

# JOHNS HOPKINS

UNIVERSITY & MEDICINE

May 12, 2025

The Honorable Chair Danielle McCray and Members of the Budget and Appropriations Committee  
City Hall, Suite 400  
100 N. Holliday Street  
Baltimore, MD 21202

RE: City Council Bill 25-0036- Property Taxes – Baltimore City Payment in Lieu of Taxes Task Force

Dear Honorable City Councilmembers,

Across the nation, unprecedented federal actions and spending cuts are affecting our fellow Americans, especially here in the State of Maryland and in Baltimore City, where so many jobs are tied to federal work and federally funded research. For us at Johns Hopkins, these cuts are not a distant abstraction. They are up close and personal. They have already caused significant job losses tied to the elimination of \$800 million in USAID funding. We are now grappling with targeted federal cuts to research projects that had previously been funded by the National Institutes of Health, the National Science Foundation, the Department of Education and other agencies. And there are additional major changes headed our way that could have devastating consequences for our community.

Johns Hopkins University is directly impacted - from the **termination** and slowing of critical lifesaving research grants to policy changes on immigration, diversity, and accreditation. The Trump Administration's proposed "skinny budget" features widespread reductions across scientific research and education and will further exacerbate the financial uncertainty the university must navigate. Here in Baltimore, we have been incredibly proud to lend our policy experts and leadership to assist and advise on critical city issues and functions. We know that research saves lives, but it also creates jobs and contributes significantly to our economy. All of that vital activity is at risk due to federal cuts.

The healthcare system in Maryland, including Johns Hopkins Health System and its Baltimore hospitals – Johns Hopkins Hospital and Johns Hopkins Bayview Medical Center –helps cover gaps in our healthcare system for the most vulnerable, by providing approximately \$83 million in care to uninsured and underinsured patients. These institutions are now facing the prospect of devastating federal cuts. When faced with federal Medicaid cuts, states must decide whether to replace some of the lost dollars with state funds, restrict coverage, or decrease reimbursement to providers and health plans. As Senate President Bill Ferguson shared with reporters on May 6, the federal government pays for 90% of Maryland's Medicaid costs and the state picks up the remaining 10%. Any shift in the federal/state split would mean Maryland would have to absorb additional costs or revisit participant eligibility and coverage as well as reimbursement rates. For the Johns Hopkins Health System this will no doubt impact our operations in a profound way, constraining our ability

to meet the demand for services and access to care to Baltimoreans. Also looming is the possible change in the manner that hospitals are reimbursed in the state of Maryland as our current Total Cost of Care agreement between the state and the Department of Health and Human Services is under review with potentially dramatic change in the manner and rate at which we are reimbursed for Medicare services. Changes could result in hundreds of millions of dollars in reduced payments to Baltimore City hospitals for Medicare patients.

In the face of these extreme challenges, Johns Hopkins University and Johns Hopkins Health System remain steadfast in our commitment to Baltimore. Over the span of twenty years, we have appreciated the voluntary agreements that the City of Baltimore has forged with Baltimore's largest nonprofit educational and medical institutions, a commitment that has provided critical financial stability for the city and its anchor institutions. The mutual, voluntary agreement has allowed Johns Hopkins to execute multi-year investments in job growth, local businesses, capital improvement projects and community development that have greatly expanded the institution's economic impact.

As vital nonprofit anchors, we bring substantial public benefits to the city. We save municipalities significant costs by delivering services that local governments would otherwise have to provide. Johns Hopkins University and Johns Hopkins Health System, the largest private employer in Maryland and in Baltimore, **directly employs more than 41,100 people in the city and generates \$5 billion in direct economic impact each year.** Annual community spending by Johns Hopkins, last estimated at **\$407 million in fiscal year 2024**, supports crucial economic development and job growth for neighborhoods across Baltimore. We focus our spending on Baltimore specifically through HopkinsLocal, which has spent more than **\$1 billion with local Baltimore City businesses since 2016**, with major local outlays on construction projects and to Baltimore City-based minority- and women-owned firms. We are responsible for bringing new residents to Baltimore with good jobs, thereby stimulating economic activity and generating tax revenue for the city. The jobs we provide to our **nearly 17,000 employees who live in Baltimore City generated \$26 million in local income taxes in addition to the nearly \$19.7 million we pay in taxes and fees.** Growing Baltimore's tax base and driving economic activity in our city are the most important roles we can continue to serve for our hometown.

Johns Hopkins is proud of our hometown and the chance to support our beloved city and its people in hundreds of different ways. To start, we provide high quality health care and services to our patients, including charity care to ensure access to care for those with financial hardship, particularly the uninsured and underinsured.

From an employee benefits perspective, we offer down payment grants for employees buying homes in Baltimore City through our Live Near Your Work program. We also support our employees with childcare benefits and subsidized college tuition for their children, at any school of their choice.

Thanks to generous financial aid funded by our endowment, we make a Hopkins education affordable for admitted students from all backgrounds – but especially students from Baltimore City public schools. Through our Cummings Scholars program, City students attend Hopkins for free (room and board included) if their families earn \$80,000 or less, or close to free if they earn up to \$150,000. **In FY24, \$2.9 million was provided in Baltimore City Cummings Scholarships, and out of 53 students over half are underrepresented minorities.**

This is only scratching the surface. From providing vision screening and glasses, school counseling and tutoring support to children across the city, to millions of dollars in grants to nonprofits citywide who are helping to keep crime down at historically low levels, Johns Hopkins is deeply committed to Baltimore. We see a bright future for Baltimore, and we are grateful for the chance to contribute to it, in these and many other ways.

We appreciate the opportunity to provide comment and look forward to engaging in future discussion on this important topic.

