies with individualized training to create high-performing K9 teams.



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AI cleans up your transcription into a complete note

Pocket Scribe



Jochi



Goeppert

Interius BioTherapeutics



Opertech Bio



Sahay AI



Pocket Scribe launches their cutting-edge AI-powered medical note dictation and reimbursement enhancement tool.

Jochi, President's Innovation Prize Winner, is making life easier for middle and high school students who have learning differences by helping them keep track of their school assignments and outside activities.

Goeppert LLC, was named an SBIR Phase I NASA awardee. Their proposal, nanocomposites for multi-analyte detection and plant health monitoring, will enable smart agricultural and vertical farming which significantly reduces transportation costs of vegetables into ISS and future lunar habitats.

Sahay AI created a robotic device, LARR-E, that attaches to the back of a train car and uses sensors to capture data and information on the infrastructure of the train tracks. LARR-E can effectively take the place of visual railway inspections, using technology to capture more accurate and detailed data than the human eye and aggregating it in real time on a web dashboard.

3 COMPANY NEWS & MILESTONES

GROWTH IN THE WORKS

Company development and growth often takes the shape of recognition through industry awards, publications, securing financing, or participation in industry programs. *Click on the images* to learn how Pennovation member companies have experienced significant growth through product development, partnerships, funding, expansion, and more.

Opertech Bio received their fifth U.S. Patent for TaStation (Taste + Station). This technology has the capacity to determine the taste characteristics of hundreds of samples in less than an hour. The system reduces the reliance on traditional taste panel testing and the associated expenditure of resources in time and costs.

The newly designed TaStation® 3.0 was later launched allowing their taste evaluation system to run up to twenty percent faster than previous models, giving greater throughput and faster results for informed product decisions.



Interius

Interius BioTherapeutics announced that the first study participant has been dosed with INVISE, its first-in-human Phase 1 clinical trial of INT2104, a first-in-class gene therapy that delivers a CAR transgene to generate effector CAR-T and CAR-NK cells in vivo for the targeting of CD20-positive B cells for the treatment of B-cell malignancies.

Interius also raised \$67 million in funding. This Series B round will support clinical development of the company's lead gene therapy candidate.



Treeswift

Treeswift was named among the 10 Startups to Watch by the *Philadelphia Business Journal*. Companies were selected based on funding raised in the last two years, recent growth, future growth projections, and fundraising plans.



Tozuda

Tozuda hosted the Technical Entrepreneurship program at Lehigh University to discuss the launch, development, and design behind Tozuda's helmet technology.



Infini Fluidics

Infini Fluidics not only grew their space this past year at the Pennovation Center, but also received an **\$18 million funding allocation from the U.S. National Science Foundation (NSF)**. With this NSF grant, AI will be used to design, optimize and synthesize RNA and delivery vehicles by augmenting human expertise, enabling rapid iterative experimentation, and providing predictive models and automated workflows to accelerate discovery and innovation.



