



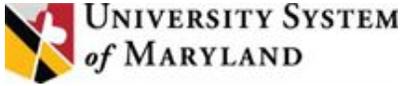
**Board of Regents
Committee on Economic Development and Technology Commercialization**

September 2, 2021

Virtual (public listen only access at 443-353-0686, Conference ID: 568 843 014)
Committee Members will be sent Zoom information

Public Session Agenda

- (1) [Featured Startup: Mindful Designs with My Furr's Guitars](#) – Brian Furr, CEO (Information Item)
- (2) [UBalt's CEI and the Global Consortium of Entrepreneurship Centers Conference](#) – Catherine Andersen, Interim Provost, and Henry Mortimer, Director University of Baltimore Center for Entrepreneurship and Innovation (Information Item)
- (3) [Momentum Fund Update](#) – Claire Broido Johnson, Managing Director, USM Maryland Momentum Fund (Information Item)
- (4) [USM Office of Economic Development Update](#) – Lindsay Ryan, USM Venture Development Director (Information Item)
 - a. Pandemic response and recovery
 - b. Technology transfer activity update
 - c. Venture development activity and resources report
- (5) [New Early-stage Resource\(s\) Feasibility](#) – Lindsay Ryan, USM Venture Development Director (Discussion Item)



BOARD OF REGENTS

SUMMARY OF ITEM FOR
INFORMATION

TOPIC: Featured Startup: Mindful Designs with My Furr’s Guitars

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Thursday, September 2, 2021

SUMMARY: Brian Furr, CEO of Mindful Designs, and a student at the University of Baltimore, will present his entrepreneurial journey, including participation in the Entrepreneurship Fellows Program at UBalt that is supported by the Philip E. and Carole R. Ratcliffe Foundation. Mindful Designs is a for-profit social impact venture that creates S.T.E.A.M. (science, technology, engineering, arts, and math) programs via schools, after school programs, and community workshops. They also sell accompanying product kits, such as My Furr’s Guitar, which uses Mindful Designs’ paint build play model to give children the opportunity to paint and customize their own beginner’s guitar. Finally, Mindful Designs incorporates workforce development into its mission through an apprenticeship program.

FISCAL IMPACT: This item is for information purposes.

CHANCELLOR’S RECOMMENDATION: n/a

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

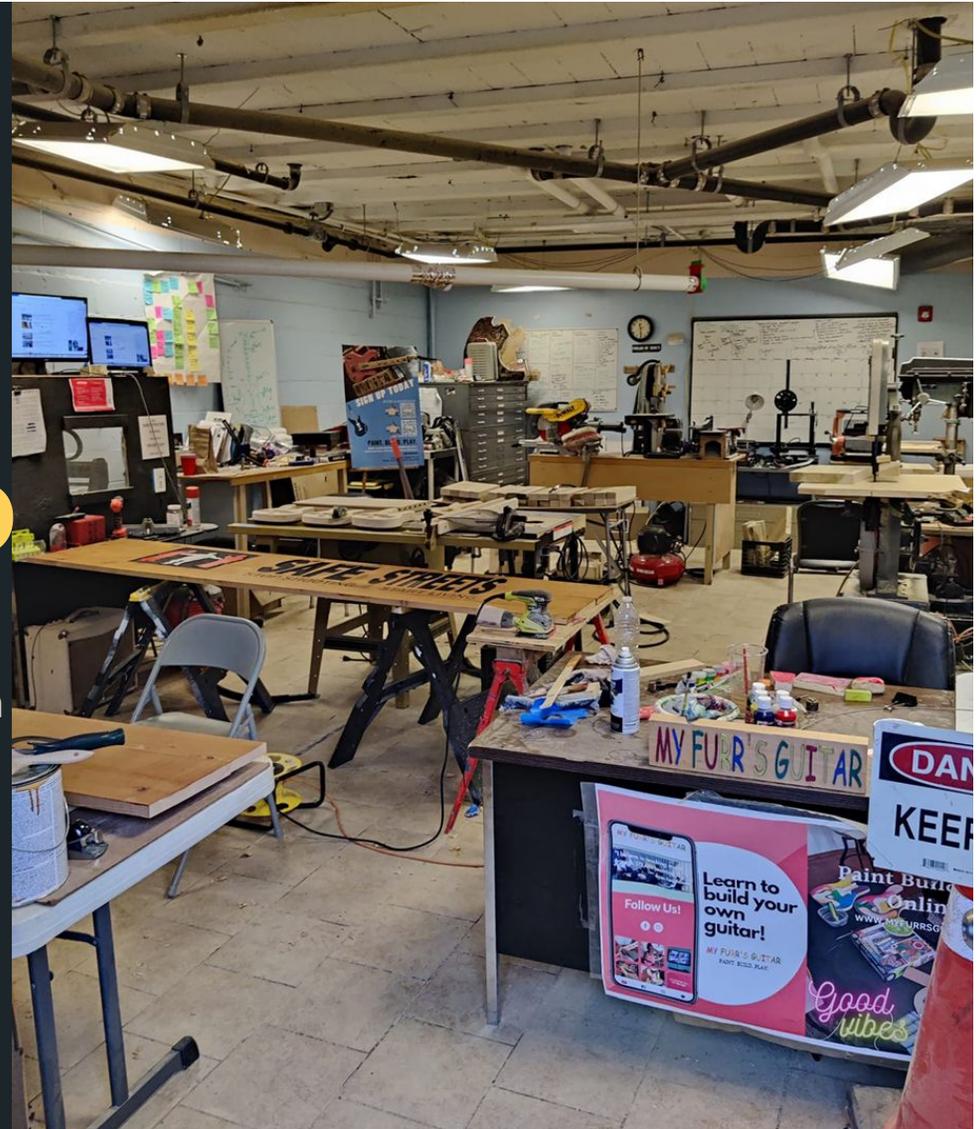
SUBMITTED BY: Lindsay Ryan 410-409-2236

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THE PAINT BUILD PLAY WORKSHOP