Sincerely,



Maria Harris Tildon

Vice President, Government, Community & Economic Partnerships  
Johns Hopkins University & Medicine

Enclosures:

Johns Hopkins By the Numbers  
HopkinsLocal Impact Report  
Johns Hopkins Technology Ventures FY24 Annual Report  
Johns Hopkins University Innovation Fund for Community Safety Impact Report

# JOHNS HOPKINS

## UNIVERSITY & MEDICINE

### Johns Hopkins Impact in Baltimore

#### JOHNS HOPKINS ANNUAL CONTRIBUTION

##### TAXES AND FEES (FY24): \$56.9 MILLION

- **\$3.2 million:** Annual nonprofit contribution from Johns Hopkins, which represents more than half of the \$6 million that all nonprofits pay to the city as part of the nonprofit assessment agreement.
- **\$26 million:** (FY22) Annual local income taxes for the 17,000 JH employees who live in Baltimore.
- **\$19.7 million:** Property, energy, parking, telecom taxes and fees, including:
  - \$8.2 million: Property taxes paid annually for real estate that is leased or does not qualify for the tax-exempt status granted to nonprofit hospitals and universities.
  - \$6 million: Energy tax
  - \$5.3 million: Parking taxes
- **\$8.0 million:** Water and sewer charges

#### JOHNS HOPKINS ANNUAL COMMUNITY SPENDING

##### \$407 MILLION, INCLUDING

- **\$165 million** in Hopkins Local business spending on goods and services. Doesn't include construction spend.
- **\$83 million:** Financial assistance to the uninsured and underinsured patients who seek care at Johns Hopkins hospitals.
- **\$60 million:** Community health services
- **\$12 million:** Employee tuition reimbursement
- **\$10.7 million:** Johns Hopkins' contribution to the Live Near Your Work grants to Johns Hopkins employees 2009 to 2024. Over last five years, average contribution of \$500,000 annually.
- **\$2.3 million:** Innovation Fund for Community Safety has supported 20 nonprofit organizations that pursue public health-oriented strategies for reducing violence in Baltimore. This is \$6M (FY22-FY25) + \$6M committed FY26-FY28
- **\$2.1 million:** Investing in the Mayor's Priorities: e.g., ROCA, Gun Violence Reduction, Public Initiatives, and Health Department



## MISSION

HopkinsLocal is committed to leveraging the economic power of Johns Hopkins University and Medicine to expand and enhance economic growth, employment, and investment in Baltimore.

## HOW TO GET INVOLVED

Please reach out to [hopkinslocal@jh.edu](mailto:hopkinslocal@jh.edu) to learn more about local hiring and procurement opportunities!

Learn More





## BUILD

**\$360.4 Million** Committed to LBE's for design and construction projects based in Baltimore City.

**\$308.2 Million** Committed to MBE's for design and construction projects based in Baltimore City.

**103 BUILD** College alumni firms with 59% being M/WBE&LBEs.

**What are LBE's?** Businesses located in Baltimore City or their main office providing support to the project is located within the Baltimore City limits.

**What are MBE's?** Any minority- and/or women-owned firm certified by MDOT or Baltimore City.

**What are Commitments?** Parts of the contract that have been assigned to a contractor or subcontractor but have not necessarily been completed.

## HIRE

**4,202** Targeted positions filled by focus area Baltimore City residents.

**2,041** Justice involved individuals hired.

**What are Targeted Positions?** Specified roles where the need for employment is great.

**What are Focus Areas?** Baltimore neighborhoods where our efforts can make the greatest impact, fostering economic development through local employment, workforce partnerships, and community connections.

**What are Justice Involved Individuals?** Those who have been identified through a background check as having interacted with the criminal justice system, including arrest, conviction, probation, or parole, regardless of whether they have been incarcerated.

## BUY

**\$1.05B** Total addressable spend with local Baltimore City businesses.

**What is Addressable Spend?** Spend that can be negotiated or be subjected to a sourcing process.

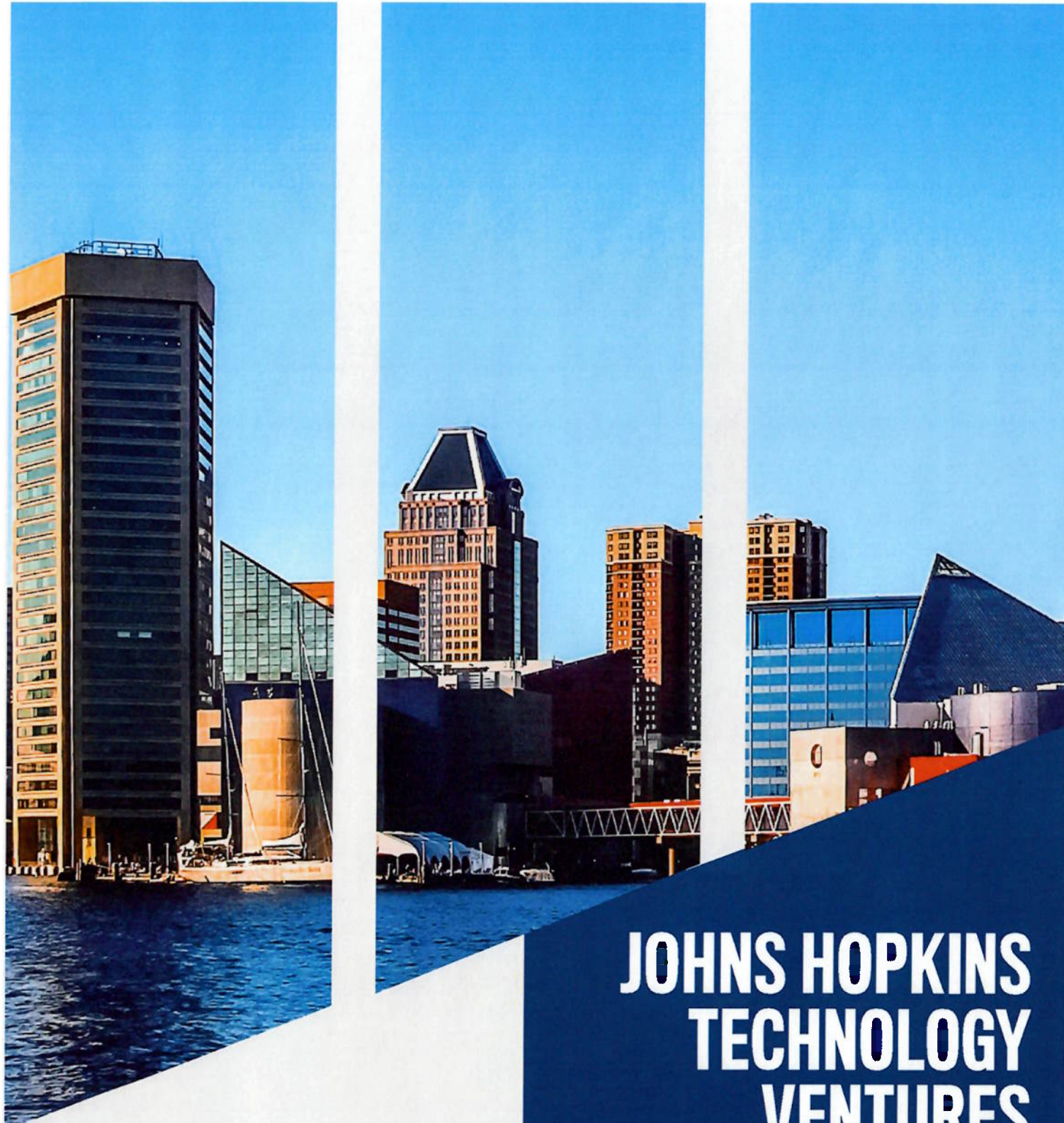
## INVEST

**\$75M** of the Johns Hopkins endowment assigned to be managed by a minority owned firm in HopkinsLocal 2.0.

**\$287.2M** in net new investments managed by diverse and women owned investment firms as of 9/1/2024 in HopkinsLocal 3.0.