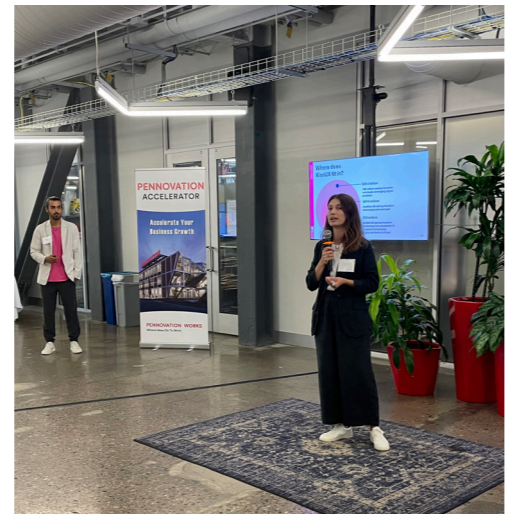
80+
Founders

7
Years

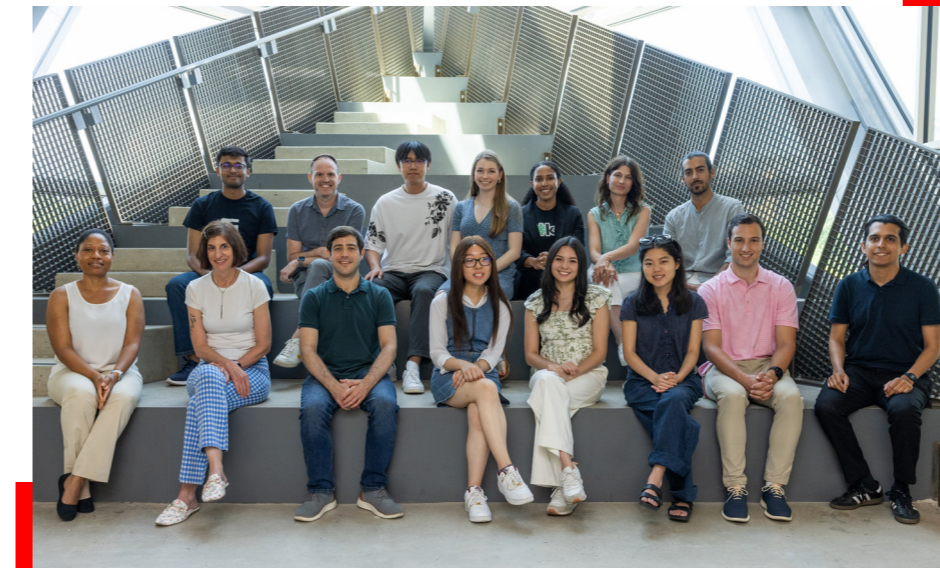
**PENNOVATION
ACCELERATOR
IMPACT**

\$21M
Funding
*(raised by
program alumni)*

65
Companies




4 EVENTS & PROGRAMS



WHAT'S IN THE WORKS

Pennovation Works held nearly 100 events with over 1,300 attendees in 2024. These events were open to local innovators, member companies, students, press, and the public. Through focused programming, companies receive guidance on developing and maintaining a business, and receive valuable exposure to the press and investors.

 [Click the image below to view the Pitch Day recording and event recap](#)




AND THE WINNERS ARE...

Sahay AI was named the overall 2024 Pennovation Accelerator Winner, based on engagement throughout the program, growth over the six weeks and the final pitch. Sahay AI is a Philly based robotics company that helps railway organizations automate and manage the way they do their track inspections.

Revise Robotics, a company pioneering a more circular electronics industry through intelligent robotics, **won Best Pitch** based on scores provided by the panel of judges and pitch delivery.

Finally, the new **Social Enterprise award** was given to **Camo Care**, a nonprofit organization that is providing accurate abortion access information for active-duty servicewomen.

ACCELERATING BUSINESS GROWTH

 [Click the image above to learn more about the Accelerator cohort](#)


In 2024, the Pennovation Accelerator cohort followed the success of past years, by applying the tools learned throughout the six-week program to develop their businesses, refine strategies, network with industry leaders and companies, and master their pitches.

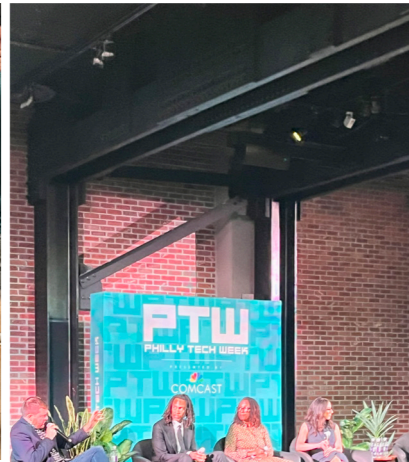
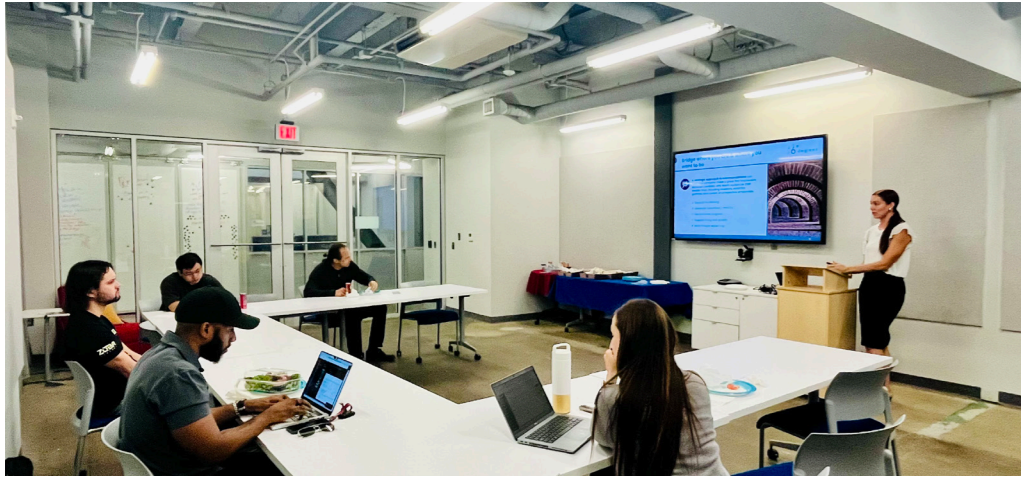
The seventh annual Pennovation Accelerator was held over the summer and welcomed the return of a fully in-person curriculum held at the Pennovation Center. This year's program included some exciting new additions such as a partnership with the Penn Nursing