STEAM+Music Education = Community Activism

PRESENTED BY BRIAN A. FURR



“

INSPIRING WORDS

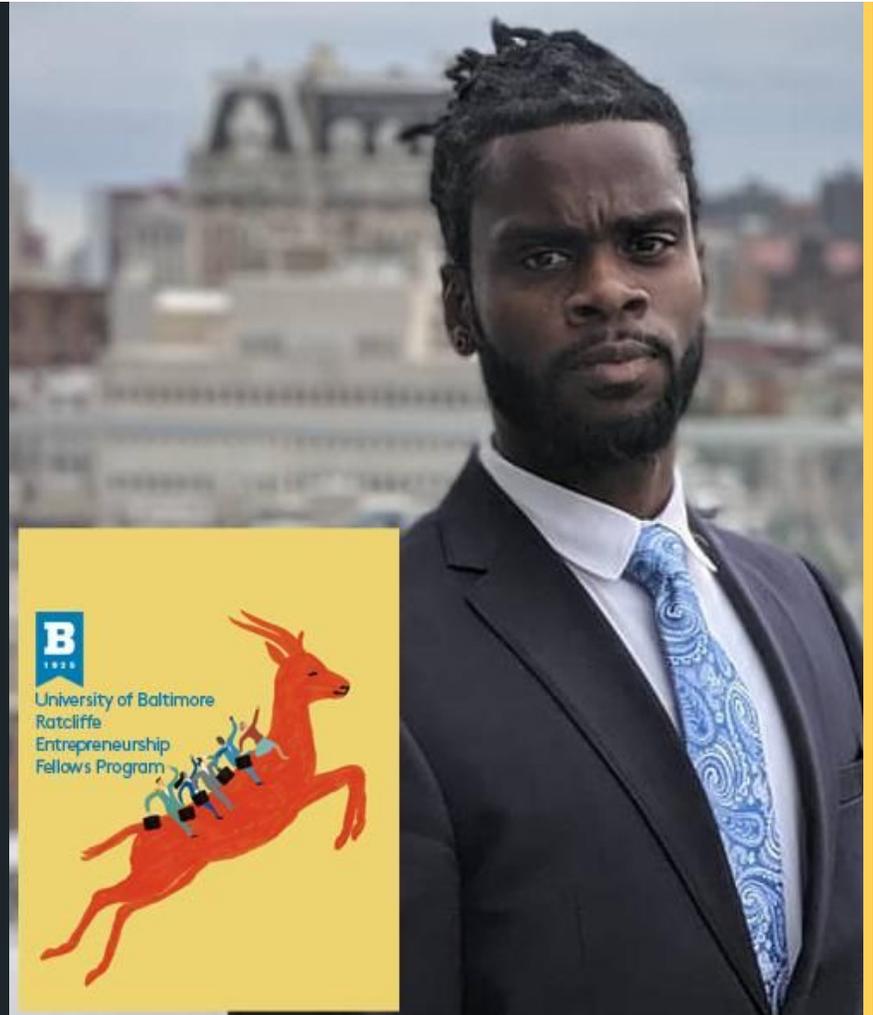


**"Through my journey,
I have learned that
entrepreneurship is a
cumulative process".**

B. FURR

BRIAN A. FURR

- E Fellow at The University of Baltimore
- Designer / Carpenter
- Creator of "My Furrs Guitar"
- Founder of The Paint Build Play Workshop.
(EST 2021)
- Founder of Mindful Designs Baltimore
- Educator
- Community Advocate



HUSTLE VS BUSINESS

PAST HUSTLES

Street performer 13-18

Professional musician/ manager

Warehouse Art space, 15 units

Furr Guitars sold 20+ guitars \$1500

Furr 4 lead performed over 200 certified MDE lead inspections

WHAT WISH I KNEW EARLIER

How to scale

Organization

How to get funding

Create a plan

Network

Financial literacy / Accounting

THE PAINT BUILD PLAY WORKSHOP

MISSION

Provide the community with soft skills to have the confidence to seek trade opportunities.

We do this by,

- Manufacturing, My Furrs Guitar.
- Teach tool safety
- Project based classes.
- Offer piece work opportunities for apprentices tools trained on.



PRODUCTS AND SERVICES



Tool education and
training



Offer paid
opportunities



Design thinking and
creativity coaching



Business skills/
entrepreneurship



Membership/
Community

MYFURRSGUITAR.COM

FEATURE PRODUCT

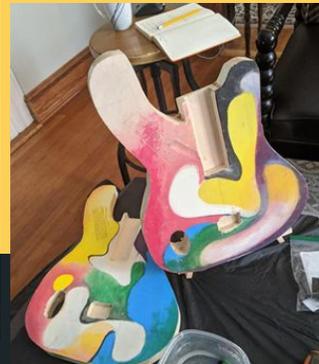
MY FURR'S GUITAR

PAINT. BUILD. PLAY.

- Creativity cultivation
- Encourages collaborative learning
- Challenging youth to problem solve
- Exploration of aptitude



STEAM +MUSIC



CORE MISSION

Create a Multitude of S.T.E.A.M. programs around our Paint, Build, Play model, and introduce our product to schools, after schools, and community workshops.



My Furrs Guitar partners with organizations to provide science, technology, engineering, arts, and mathematics programming for youth through our award-winning Paint, Build, Play Program. Simply, we manufacture DIY guitar kits and customize our curriculum to fit the needs of organizations with 10-16 year-olds in the DMV area. Our program also introduces our students to music theory concepts through our simple color-coded system embedded on the guitar neck.





2021 MILESTONES

RAISED \$25K

Through a series of pitch competitions 2020, we were able to gain the funding to get facility equipment, materials, and COGS.

OPENED FACILITY

Acquired tools, updated electricity raised money for dust collection built tables got furniture.

PRODUCTION RUN OF PRODUCT

Working with interns and engineers we found we are capable of producing 80 guitars in a month.