To learn more about HopkinsLocal goals and progress, please visit [hopkinslocal.jhu.edu](https://hopkinslocal.jhu.edu) or contact [HopkinsLocal@jhu.edu](mailto:HopkinsLocal@jhu.edu)





# JOHNS HOPKINS TECHNOLOGY VENTURES

FISCAL YEAR 2024  
ANNUAL REPORT

**10**  
CELEBRATING INNOVATION  
**10**  
YEARS



JOHNS HOPKINS  
TECHNOLOGY VENTURES



## WELCOME

This year marks a milestone: one decade of work on behalf of faculty members and students. It is an opportunity to celebrate our progress, our wins and, most importantly, the incredible innovators and inventors at the nexus of the Johns Hopkins entrepreneurial ecosystem. Our celebration of 10 years has been a rewarding exercise in reflection, appreciation and planning.

We are **reflecting** on our progress: a tripling of annual licensing revenue, a quadrupling of venture investment and startup exits, and the creation of bustling spaces/programs for both faculty and student entrepreneurs. We appreciate the many stakeholders that make this possible, not limited to our unparalleled research faculty members and a dream team of Johns Hopkins Technology Ventures (JHTV) staff members. And we are **planning** for the decade ahead, focused on development of the policies, programs, places, people and partnerships that will unlock additional impact on humanity, our planet and Baltimore.

This work of academic translation and company building is not for the faint of heart. Those already doing it with us know the struggle and the immense rewards. If you are not yet doing this work, please lean in. There is nothing more satisfying than seeing entrepreneurship bear fruit, and we need a collective groundswell to make this happen at scale.

With all that Johns Hopkins researchers, students and alumni have to offer — and with institutional investments in data science/AI, life sciences infrastructure and much more — I cannot help but think that we have barely scratched the surface. In a way, it feels like we are just getting started. Onward!



**Christy Wyskielec**

Senior Adviser to the President of The Johns Hopkins University  
for Innovation and Entrepreneurship  
Executive Director, Johns Hopkins Technology Ventures

### In Memoriam

This annual report is dedicated to two people whose deaths rocked the Baltimore innovation ecosystem this year. Pava Marie Lapere (A&S '19) and Mark Komisky (A&S '87). We are left with gaping holes in the fabric of our Johns Hopkins Technology Ventures/Baltimore ecosystem, but this community has shown its beauty in the way it has honored them and turned grief into action. To read about these cherished colleagues and the legacies we honor, visit [here](#) and [here](#).

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JHTV worked with a local filmmaker to capture the spirit of the entrepreneurial journey and the immense potential of Johns Hopkins innovation. Cheers to 10 years and counting!



Video by: **Morton Works**



# 10 YEARS OF INNOVATION

The following selection of innovations from the past decade illustrates the depth, breadth and impact of research from Johns Hopkins' many divisions and disciplines.

For more than a decade, **Personal Genome Diagnostics** has been developing liquid biopsy and tissue-based genomic products out of its Baltimore offices. Following a major acquisition by LabCorp in 2022, its next-generation sequencing is now incorporated into LabCorp's oncology diagnostics portfolio and driving better patient outcomes.

In 2024, the Food and Drug Administration (FDA) approved **Voranigo** (vorasidenib), a targeted cancer therapy that inhibits activity of the mutated gene IDH, slowing the growth of previously untreatable low grade glioma — the most common malignant primary brain tumor in adults. The gene's discovery in 2008 by Johns Hopkins and Duke University researchers enabled development of a targeted therapy.

**Thrive Earlier Detection** was formed to bring earlier multicancer detection into routine medical care via liquid biopsy. Its pioneering screening technology, including the pivotal CancerSEEK, got the attention of Exact Sciences Corporation, which acquired Thrive in 2020 for \$2.15 billion — the largest acquisition in Johns Hopkins' startup history.

The FDA approved **Opduvalag** in 2022 for treatment of adult and pediatric patients with unresectable or metastatic melanoma. Opduvalag is a first-in-class, fixed-dose dual immunotherapy combination of two immune checkpoints — LAG-3 and PD-1 — that represents a significant leap forward in improving antitumor response.

**DELFI Diagnostics** celebrated the launch of its first product, Firstlook Lung, in 2023. Firstlook Lung uses a breakthrough technology of whole-genome machine learning to analyze fragments of cell-free DNA that are markers of cancer in the blood. The company plans to use its fragmentomics platform to develop an array of disease-specific tests and other cancer treatment monitoring products.

**Pylarify** is a positron emission tomography (PET) imaging agent that precisely detects PSMA-positive cancers and guides treatment decisions, particularly for patients with suspected prostate cancer metastasis or recurrence. Brought to market by Lantheus, Pylarify was approved by the FDA in 2021 and has rapidly gained adoption, with sales of \$851 million in 2023.

## A DECADE OF MOMENTUM Since 2014

**\$395M**  
AGGREGATE  
LICENSING  
REVENUE

At an average annual pace (\$39M) that has more than doubled

**\$4.4B**  
VENTURE  
CAPITAL

Raised by startups, **400%** uptick in average annual fundraising

**43**  
COMPANY  
EXITS

Compared to 11 exits (IPOs, M&A events) in prior history

**\$236.6M**  
CORPORATE  
SPONSORED  
RESEARCH

From 60 industry partners

Founded in 2016, **Kubanda Cryotherapy** initially aimed to improve access to breast cancer diagnostics and treatments in low-income countries and evolved to offering minimally invasive tumor treatments for pets. The company's patented device freezes and eliminates cancerous masses during one outpatient session.

The **OMIM Database** is a catalog of human genetic traits and disorders, entitled Mendelian Inheritance in Man (MIM). It has become a critical research tool around the world, with over 1 million page views per week from 2.5 million unique researchers annually.