Innovation Accelerator and the creation of a new social impact award category. The winners of the Penn Nursing Accelerator were accepted into the Pennovation Accelerator cohort to join the other companies in developing their business strategies.

“The Pennovation Accelerator taught us the art of the pitch. A key skill to effectively communicate your idea to an outsider.”

- Nikhil Illa, Founder Pocket Scribe

 [Click the quote above to discover the latest on Accelerator Alumni](#)



Public Relations Tips with 6 Degrees PR
 Pennovation Works partnered with public relations firm 6 Degrees PR on a weekly PR Tip Series that concluded with an informative lunch and learn session highlighting the importance of communication strategies for emerging biotech companies.

KIZ Tax Series
 Our month-long tax series program helped members propel their businesses forward through one-on-one sessions and webinars with tax professionals from the Keystone Innovation Zone (KIZ), Stephano Slack and EisnerAmper.

SBIR and STTR Programs
 The Pennovation Center hosted the National Cancer Institute's Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs with a presentation and office hours. A variety of topics were discussed, including funding opportunities for early-stage startups, academic spinout companies, and more.

Philly Tech Week
 The Pennovation Works team enjoyed connecting with other members of the tech community again this year at Technical.ly Philly's Builders Conference and the Signature Event. For the second year in a row, Pennovation Works and GRASP Lab also hosted the High School Aerospace Robotics Competition (ARC) as part of Philly Tech Week.

4 EVENTS & PROGRAMS



14th Annual PCI Ventures Showcase at Pennovation Works
 Thirty PCIV portfolio companies and Pennovation Accelerator alumni posterred at the event. Opening remarks were given by Pennovation Works Managing Director, Denita Henderson, and PCIV Portfolio Manager, Bhavana Mohanraj.

The audience of over 175 attendees heard from Cogwear CEO, David Yonce, Vasowatch CEO, Christine Rohan, and Pennovation Center member, Tejas Agarwal, Founder and CEO of Sahay AI. Rohan of Vasowatch was named PCI Ventures CEO of the Year.



[Click here to view a recording of the PCIV Showcase](#)

5 KNOWLEDGE EXCHANGE

EXCHANGING KNOWLEDGE WITH INDUSTRY PEERS

As a trailblazer in innovation ecosystem building, Pennovation Works welcomes engagements with a vast Knowledge Exchange Network to share best practices and information with institutional, government, and economic development leaders across the globe. In 2024, Pennovation Works hosted two international delegations, over sixty leaders and staff from six academic organizations, and nearly forty economic development professionals. The Pennovation Works team also supports industry-wide learning and development by serving as expert panelists and speakers for conferences and meetings reaching over 550 industry leaders, and by designing and delivering customized seminars for undergraduate and graduate courses. Highlights from the past year's knowledge exchange are featured below.

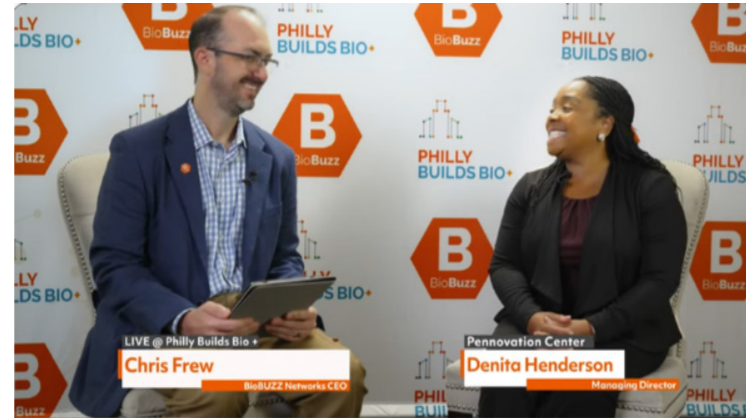


Urban Land Institute Panel Discussion at Pennovation Works

Pennovation Works hosted the ULI Life Sciences Product Council for a thought-provoking panel discussion that explored Philadelphia's Life Sciences investments and how they translate to sustainable community benefits. Denita Henderson spoke on the panel among other industry leaders and state officials who discussed job creation, placemaking and government initiatives surrounding Life Sciences.