TRAINED WORKERS

we have been able to train 5 apprentices 3 of whom currently work with us in developing the products.

STARTED WORKSHOPS

We have secured multiple new and repeat contracts and plan to continue to do workshops in and with our community.

REACH OUT



MAILING ADDRESS

brian.furr@ubalt.edu



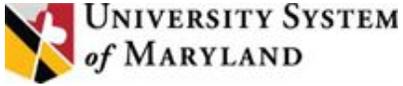
INSTAGRAM

[@myfurrsguitar](https://www.instagram.com/myfurrsguitar)



WEBSITE

www.MYFURRSGUITAR.com



BOARD OF REGENTS

SUMMARY OF ITEM FOR INFORMATION

TOPIC: UBalt's CEI and the Global Consortium of Entrepreneurship Centers Conference

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Thursday, September 2, 2021

SUMMARY:

Catherine Andersen, Interim Provost, and Henry Mortimer, Director of the Center for Entrepreneurship and Innovation (CEI), will provide information about the CEI, its resources and offerings, and role in supporting entrepreneurship on campus and in the community. They will provide detailed examples of UBalt's collaborations with other organizations through the CEI, including returning the Global Consortium of Entrepreneurship Centers annual conference to Maryland and its USM roots in October.

FISCAL IMPACT: This item is for information purposes.

CHANCELLOR'S RECOMMENDATION: n/a

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Lindsay Ryan 410-409-2236

lryan@usmd.edu

WELCOME!

Catherine Andersen
Interim Provost

Henry Mortimer
Director, Center for Entrepreneurship
& Innovation



Agenda

- Introductions
- CEI Overview
 - Resources & Offerings
- Collaborations
 - REV Fellows
 - GCEC 2021
- Our Success
- Q&A



'FRONT DOOR' FOR ENTREPRENEURSHIP

- Provide student- and alumni-owned businesses with a work environment that fosters growth and success
 - Opened in 2006, renovated in 2016
- Goals: to help launch and grow business ventures, provide opportunities to learn, and engage and collaborate with the Baltimore community



OUR 'CUSTOMERS'

- Entrepreneurship Fellows - select students nurture and launch a business in 2 years. Entry based on entrepreneurial acumen, motivation, academics.
- Students exploring entrepreneurship - may own businesses, are considering developing businesses, or curious about entrepreneurship as career.
- Alumni - looking to access a range of services, from initial counseling to physical space for setting up new businesses.



OUR OFFERINGS

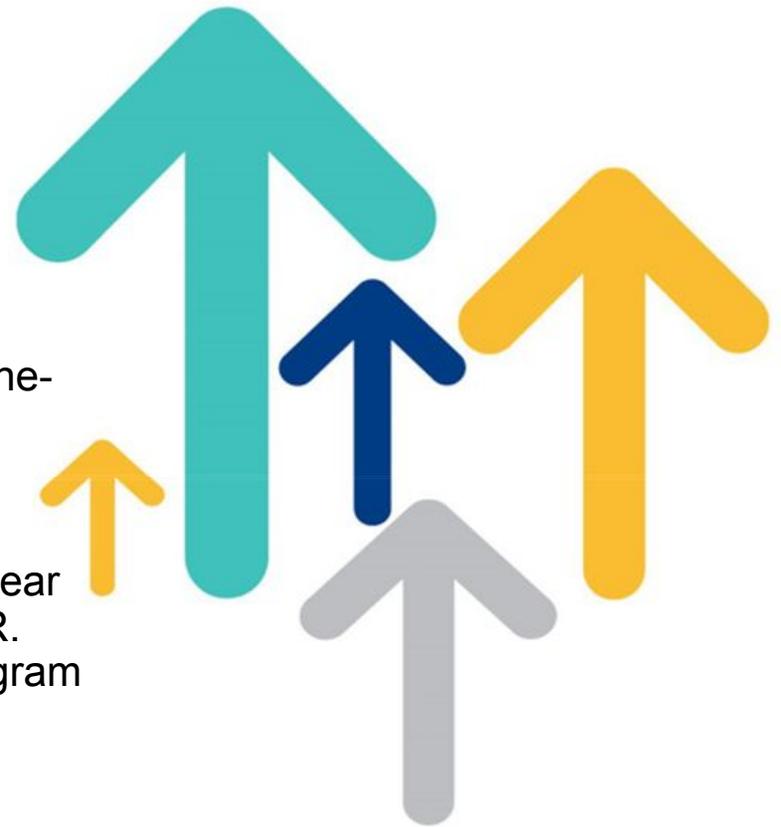
- Campus collaborations: ex., Klein School Design Competition, Real Estate Ventures Fellows
- Workshops, seminars, and networking events
- 2 business pitch competitions each year
- Entrepreneur-in-Residence program: volunteers from SCORE and SBA + specialists: accounting, marketing, technology, etc.
- Local connections: Startup Maryland; the ETC, Impact Hub, Open Works, Betamore; USM+, MICA, Loyola, JHU; TEDCO, etc.



OUR SUCCESS

Over the past 5+ years, the CEI has

- supported >850 would-be business owners, on a one-time or ongoing basis
 - Incl. aid >half-dozen companies raise nearly \$2M in funding/sales and employ >30 people
- assisted 35+ students develop businesses, w/a 2-year scholarship + stipend via the Philip E. and Carole R. Ratcliffe Foundation Entrepreneurship Fellows program
- awarded >\$125,000 to >60 participants in 2 annual investor pitch competitions