**Circulomics** is a genomics game changer that specializes in sample preparation by extracting high molecular weight DNA. It was acquired in 2021 by PacBio, a publicly traded company with "long read" DNA sequencing capabilities that allow scientists to read longer portions of DNA.

Founded in 2021, **CurieDx** makes a remote virtual diagnostic software tool that is among the first of its kind. The software provides an almost instant diagnosis for strep throat. CurieDx is developing six more diagnostic tools for common diseases.



# ECOSYSTEM SUCCESSSES

## LEAD STORY

### Blackbird Labs Launches with \$100M and Foundational Collaboration with Johns Hopkins University

In collaboration with Johns Hopkins and other local research institutions, Blackbird Labs is investing in early-stage academic technologies with the goal of launching Baltimore-based startups and solving unmet medical needs, with an initial focus on development of new medicines.

In its first year, Blackbird committed more than \$1.5 million in funding across four Johns Hopkins projects encompassing a wide array of technologies. The projects included development of innovative treatments for inflammatory bowel disease, a broad platform for improving gene therapies and software designed to locate and navigate clinical trials.

## FUNDING NEWS

- » Asclepix Therapeutics Raises \$10M to Advance Phase 1/2a Clinical Study of AXT107
- » EDAC Labs Raises \$3M to Scale Carbon-Removal Technology
- » Infinity Bio Opens Baltimore Lab after \$4.5M Raise
- » Rapafusyn Pharmaceuticals Raised \$28M Series A Funding

## DIGITAL HEALTH

b. well Collaboration with Samsung Health to Make Personalized Healthcare a Reality

DELFI Diagnostics Recent Equity Investment to Accelerate Cancer Screening AI Platform

Scene Health and CareFirst Expanded their Partnership for Medicaid Recipients



## PRODUCT UPDATES

Previse's Flagship Product Escopredict™ Awarded NIH Direct to Phase II SBIR

## NEW LAB SPACE

Johns Hopkins Green Tech Lab to Open Above R House Food Market



# STARTUP NEWS

## LEAD STORY

### Clasp Therapeutics Launches with \$150M Investment in Precision Immuno-oncology

Clasp Therapeutics launched in March 2024, backed by \$150 million in venture financing. A biotechnology company pioneering precision immuno-oncology through next-generation T cell engagers (TCEs), Clasp seeks to address the unmet needs of patients with cancer who do not respond to existing treatments.

Clasp leverages research from Johns Hopkins investigators, including cancer geneticist Bert Vogelstein, M.D., and immuno-oncology pioneer Drew Pardoll, M.D., Ph.D. The researchers' expertise in human leukocyte antigen (HLA)-antibody interactions enables the engineering of advanced TCEs with newfound specificity, precisely targeting common oncogenic mutations. JHTV facilitated the commercialization of Clasp's innovative platform, which offers off-the-shelf, antibody-like medicines that can precisely target a wide range of challenging tumor types.

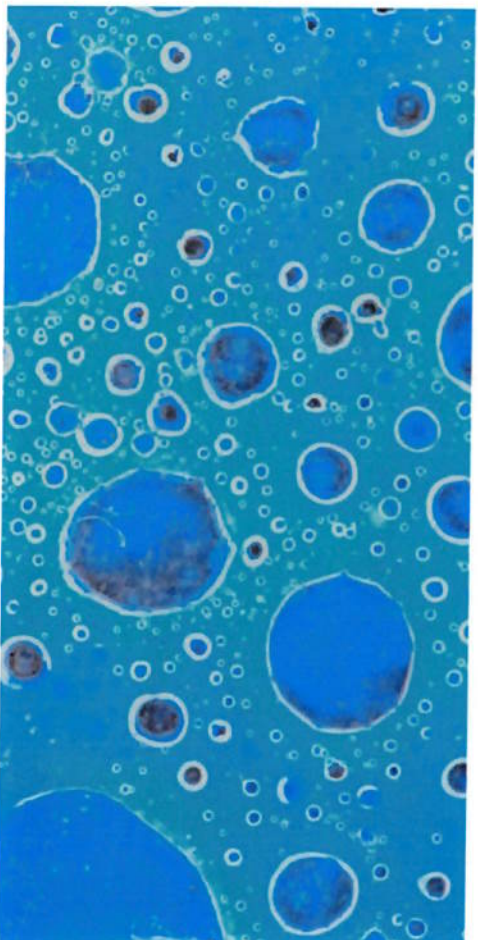
## ACQUISITIONS

Escient Pharmaceuticals Acquired by Incyte



## PRODUCT UPDATES

- » Ashvattha Therapeutics Announces Phase 2 Chronic Dosing Study
- » Glyscend Doses First Patient in a Phase 2 Obesity Trial of GLY-200
- » Proscia Digital Pathology Software was Awarded FDA 510(k) Clearance





# COLLABORATIONS

## TRILINK BIOTECHNOLOGIES

The Johns Hopkins University formed a collaboration with Trilink BioTechnologies, part of Maraval Sciences and a leader in mRNA manufacturing, to accelerate RNA therapeutic research. This partnership established a new center at the Whiting School of Engineering, using Trilink's advanced RNA synthesis technology. Recognized for its critical role in developing COVID-19 vaccines, RNA technology offers the potential to treat diseases such as Alzheimer's and Parkinson's disease and cancer, each considered untreatable with conventional drugs.

Led by Jeff Collier, Ph.D., who worked closely with Johns Hopkins Institute for NanobioTechnology directors Hai-Quan Mao, Ph.D., and Sashank Reddy, M.D., Ph.D., the center will drive innovation and unite Johns Hopkins researchers of RNA biology, genetic medicine and biotechnology, fostering innovation and reducing research barriers. Trilink will provide funding, technical expertise and its CleanScript technology, enabling seamless transition from research-grade to clinical-grade mRNA.

## AMAZON

Johns Hopkins' AI/2A partnership with Amazon is entering its third year of a five-year initiative.

Announced in 2022 and housed in the Whiting School of Engineering, the initiative focuses on machine learning, computer vision, natural language understanding and speech processing. To date, the initiative has awarded 15 faculty research awards and 10 Ph.D. fellowships.

## DANAHER CORPORATION

Danaher has joined forces with Bloomberg Distinguished Professor Jessica Gill, Ph.D., M.S.N., and Richard Rothman, M.D., Ph.D., to develop advanced blood-based diagnostics for mild traumatic brain injury (TBI). The collaboration aims to leverage novel biomarker panels for early, precise TBI diagnosis with the potential to revolutionize treatment and benefit the nearly 56 million patients globally who have mild TBI.