Pennovation Works engaged the following institutional, government, and economic development leaders for knowledge exchange over the course of 2024:

- PACT Mentor Connect
- Princeton University Real Estate Team
- Wilmington University College of Technology
- Penn State Berks Launch Box
- Auburn University
- CIC's Japan Desk Soft Landing
- Main Line Chamber of Commerce
- Port of Cincinnati
- Merck
- Philadelphia Commerce Department
- U3 Advisors & Nanyang Technical University (NTU)
- Penn Environmental Innovations Initiative
- Trustee Council of Penn Women
- Lauder Institute Students
- Penn Center for Innovation (PCI)



Philly Builds Bio+ Symposium

The Philly Builds Bio+ 3rd Annual "Bridging the Gap to Commercialization" Symposium was filled with over fifty panelists discussing innovations in Philadelphia's life sciences sector. Pennovation Managing Director, Denita Henderson, spoke on a panel titled Startup Spotlights - Discussions with the Accelerators & Incubators Building the Philadelphia Market. [Learn more about the symposium here.](#)

During the symposium, Denita also had the opportunity to sit down with Chris Frew from BioBuzz to discuss the resources provided to companies within the Pennovation Center incubator, the importance of community for early-stage companies, and more. [The full interview can be viewed here.](#)

6 AWARDS & RECOGNITION

AN AWARD WINNING COMMUNITY

Pennovation Works continues to be a leader in innovative technology and research. As a result, the ecosystem, its members, and leadership receive various awards and recognition. Click on each image below to learn more about the success of the Pennovation Works community in 2024.

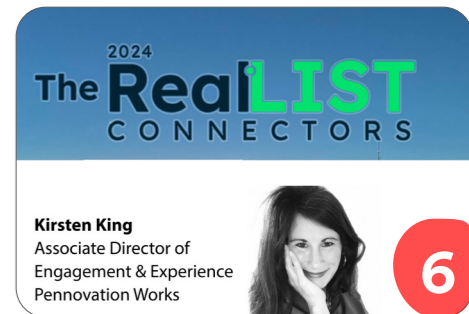
- 1 The Philadelphia Tribune honored Pennovation Works Managing Director, **Denita Henderson, as a trailblazer in her field.** The 2024 Women of Achievement luncheon acknowledged African-American women who are creating change and paving the way for future generations.
- 2 The Pennovation Accelerator won **Technical.ly Philly's Program of the Year Award.** The Technical.ly Awards celebrate the accomplishments of the tech community.



- 3 Tejas Agarwal, Founder and CEO of **Sahay AI, won the Venture Awards pitch competition** that was held during the 1682 Conference.
- 4 **Pocketscribe, QuneUp,** and Sonura as well as Accelerator alumni startups, Baleena and Vertige were recognized among **Technical.ly's 2024 Philly RealLIST Startups.** This designation recognizes up-and-coming tech startups.



- 5 **Dr. Cindy Otto,** Executive Director of Penn Vet Working Dog Center, **won the 2024 Special Award from The Kennel Club.**
- 6 **Kirsten King,** Associate Director of Engagement & Experience at Pennovation Works, was **named one of Technical.ly Philly's 2024 RealLIST Connectors.**



7 COMMUNITY COLLABORATIONS

CULTIVATING A BRIGHTER FUTURE

Pennovation Works continues to be an active community partner engaging with the city, University, and neighborhood. Pennovation's Youth Entrepreneurship and STEM (Y.E.S) Initiative has provided the opportunity to foster relationships with local schools and youth organizations to help promote entrepreneurship and STEM careers. Pennovation Works hosted 172 Y.E.S. participants in 2024. [Click on the images below to learn more about the Y.E.S. initiatives at Pennovation Works.](#)



2024 Workshop Tank Incubator Session

During the Workshop School Tank Incubator project held at the Pennovation Center, students worked to generate innovative and impactful business plans. The top plans were given an opportunity to pitch to a panel of judges and receive seed money.