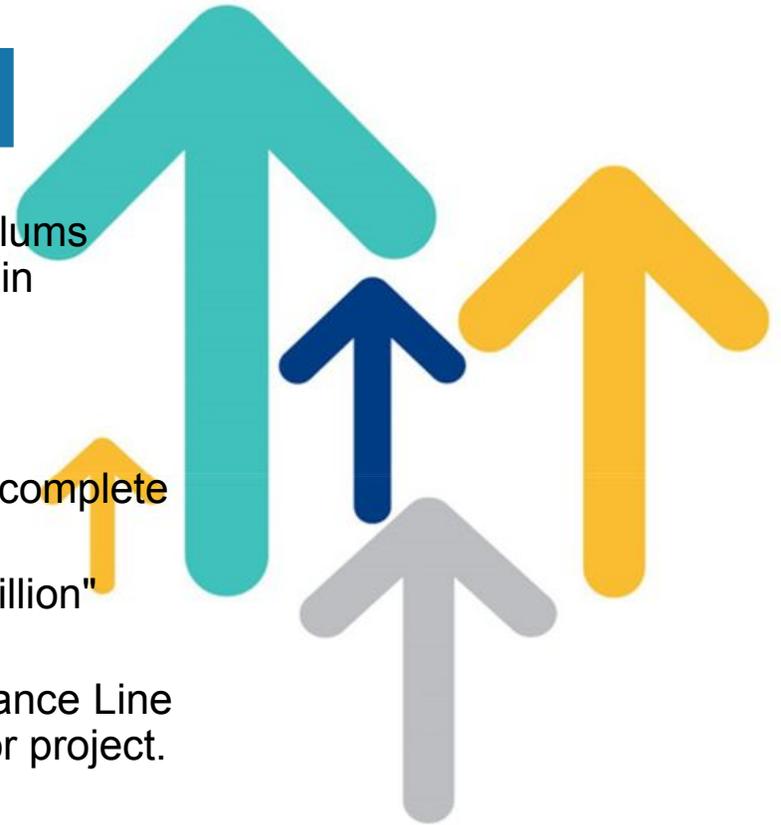
KLEIN COLLABORATION

- Third year of collaboration with students from CEI + Klein Family School of Communication Design (Integrated Design MA)
- Teams (2-4 design students) work with selected 'clients' to develop design and communication material to support an emerging business
- Benefits: Integrated design students work with existing businesses, and founders receive pro-bono professional design work



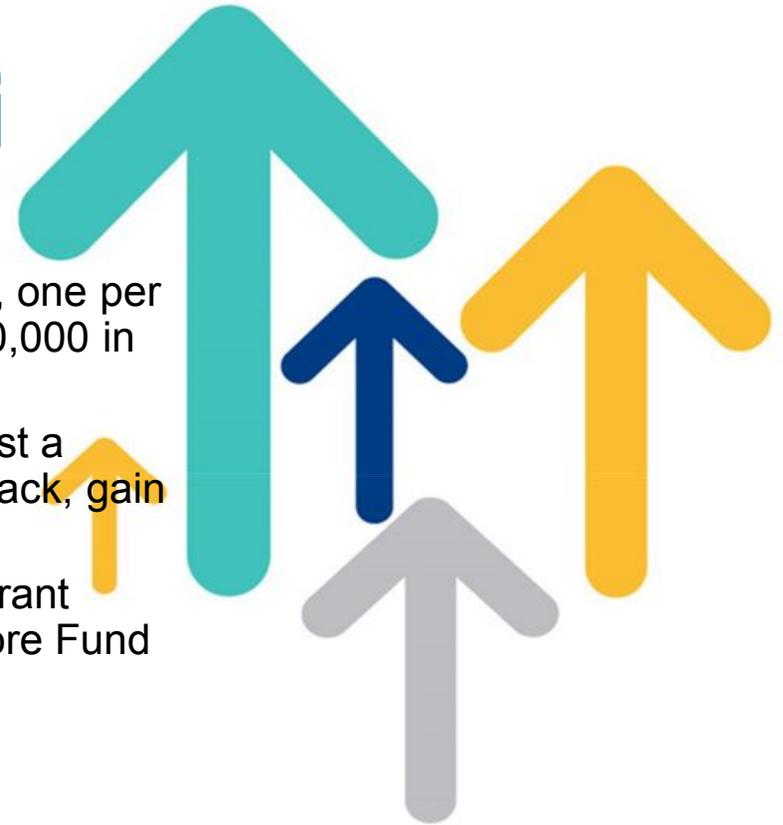
REV COLLABORATION

- Real Estate Ventures Fellows program: students, alums working to address critical development needs within Baltimore
- 10-weeks of mentoring from real estate and other professionals, via CEI
- students identify a neighborhood, create a project, complete a development plan, and apply for financing.
- each student or team presents in the "Pitch for a Million" competition
 - winning proposal receives up to \$1M in a Guidance Line of Credit from Baltimore Community Lending for project.



ACCESS TO FUNDING

- The CEI sponsors two business pitch competitions, one per semester, providing ready access to more than \$30,000 in seed funding and professional services
- Pitch competitions afford students the chance to test a concept, meet potential investors, get expert feedback, gain some recognition, and fail in a safe environment
- Additional funding available occasionally through grant opportunities, e.g. UM Ventures-sponsored Baltimore Fund (\$20,000)



COACHES & MENTORS

- Coleman Anderson, founder, NewsUp and Further Insights
- Lily Bengfort, Chief Growth Officer, TCecure
- Brenda Dilts, Pitch Creator/CEO, Next Step
- Tony Gasson, President, Soroban Inc.
- Will Holman, Executive Director, Open Works
- Lynda Katz-Wilner, Owner, Successfully Speaking
- Ken Malone, Principal, Early Charm Ventures
- J. Gary McDaniel (MBA '81), North Coast Angel Fund
- Laura Neuman, Partner, NextGen Venture Partners
- Takia Ross (BA '11), Owner, Accessmatized
- Lindsay Ryan, Venture Development Director, USM
- Sunwar Sunny, PhD, Founder, Dynamhex/Assistant Professor, UBalt
- Ryan Shuman (MBA '17), Director of Retail at Hunt A Killer
- Thom Shipley, Entrepreneur-in-Residence, SCORE
- Troy A. Stovall, CEO/Executive Director, TEDCO
- Ronald Stubblefield, Entrepreneur-in-Residence at JumpStart
- Carolyn Yarina, CEO and Co-Founder, Sisu Global
- John Zuknick (MBA '14/BS '12), Universities at Shady Grove