## CANON MEDICAL SYSTEMS

Canon renewed its collaboration with Johns Hopkins for another five years to advance high resolution MRI/computerized tomography (CT) technology, building on a history that has yielded 31 projects involving 15 faculty members since 2017. The collaboration makes research funding and cutting-edge clinical diagnostic instruments available to Johns Hopkins researchers. For example, the collaboration enabled a multicenter clinical study that investigates the effectiveness of ultrahigh resolution CT to detect coronary heart disease. Other research projects combine expertise from our School of Engineering and School of Medicine, and uses AI and data science to minimize denoising and spectral distortion in advanced CT. To further the collaboration, Canon plans to install new scanners at Johns Hopkins during the next two years, including a new MRI and photon-counting CT scanner.

## RESEARCH AREAS & FACULTY HIGHLIGHTS

### CARDIOMETABOLIC DISEASE

Johns Hopkins cardiometabolic research spans four centers and institutes that conduct research, prevention and treatment for obesity, diabetes, chronic kidney disease, cardio-kidney-metabolic disease and heart health/hypertension. Johns Hopkins research in this area has particular depth in lipid metabolism, targeted immunotherapies, energy balance and nutrient sensing.



**Dax Fu, Ph.D.**

Type 1 and type 2 diabetes research leader who is developing antigen-specific and islet-targeted immunotherapies to achieve permanent protection against, or reversal of, T1D. His research has been funded by the Brookhaven National Laboratory, NIH, the Van Andel Institute and companies including Amgen and Pfizer.

### DATA SCIENCE & AI

Johns Hopkins has made a transformational investment in the power and promise of data science and AI, and it is building the nation's foremost destination regarding emerging applications, opportunities and challenges presented by data science, machine learning and AI. Faculty are engaging with industry on applications for drug discovery, precision medicine and climate resilience, among other areas.



**Jeffrey Gray, Ph.D.**

Leader in antibody engineering and protein structure prediction, including in the use of deep learning and AI. Gray's research has been funded by ACS, the Beckman Foundation, DARPA, NIH, NSF, Rosetta Commons and companies including AstraZeneca, GSK Vaccines, Moderna and UCB.

### ORGANOIDS

During the past decade, advances in human stem cell biology, tissue engineering and microtechnology have led to development of microphysiological systems and organoids, which are platform technologies used to recapitulate key organ features and to study human tissues under complex conditions. Faculty members in this field are engaging with industry to work toward a paradigm shift in high-throughput drug and toxicology testing.



**Annie Kathuria, Ph.D.**

Leader in organoid tissue engineer breakthroughs, is exploring the molecular foundations of several neurological disorders including autism, schizophrenia and Alzheimer's disease. Kathuria's research has been funded by the Brain and Behavior Research Foundation, Element Biosciences, the Maryland Stem Cell Research Fund and the NIH.



## FUNDING & AWARDS



Provost Roy Joyawardhana, Nick Papadopoulos, Christy Wyskiel, President Ronald Daniels, Christopher Douville, Chetron Bettagowda, Bert Vogelstein, and Denis Wirtz

### PRESIDENT'S INNOVATION AWARD

Christopher Douville, Ph.D., an assistant professor of oncology at the Johns Hopkins University School of Medicine, was named the inaugural recipient of the Johns Hopkins President's Innovation Award in recognition of his scholarly pursuits.

The \$250,000 President's Innovation Award will be given annually to an early-career to mid-career faculty member who is focused on solving problems in society and translating research beyond academia. The award, which builds on the range of commercialization support and resources that JHTV provides, was presented during an event celebrating JHTV's 10th anniversary. Douville was selected from 28 nominees from across the university.

Douville's work is in the field of computational biology — he uses algorithms to understand cancer genetics and to detect cancer early via liquid biopsy. In research published earlier this year in *Science Translational Medicine*, Douville and collaborators found that people with cancer have different amounts of a type of repetitive DNA than those without cancer. Blood tests can reliably detect these anomalous early cancer warning signs before symptoms appear.

### PITCH IT ON!

Zhuolun Wang, a Ph.D. candidate at The Johns Hopkins University, won \$15,000 in JHTV's annual Pitch It On! competition for her innovative chronic pain management system.



Pitch It On! is a virtual competition featuring female inventorship at Johns Hopkins that reflects JHTV's efforts to close the entrepreneurship gap in which women are much less likely to be patent holders and startup founders. A generous donation from the female members of JHTV's IDEA Board funded this year's award.

Wang's CALMS technology, which combines clustered regularly interspaced short palindromic repeats (CRISPR) gene editing and AAV delivery, aims to provide long-lasting pain relief without the side effects of opioids. Through her startup, SereNeuro Therapeutics, Wang hopes to commercialize studies from her Ph.D. thesis project into curative therapies for chronic pain.

### LOUIS B. THALHEIMER FUND FOR TRANSLATIONAL RESEARCH

The Thalheimer Fund, established with a generous donation from businessman and philanthropist Louis Thalheimer, provides seed funding for crucial proof-of-concept and validation studies at Johns Hopkins. This year, three faculty members were awarded a total of \$240,000.



#### Reza Kalhor, Ph.D.

##### Research

A High-Throughput Cell Line Development Platform to Assess Cell Line Performance in Realistic Biomufacturing Conditions



#### Betsy Luczak, Ph.D.

##### Research

A Novel Drug Discovery Platform to Identify Small Molecules to Treat Atrial Fibrillation



#### Chao Wang, Ph.D.

##### Technology

Electrochemical Extraction of Lithium from Seawater

### MARYLAND INNOVATION INITIATIVE (MII)

An additional 17 Johns Hopkins faculty members received a total of \$2 million from the state of Maryland's MII.



# PAVA CENTER

A fiscal year 2024 highlight was the launch of the **Pava Marie LaPere Center for Entrepreneurship**, dedicated in memory of a formative member of the student entrepreneurship program previously called FastForward U.

As an undergrad and then local alum, LaPere directly mentored dozens of teams and helped shape some of FastForward U's signature programs, influencing more than a thousand student ventures and counting. She represented the trajectory that FastForward U aimed to enable: that Johns Hopkins students create high-impact startups while on campus, then remain in Baltimore to grow them and give back to future generations of campus and local entrepreneurs.