Mastery Schools Pitch Day

The Pennovation Center hosted fifteen aspiring entrepreneurs in 10th and 11th grades from five Mastery Schools to compete in a Shark Tank-style Fast Pitch competition as part of Network for Teaching Entrepreneurship's (NFTE) National Youth Entrepreneurship Challenge.



Launchpad Student Visit

Pennovation Works hosted Launchpad students and faculty for a tour of the ecosystem, a Q&A session, and demonstrations from robotics entrepreneurs and the Polyhedral Structures Lab. Launchpad equips students with various tools and technical skills needed to excel in the workplace.



Upward Bound & Masterman High School

MindCORE hosted two visits with Upward Bound and Masterman High School students for tours of the Penn Smart Aviary, GRASP Lab, and the Penn Vet Working Dog Center during a visit to Pennovation Works. Students learned the benefits of cognitive science for various careers in technology, health care, and research.



Gray's Ferry Tree Tenders

Pennovation Works once again partnered with the Gray's Ferry Tree Tenders program this fall. Pennovation team members volunteered at Lanier Park and planted seven trees, tended to over 15 trees, and delivered over 1,000 pounds of mulch to the site.



Take Our Children To Work Day

Pennovation Works hosted 85 children and parents for Take Our Children To Work Day. The theme, "Big Ideas for a Better World" aimed to provide children with insights into various career trajectories while fostering a sense of responsibility towards contributing positively to society's progress.



Creating a More Sustainable Future at Pennovation Works

Pennovation Works educates its members on sustainable practices, planting the seed now for a more sustainable future. We have made a commitment to implementing sustainable practices through multiple initiatives that include:

- **Laboratory Recycling:** This program allows members to recycle commonly used clear and colored plastic laboratory consumables and nitrile gloves.
- **Water Conservation:** 450 gallons of water are generated during emergency safety shower and eyewash station testing. The excess water is stored in large containers and reused to clean laboratories and other parts of the building.
- **Energy Consumption Reduction:** The research laboratories in the Pennovation Center are one of the largest consumers of energy in the building. In accordance with the "Shut The Sash" program, Pennovation Center closes fume hood sashes, and turns off equipment when not in use, to reduce costs and increase energy efficiency.
- **Electronics Recycling Program:** The Pennovation Center collected electronics to be safely recycled during Earth Week.

8 PENNOVATION IN PICTURES

A YEAR OF INNOVATION IN THE WORKS

The expanding ecosystem of innovators, curated programming, and dynamic spaces at Pennovation Works continues to foster an environment that sparks advanced ideas. Pennovation Works in collaboration with PCI Ventures, produces and hosts a robust series of programs, training meetings, and events each month.



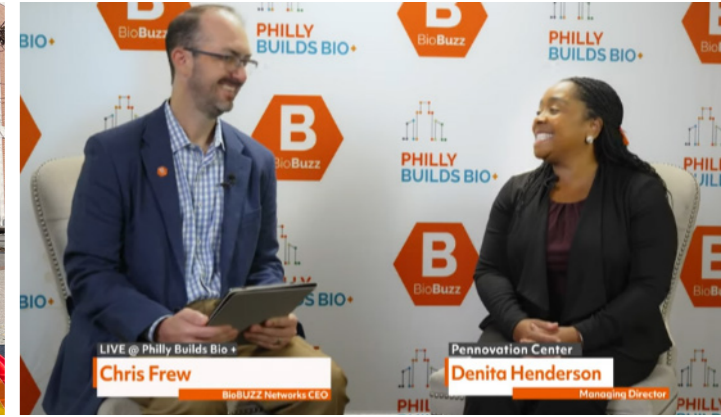
Pennovation Perks
 Pennovation community members enjoy a number of benefits including mentorship opportunities, monthly social networking events, virtual office hours, entrepreneurial empowerment speaker series, access to a network of investors and more.



Mentor Resources

Pennovation Center members can access diverse mentor programming such as mentor-matching with subject matter experts and office hours with Penn's commercialization and ventures team.

Pennovation Works partners with Ben Franklin Technology Partners and PACT to offer Pennovation Members access to the Mentor Connect program. Our program is tailored to the unique needs of each entrepreneur and their venture.



Click the image below to view a video recap of all the innovative research, events, conferences, presentations, and more that took place in 2024!





PENNOVATION WORKS

Where Ideas Go To Work

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