UBII COLLABORATION

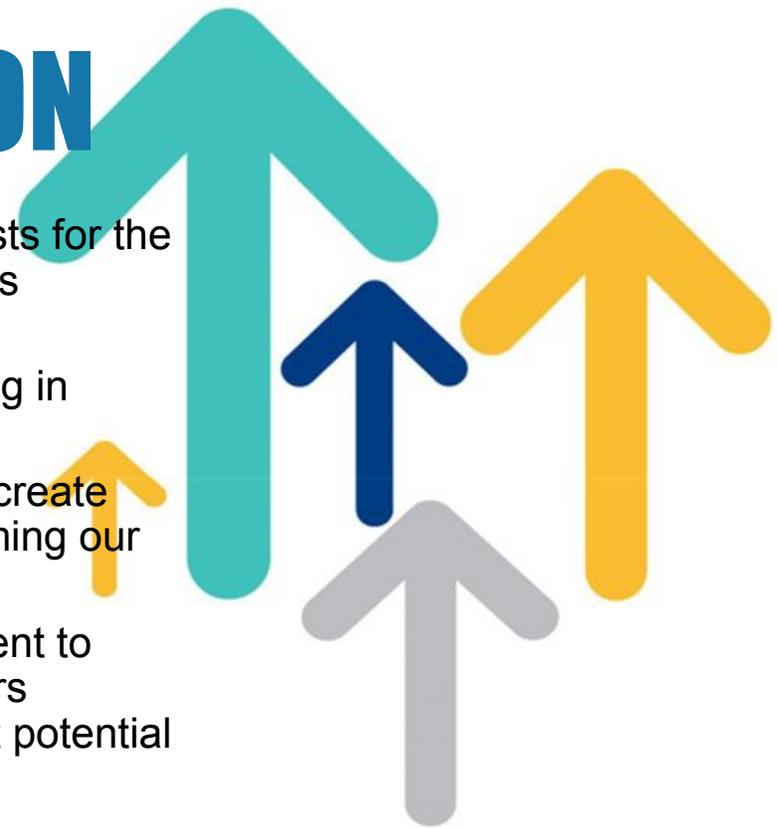
- Urban Business Innovation Initiative (UBII) was formed in 2021 by TEDCO to provide technical and business assistance to underserved early-stage companies
 - Programs include I-Corps, various funding, partner programs, and other critical pathways
- UBalt will serve as an anchor institution, with Coppin and USM schools, to provide
 - resources, office space for advisors and companies, access to mentors, workshops, pitch competitions, community programs (ex., StartUp MD), networking with business community, and faculty who can provide service to businesses



GCEC COLLABORATION

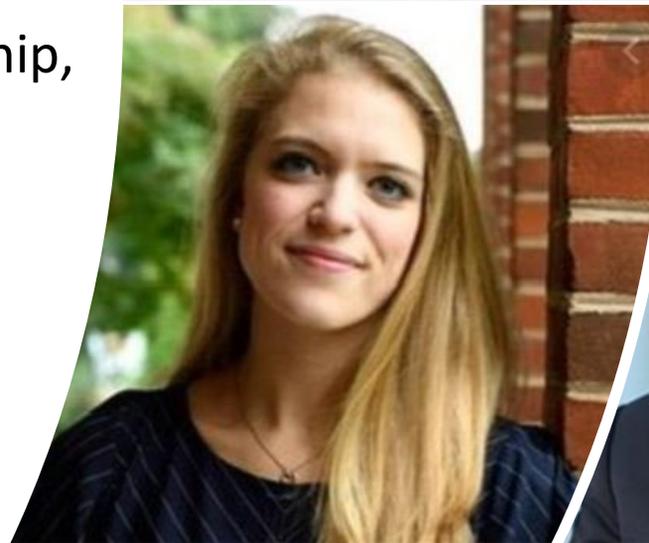
UBalt and Loyola University selected to serve as hosts for the 2021 Global Consortium of Entrepreneurship Centers (GCEC) Conference, October 13-16, 2021

- Theme “Leading with Entrepreneurship: Succeeding in Revitalization”
 - Showcase how entrepreneurs lead the way to create new companies that are revitalizing + transforming our communities
 - Highlight higher ed’s role in the urgent movement to support underrepresented entrepreneurs, others impacted by economic crisis and hold the most potential for growth



Keynote Speakers

- Nnadagi Isa, Co-founder, Ior tush
- Marcus Bullock, CEO, Flikshop
- Philip Gaskin, VP Entrepreneurship, Kauffman Foundation
- Allysa Dittmar, Co-Founder, Clear Mask and Ryan Maliszewski, CEO, Mozzeria