Last year, the Pava Center worked with 140 teams across six accelerator programs, including teams from all nine schools and teams from the community that participate in the Social Innovation Lab accelerator.

Philanthropic gifts enabled many of the center's activities this year. These include gifts made as part of our Founders' Pledge program, in which alumni founders such as Jess Gartner (Education, '11) generously commit a share of proceeds upon company exit.

## PAVA CENTER STATS

<b>140</b> UNIQUE TEAMS	<b>2,000+</b> STUDENTS 100+ COMMUNITY MEMBERS	<b>\$770K+</b> NON- DILUTIVE GRANTS	<b>\$243M+</b> EXTERNAL INVESTMENT
Participated in more than six accelerators	Reached by Pava Center programming	Awarded to student and community ventures	Outside funds raised in history of program

## FASTFORWARD U & PAVA CENTER TIMELINE



## STUDENT, COMMUNITY, & ALUMNI SPOTLIGHTS

### President's Venture Fellowship Awardees



Drul

Somnair

**Innovation & Entrepreneurship Challenge**  
10 teams were awarded a total of \$130K.

### Fuel Fall Grand Prize Winner

Orbit



**Fuel Spring Grand Prize Winner**  
Squid3 Space

### Social Innovation Lab Cohort Prize Winner

Salama Wellness



### Spark Fall Judge's Prize Winners

Biolinco, Stem Equity Project, Tlbi, and Whisper

### Spark Spring Judge's Prize Winners

Droppy, Fiesta, Oratio, and RectaNav

## Alumni News

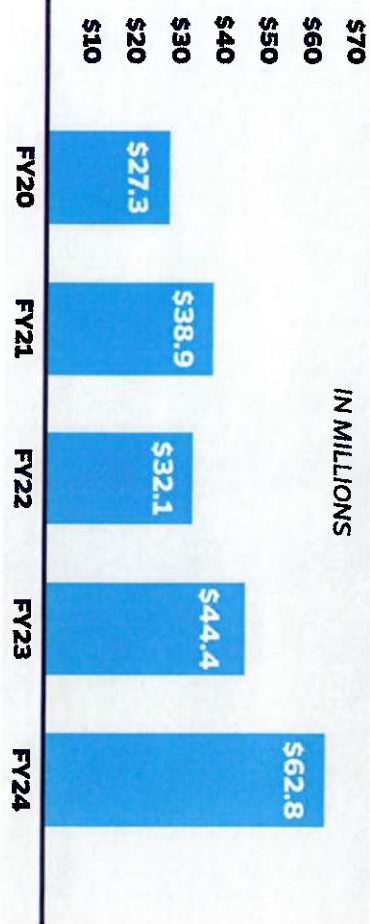
- > Hubly Surgical Closes Oversubscribed \$3M Seed Funding Round
- > Marigold Health Secures \$11M in Series A Funding to Expand Peer Support

BY THE NUMBERS

TECHNOLOGY TRANSFER



LICENSING REVENUE TREND FY20-24



CORPORATE PARTNERSHIPS



UNIVERSITY STARTUPS



PORTFOLIO SNAPSHOT





## EVENTS & VIBRANCY

### JHTV INNOVATION HUBS

Last year, JHTV had many opportunities to host the innovation ecosystem. At our 1812 Ashland Ave. hub, we continued to cohost the Anchor Ventures panel series with the University of Maryland, Baltimore. We also held Upsurge Baltimore's Equitech Tuesday at the Pava Center, gathering more than 100 people from Baltimore's innovation community.



### 5-5-5 SERIES

This initiative was implemented last year to bring together five innovators, five investors and five entrepreneurs to spark valuable conversations. The series has provided a space for informal discussion about innovations, the markets and opportunities.

### CELEBRATION OF INNOVATION

JHTV celebrated the prolific research community, which has made discoveries that have changed the world and the Baltimore skyline. We gathered Johns Hopkins and Baltimore ecosystem leaders and faculty innovators to recognize the accomplishments of the past decade while looking ahead to an exciting future.



### COLUMBIA UNIVERSITY PITCH DAY

Columbia University invited JHTV to co-host its annual Startup Pitch Day, an event that welcomes a new university each year to showcase startups from its research labs. Faculty members and a student from 14 Johns Hopkins labs pitched their innovations in New York City to more than 175 investors.

### PAVA CENTER DEDICATION

Over 250 people gathered to celebrate five years of empowering and equipping Johns Hopkins students, alumni and community change makers, while formally dedicating the Pava Marie Lapere Center for Entrepreneurship.



## ACKNOWLEDGMENTS

JHTV is grateful for the support of many generous stakeholders, including its donors, corporate sponsors, mentors, and strategic advisers.

### TOP DONORS

- » Ashley and John Avirett
- » Stephen and Renee Bisciotti Foundation
- » Bloomberg Philanthropies
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- » Louis Brown
- » Emmett Cunningham
- » DLA Piper, LLP
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- » Jeff Cherry
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- » Ryland Sumner
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### MENTORS & SITE MINERS

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- » Arthur (Skip) Colvin
- » Graham Dodge
- » AJ Donelson
- » Richard (Ric) Huguen
- » Albine Martin
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- » Joseph M. Migliara
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- » Sean R. Tunis
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# JOHNS HOPKINS TECHNOLOGY VENTURES

FISCAL YEAR 2024  
ANNUAL REPORT

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# **Innovation Fund for Community Safety**

# **IMPACT REPORT**

2021-2024



## Introduction

Building on its long-standing commitment to improving public safety in Baltimore, Johns Hopkins University launched in 2021 the Innovation Fund for Community Safety, a four-year, \$6 million commitment to support innovative, community-led interventions designed to reduce violent crime. Since then, the university has worked in partnership with 11 grassroots community organizations to advance projects tackling the root causes of violence and providing financial support, technical assistance, data collection and analysis, and research.

**Baltimore's challenges are complex, but we firmly believe that the solutions lie within our communities.** From workforce training and after-school programming to harm reduction and outreach, these 11 organizations answered the challenge with compassion, creativity, and innovation, and together, they are helping build a brighter future for our city.

Highlighted in the Ten for One, the new strategic framework that will guide the university through the end of the decade, is a desire and commitment to deepen partnerships with our neighbors and invest in the vitality of our city and the communities around us. As part of this commitment, Johns Hopkins University is excited to renew its \$6 million investment in the Innovation Fund for Community Safety to support new projects in 2025 and beyond, with a focus on safety in the built environment, wrap-around social services, and violence interruption.