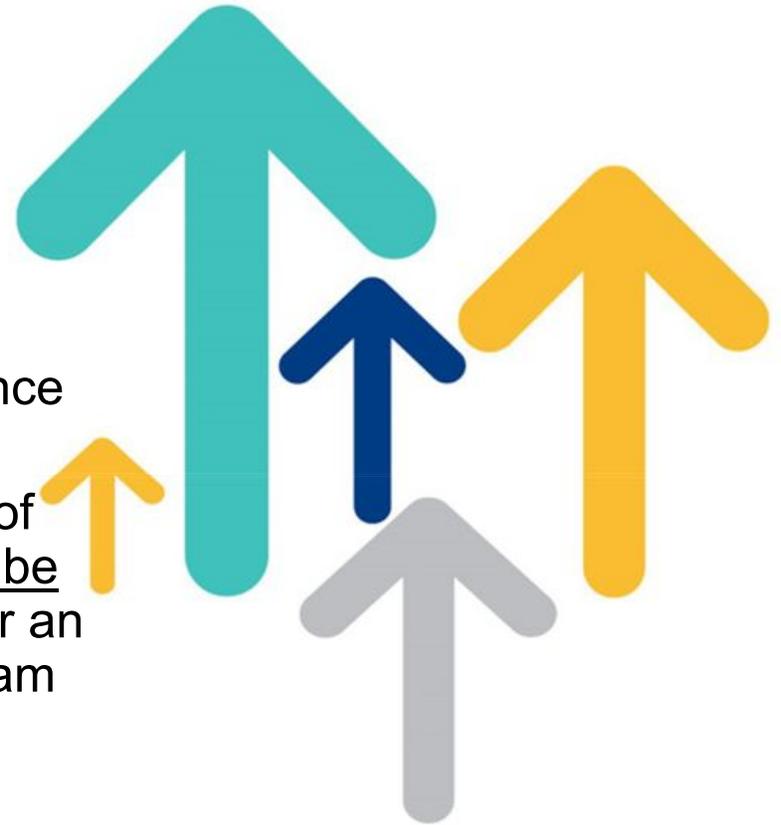
GCEC COLLABORATION

- Once-in-a-generation opportunity – a return to MD; founding GCEC was held at College Park in 1997
- Not merely an academic conference:
 - "a great opportunity ... also for the whole Baltimore business community, bringing together entrepreneurs and thought leaders from around the world, all dedicated to building a brighter future for local, national and global economies."
Murray Dalziel, Dean, Merrick School of Business
- Seeking more sponsors:
 - \$85K Goal
 - USM, TEDCO+EAGB, JP Morgan Chase, PNC, Kaufman Found, VentureWell



WE ARE 'A BRIDGE'

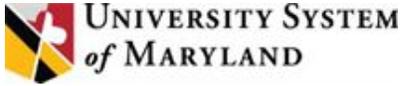
- We complement the classroom to help students gain real-world, practical experience to advance their careers.
- Open to everyone on campus, regardless of academic interest. IOW, you don't need to be a business major. You just need an idea for an enterprise, passion and drive to turn a dream into a reality.



THANK YOU

- Questions?





BOARD OF REGENTS

**SUMMARY OF ITEM FOR
INFORMATION**

TOPIC: USM Maryland Momentum Fund

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Thursday, September 2, 2021

SUMMARY:

Claire Broido Johnson, Managing Director of the USM Maryland Momentum Fund, will provide an overview of the fund's activities and status. The Fund most recently invested in Liatris, an advanced materials startup affiliated with the University of Maryland, College Park.

FISCAL IMPACT: This item is for information purposes.

CHANCELLOR'S RECOMMENDATION: n/a

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Lindsay Ryan 410-409-2236

lryan@usmd.edu

September 2021

Claire Broido Johnson
Managing Director
cbjohnson@usmd.edu



UNIVERSITY SYSTEM
of MARYLAND

MARYLAND MOMENTUM FUND

Overview of Maryland Momentum Fund



- **\$10MM University System of Maryland investment fund**
 - Established by USM Board of Regents in June 2016. Investments started 2017.
 - Funding source is System fund balance
 - Invested in 23 companies in last 24 months
 - \$1.6MM left for initial investments (about 8 more companies)
 - Goal of generating at least \$15MM in co-investment from non-USM entities; already at ~\$57MM
- **Investing in the most promising USM-affiliated technologies and people**
 - Help promising early-stage companies bridge early-stage funding gaps
 - Support companies so they get to a point where they can raise additional funding with VCs or be acquired
- **Eligibility criteria**
 - Located in Maryland; Must have a co-investor(s) that will invest at least as much as MMF
 - Affiliated with one of the 12 USM institutions across the State of Maryland (any **one** of the below):
 - University-owned intellectual property
 - Founded by University faculty, staff, student, or alum
 - Located in a University-affiliated research park or incubator

Main Goals for MMF



1. Returns

- Generate long-term financial returns which will be reinvested in future start-ups (evergreen fund)

2. Expand the Entrepreneurial Ecosystem across the State of Maryland

- Catalyze additional investments from private investors
- Invest in fixture companies (companies that start here, grow here, stay here)
- Create jobs – and retain those jobs
- Grow talent
- See more and share via BBJ article: <https://bizj.us/1qav0h>

3. USM-Specific Indicators:

- Stimulate/improve visibility of USM IP; advance USM status as a research institution and center of excellence
- Support, recruit and retain innovative students and faculty

Accomplishments



- **\$8.6 MM invested and committed**
 - \$6.2 MM from MMF
 - \$2.2 MM from affiliated universities that can co-invest alongside MMF
- **29 investments**
 - 23 companies; 6 follow-ons
- **120 jobs created**
- **\$6.7 of outside investment for every \$1 MMF invested** into our portfolio companies
- **\$266K average investment** (MMF+ University co-investments); \$196K from MMF
- **37 companies reviewed** by Advisory Board (since July 2019)
- **300 unique expert panelists** have provided due diligence on **39 companies** (since July 2019)

Additional Value



- **Established valuable relationships with investors and across ecosystem** including: Abell Foundation, Squadra, Early Light Ventures, Alexandria Venture Partners, Sanofi, TCP, Lord Baltimore Fund, Conscious Venture Labs
- We have developed a network of advisory board members, mentors, entrepreneurs willing to support companies borne out of USM
- We are creating a 'name' for Maryland as a reputable entity creating valuable start-ups
- MMF is the only USM fund investing in USM startups other than UM Ventures at UMB, for now
- **\$57 MM invested by outside entities** like Sanofi, ReThink Education, JDRF T1D, Lord Baltimore Fund, Alexandria Venture Investments, Chesapeake Bay Seed Capital Fund, Dingman Angels, alongside MMF + University investments
- **150 unique investors** (in total) have invested alongside MMF in our investment rounds

Responsibly Managing Remaining Funds



MARYLAND MOMENTUM FUND

- **Intially allocated for first checks and \$3 MM for follow on investments** so we have funding to invest in companies that continue to do well

	<u>Initial</u>		<u>Follow On</u>		<u>Sum</u>
Allocated for Initial and Follow On Investments	\$ 7,000,000		\$ 3,000,000		\$ 10,000,000
USMO (Investment+Committed) does NOT include separate university investments	\$ 5,368,750		\$ 912,500		\$ 6,281,250
Remaining Left to Invest by USM	\$ 1,631,250		\$ 2,087,500		\$ 3,718,750

- As discussed last meeting, for comparable funds, the average time between start of fund and first exit is 6 years, and between initial investment and exit is 5-7 years. For MMF, late 2022 to 2024.
- MMF has invested in 16 new companies in the last two years. Keeping that pace and average first check size, and assuming no institutional co-investment, the portion currently dedicated to first checks will be invested by summer 2022.
- If no returns or additional funding, MMF can 1) write fewer first checks, prioritizing deals in some way, e.g. those that need it most; promise most return; strongest USM tie 2) dip into “Follow On” funding – but less money to invest in ‘winners’, so less return. 3) have a gap in first check funding.
- At least 25 companies we would like to engage with in the queue

Investments

- DeepTech
- Technology
- Consumer Product
- Therapeutic
- Data
- Education Technology
- Aquaculture
- MedTech
- Other Life Science

Late 2017-2018	2019	2020		First Half 2021
		First Half	Second Half	
MF Fire Nov. 2017, \$192.5K \$1.2MM Round	Retrium May 2019, \$400K \$1.6MM Round	InferCabulary Feb. 2020, \$250K \$783K Round	NextStep Robotics Aug. 2020, \$250K Add-on; \$500K Round	Veralox Jan 2021, \$250K Add-on; \$5MM Round
NextStep Robotics Feb. 2018, \$250K \$1.14MM Round	Veralox Jun. 2019, \$500K \$5.4MM Round	ARMR Feb. 2020, \$350K \$750K Round	MiRecule Aug. 2020, \$250K \$3.5MM Round	Dynamhex Feb. 2021, \$250K \$800K Round
PaverGuide Mar. 2018, \$300K \$675K Round	Gemstone Aug. 2019, \$250K \$1.3MM Round	DataKwip Apr. 2020, \$250K \$650K Round	N5 Sensors Sept. 2020, \$300K \$1MM Round	Qualytics Apr. 2020, \$250K \$2.1MM Round
NAWEC Apr. 2018, \$350K \$1.5MM Round	Neoprogen Oct. 2019, \$245K \$1.5MM Round	Pathotrak May 2020, \$150K \$1.2MM Round	InferCabulary Sept. 2020, \$100K Add-on, \$1MM Round	Target Docs Apr. 2020, \$250K \$850K Round
MF Fire Oct. 2018, \$500K Add-on \$400K Round	Minnowtech Nov. 2019, \$150K \$600K Round	KaloCyte June 2020, \$300K \$1MM Round	Voxy Engen Oct. 2020, \$500K \$6.75MM Round	KaloCyte Apr 2020, \$300K Add-on, \$500K Round
Zest Tea Dec. 2018, \$300K \$1.035MM Round	Zest Tea Dec. 2019, \$200K Add-on \$650K round		VisiSonics Nov. 2020, \$500K \$3.5MM Round	Liatris June 2021, \$250K \$800K Round
				Veralox June 2021, \$500K Add-on, \$16MM Round

Initial Investment Set Aside (just MMF): \$7MM; \$5.4 MM invested



Follow On Investment Set Aside (just MMF): \$3 MM; \$912K invested



Portfolio Companies



UMCP IP and Alum
Advanced wood burning stove



UMB IP, Towson Alum
Exoskeleton robot to reverse foot drop for stroke victims.