"We believe the Innovation Fund can play an important role in supporting local solutions—some big and complex, others targeted and straightforward—to spark immediate or near-term improvements in public safety, explore what will work at scale across our city, and build momentum for change."

— President Ronald J. Daniels, Johns Hopkins University



Johns Hopkins University is proud to share the stories of our **11 community partners**, selected during the first cycle of the Innovation Fund for Community Safety, whose projects sought to make our communities safer and healthier.

And we are incredibly excited to continue supporting this important work in the years to come.



## Focus Areas

**Each of the funded projects relates to one or more of the following focus areas:**

- Environmental improvements to specific locations
- Wrap-around support services including counseling, coaching, job training and/or placement, and other services
- Youth interventions and leadership that promotes academic and employment success
- Community mediation

A selection advisory committee reviewed all applications for the Innovation Fund for Community Safety and made recommendations for funding in spring 2021.

The committee comprised of 12 individuals, including six community members who are Baltimore residents not affiliated with Johns Hopkins. Committee members were selected based on their involvement in the community and experience in public safety.

## House of Ruth Maryland

### Abuse Intervention Supportive Services

Founded more than 40 years ago, House of Ruth is a well-known haven for victims of domestic violence and their children. Today, it is recognized as one of the nation's most comprehensive domestic violence centers. House of Ruth Maryland addresses the root causes of domestic violence by confronting the systems and behaviors that perpetuate it, and by providing victims with the services necessary to rebuild their lives safely. In 2021, House of Ruth Maryland received funding from the Innovation Fund to expand their Abuse Intervention Supportive Services program. The program provides co-located supportive services to reduce criminal recidivism for individuals with a history of intimate partner violence.

Over a three-year period, House of Ruth's program engaged more than 1300 participants in their unique behavior change program and wraparound services such as MOED and Family Tree. After completing the Abuse Intervention Supportive Services Program, 88% of participants reported being less likely to be verbally abusive towards their partner, and 93% reported being less likely to be violent towards their partner. The success of this program is attributed to its mentorship component, where past participants serve as mentors and supportive partners. It also aligns with Mayor Brandon Scott's mission to empower community partners and city agencies to actively co-produce public safety and prevent violence through a trauma-responsive, healing-centered, and equity-based approach for the benefit of all Baltimoreans.

**1300+**  
participants in behavior  
change program  
**88%**  
of participants reporting  
less likely to be verbally  
abusive  
**93%**  
of participants reporting  
less likely to be violent

## The Be.Org

### Foodie Science

Since 2014, Tonnee Lawson and Be.org have worked tirelessly to facilitate the social and emotional growth of Baltimore's young people through STEM education, college- and career-readiness, and after-school programming that nurtures youth to develop their character, talents, and leadership skills. Under the Innovation Fund, Be.Org developed a unique after-school program for youth in select schools in East Baltimore.

The popular program called Foodie Science teaches youth to make affordable healthy food choices and leverages the application of scientific principles through a lens of cooking and baking. The program works with youth from high risk areas to promote community building, youth leadership, and supports students' social and emotional learning. Students reported that they felt more confident in their conflict resolution skills and were less likely to engage in risky behaviors after completing the curriculum. The program created a safe space for students, encouraging them to build a community and environment conducive to healthy and positive relationships.





## B-360

### Sound of Summer

Brittany Young founded B-360, an organization that utilizes dirt bike culture to end the cycle of poverty, disrupt the prison pipeline, and build bridges in communities. Through education, community engagement, and career preparation, B-360 equips youth and young adults with the skills to secure educational and career opportunities while changing the perception of dirt bike riders. Through culturally relevant programming, B-360 teaches students the engineering and design process behind dirt bikes. In partnership with the Innovation Fund, they have solidified their impact in East Baltimore by serving more than 700 youth and young adults, improving environmental conditions, and creating employment for young adults who previously had an unclear path forward.

B-360's impact throughout the Baltimore Metropolitan area has been significant as they continue to grow as an organization and change the narrative around dirt bike riding. The success of the program lies in its leadership and curriculum, which exposes participants to STEM concepts and

cognitive reasoning. Their multipronged approach

includes improvements to community spaces in East Baltimore, a diversion program for non-violent dirt bike offenses, and a robust education curriculum uniquely tailored to Baltimore's youth.

B-360 exists at the unlikely intersection of three lanes: unrecognized potential, dirt bike culture, and STEM education.



## I AM MENTALITY

### I AM MENTALITY Health & Wellness Program

Darren Rogers has prioritized the wellbeing of at-risk boys in the Baltimore area by providing them with critical direct services like leadership development training, mentorship, and mental health counseling. The I AM MENTALITY Health and Wellness Program engages young boys and their guardians to share resources, make informed decisions and create long-term plans for their future successes. The program provides trauma informed mentoring to promote overall well-being and helps mold young Baltimoreans into transformational leaders positioned to impact their communities.



Through initiatives such as health and wellness classes, leadership workshops, and educational trips, the program offers a multifaceted approach to youth development. By fostering positive relationships between mentors and mentees, youth gain a sense of belonging and support, steering them away from negative influences. The program served close to 900 youth and continues to add sites across Baltimore.

## No Boundaries Coalition

### Black Captain Boot Camp

No Boundaries Coalition empowers residents to lead community transformation through training, education, and base building. Since 2008, No Boundaries Coalition has united Central West Baltimore to foster community through civic engagement and transforms community members into homegrown leaders and advocates for their neighborhoods. The organization aims to empower community members to change the trajectories of their households and communities.



In 2021, No Boundaries Coalition received funding from the Innovation Fund to expand their Black Captains Bootcamp. This program aimed to demystify the processes of local and state government and assist with navigating city services, as well as principles of self-advocacy, financial literacy, and basic community organizing. Through various community events, street fairs, and neighborhood enhancements through mini-grants, participants reported an increased feeling of community cohesion and belonging.

## Charm City Care Connection

### Safety at the Margins

The mission of Charm City Care Connection is to promote health, self-determination, and self-advocacy for individuals affected by drug use, stigma, poverty, and inequities, with a primary focus on serving individuals who use drugs. Founded in 2009 by local students in collaboration with East Baltimore community leaders, Charm City Care Connection aims to create a future free from disparities in health and healthcare access. Their work is rooted in dignity, justice, and respect and centers members of affected communities in the planning and programming of their organization.

Under the Innovation Fund, they were able to grow their Safety at the Margins program. This program works to increase safety for people who use drugs and people who do sex work in East Baltimore through the presence of trained outreach staff in areas with high levels of activity. The Safety at the Margins program engages with an average of 300 individuals per month, with 61% of clients participating in activities, resulting in approximately 6000 clients served. Charm City Care Connection's

program has filled a gap and created an opportunity for people who use drugs and sex workers to have their basic needs met through connecting them to long-term case management and other wrap-around services. Additionally, the center promotes general wellbeing through weekly yoga, art therapy, acupuncture, and 'ladies day' for female-identified participants.

300 individuals per month are engaged by the program  
61% of clients participate in activities  
6000 clients have been served



## WombWork Productions

### Existential Determinants of Health

WombWork Productions aims to empower youth, families, and communities through performing arts and use cultural healing modalities to reduce violent behavior among youth. A prominent partner of WombWork Productions is Virtues Project, which started in 1991 as a response to acts of violence and suicide in youth. It quickly grew into a global initiative to help young people develop authentic self-esteem and encourage the practice of virtues in everyday life.

WombWork Productions expanded their Existential Determinants of Health program under the Innovation Fund. This program provides forums for creative

expression of individual and collective experiences to promote personal healing and collective cohesion. Inspired by the social determinants of health, this initiative orients participants towards the "existential determinants of health" encouraging them to address mental, physical, spiritual, and financial aspects of their being. Participants received financial literacy, recovery services, health maintenance, trauma, and social support.



## St. Vincent De Paul of Baltimore

### Good Harvest Occupational Skills Training Program

St. Vincent de Paul supports communities in Baltimore by addressing the root causes of poverty. Since their founding in 1965, St. Vincent de Paul has remained committed to providing services and programming to underserved communities including homeless services, early childhood education, healthy food access, and employment training. Their outstanding work with employment services earned them an Innovation Fund grant in 2021.

St. Vincent de Paul received funding to support the Good Harvest Occupation Skills Training Program, a program that engages opportunity youth and prepares them for careers in the culinary industry. By the end of the grant period, nearly 120 students successfully completed training and received a ServSafe certification which confirms sufficient food safe knowledge to protect the public from foodborne illness. The success of this program is based on

the strong case management provided to every program participant. In addition to providing a solid foundation in the culinary arts, the program provided job training and placement opportunities, mental health support, and a variety of other social supports for their students.



This program is committed to providing services and programming to underserved communities including homeless services, early childhood education, and more.

## Casa de Maryland

### McEliderry Multiracial Organizing Project

CASA de Maryland works tirelessly to bring immigrant communities in Maryland, Virginia, and Pennsylvania out of the shadows and into greater power, dignity, and legitimacy. CASA is a nationally recognized Latino/immigrant organization in the city with decades of experience in grassroots organizing and coalition building in diverse communities. In 2021, CASA received funding from the Innovation Fund to support the McEliderry Multiracial Organizing Project, a project that supports mediation and relationship building between Black and Latino communities in McEliderry Park in hopes to alleviate racial tensions and violence.

This project aimed to bring two communities together through organizing, antiracism and leadership training, community building events, and youth programming. Additionally, the McEliderry Multiracial Organizing Project addresses three of the major outcomes of interest to Baltimore City, including: perception of neighborhood safety, adverse childhood experiences, and the employment or education of youth ages 16 to 24. Two stand out subprojects led by youth at CASA were the "Granny Project" and the MI Espacio afterschool program. The "Granny Project" trains older community leaders to provide cooking demonstrations for teens and their families. The MI Espacio program provides after school leadership and enrichment for first and second-generation immigrant students. The program's success can be attributed to the dedication and passion the staff and community members have for their neighborhoods.



"Community organizations have great ideas on what can make a difference for community safety. The Innovation Fund has helped bring these ideas to life."

- Dr. Josh Sharfstein



## Pro Bono Resource Center



### Stable Homes, Safe Communities

The Pro Bono Resource Center of Maryland offers free legal services to disadvantaged individuals, families and communities. The organization focuses on expanding the reach of free legal help in the state by recruiting, training, mentoring, and supporting volunteer lawyers who work within their local communities and providers to represent the most vulnerable populations such as the disabled, abused, homeless, or working poor. In 2021, Pro Bono Resource Center of Maryland received funding for their Stable Homes, Safe Communities program in East Baltimore.

This program was funded to offer free legal clinics to address tax sale prevention, home foreclosure prevention, service navigation, and life planning to preserve home ownerships and intergenerational resources. This niche program served 510 clients, with 79% of clients removed from tax sale prior to auction allowing families to stay housed. The program reduces the risk of homelessness and violence through stabilizing communities and securing safe and affordable housing. The Pro Bono Resource Center advocated to Mayor Scott to cancel the annual tax sale, resulting with an announcement in April 2024 that he will remove all owner-occupied properties with assessed values of under \$250,000 from the tax sale. These outcomes have led to a feeling of safety by keeping low-income Baltimore residents in their homes, reducing debt, and homelessness, for clients at risk of tax sale and foreclosure.

## Fund for Educational Excellence

### The Mildred A. Allen Equestrian and Arabber Cultural Center

The Mildred A. Allen Equestrian and Arabber Cultural Center is a social enterprise led by fourth-generation Arabbers, Dorothy and David Johns, at the historic Bruce Street Stable. Responding to the contemporary crises of food insecurity, chronic disease, and youth unemployment in the Sandtown-Winchester district, the Bruce Street Stable transformed a 19th century entrepreneurial tradition of horse cart-drawn food delivery to meet the needs of the 21st century.

For a decade, it has served as a vital hub for fresh produce distribution and life skills development for vulnerable residents. In 2021, The Mildred A. Allen Equestrian and Arabber Cultural Center received funding to bring equine and art therapy, wellbeing workshops, workforce and life skills training, and cultural heritage education to Baltimore's most vulnerable youth. Their program's success is largely due to their youth mentorship model in which youth participants serve as "Arabber Ambassadors" to promote their progress and learnings from the Arabber Cultural Center.



The first cycle of the Innovation Fund for Community Safety has been instrumental in shaping the fund's approach to supporting community-based programs and increasing community safety through innovative methods in Baltimore. Johns Hopkins University is incredibly proud of the work our grantees have done to directly support innovative approaches to creating safer communities for Baltimoreans.

We are excited to pledge an additional \$6 million toward the continued collaborative efforts for community safety.

Our collective vision for a safer Baltimore drives us forward, guided by the belief that every resident deserves to feel safe, secure, and supported in their community.





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