UMCP IP, Alum
Advanced pulse jet engine



UMCP Alum
High caffeine tea, energy drink product



UMCP IP
Advanced semipermeable pavement system



UMCP Alum
Agile software development management product



UMBC and UMCP Alums
Tissue regeneration via stem cells



UMB IP and Alum
Anticoagulant drug, therapeutics for rare blood disorders



UMB IP and Faculty
Cell-based therapy for cardiovascular disease



UMCES Alum
Sonar to measure shrimp biomass



UM BioPark Tenant
Next-gen tourniquet



Towson Alum, TU Incubator startup
Ed-tech vocabulary app



UMCP Alum
Software platform to manage energy across buildings



UMCP IP and Faculty
Food safety testing technology



UMB/UMBC Faculty, UM BioPark Affiliate
Dried artificial red blood cell



UMCP Alum
RNA Therapeutics



UMCP IP and Faculty
Semiconductor sensor technology



UMCP IP and Faculty
Spatial and personalized audio solutions



UMCP Alum and Faculty
Language upskilling platform



UBalt Professor
climate change modeling and action platform



UMBC BwTech
Data integrity

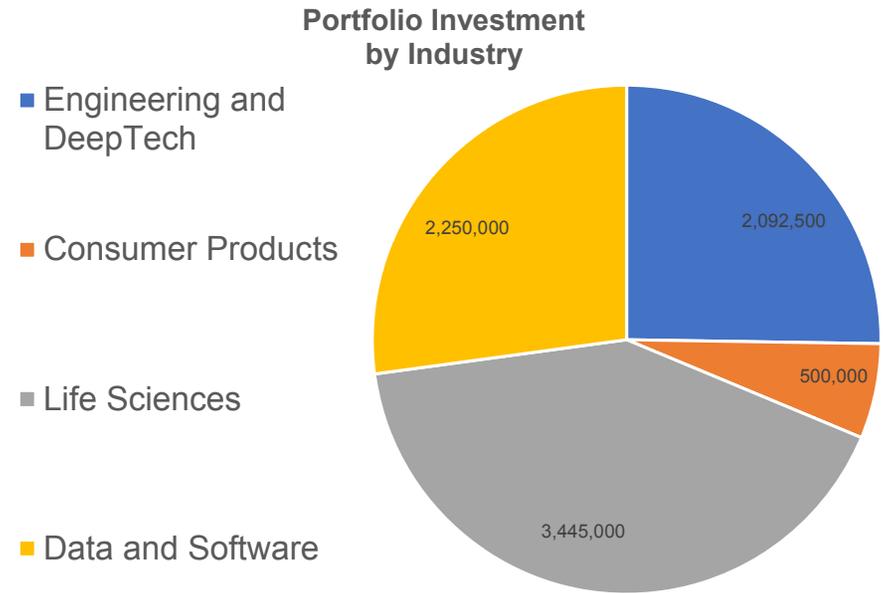
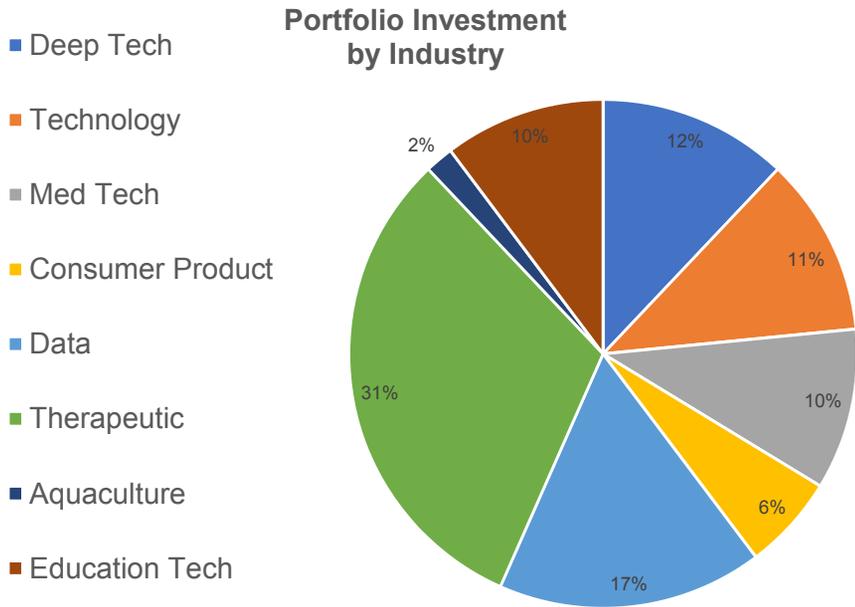


UMCP Alum
Data platform for construction industry

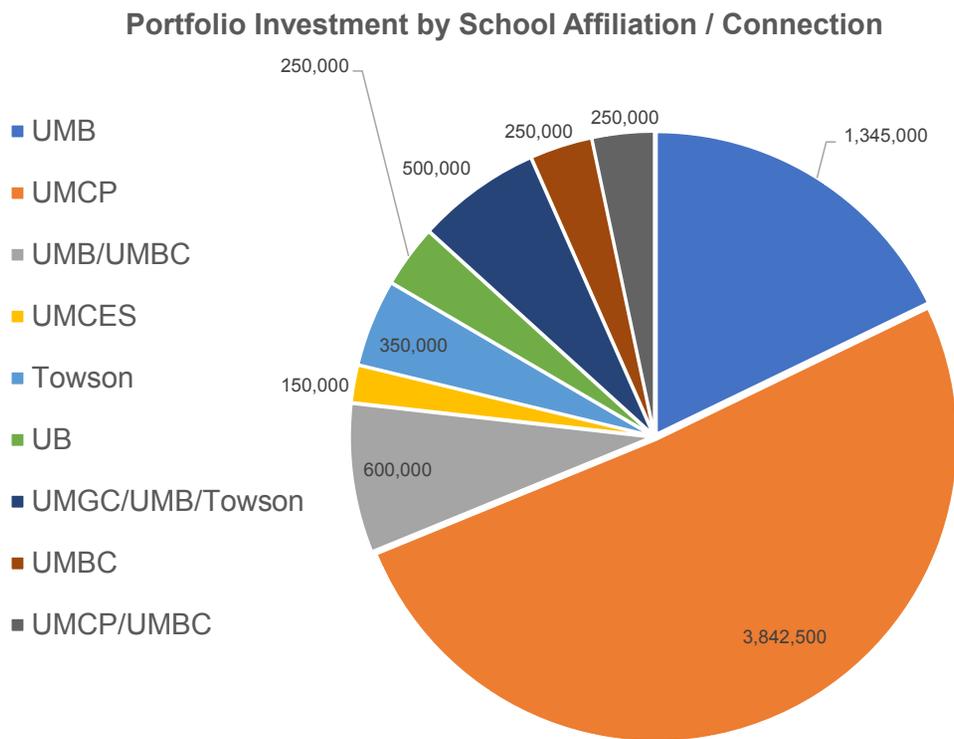


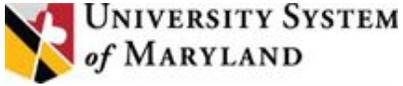
UMCP Employee
Fireproof, lightweight insulation

Investment by Industry – shown two ways



Investment Detail





BOARD OF REGENTS

**SUMMARY OF ITEM FOR
INFORMATION**

TOPIC: Office of Economic Development Update

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Thursday, September 2, 2021

SUMMARY:

Lindsay Ryan, Venture Development Director, will provide a briefing on pandemic response and recovery, including USM COVID Research & Innovation Task Force-related activities; recently updated technology transfer metrics; and the biannual venture development activity and resources report.

FISCAL IMPACT: This item is for information purposes.

CHANCELLOR'S RECOMMENDATION: n/a

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Lindsay Ryan 410-409-2236
lryan@usmd.edu

USM Economic Development

*Briefing for USM Economic Development and
Technology Commercialization Committee*

September 2, 2021





USM Economic Development *Agenda*

- **Pandemic Response and Resiliency**
- **Technology Transfer Activity Update**
- **Venture Development Activity and Resources Report**



Pandemic Response and Resiliency

USM COVID Research & Innovation Task Force -- Review

Mission

Established in April of 2020 to leverage and mobilize systemwide research and innovations that will engage policymakers, business leaders, and the entrepreneurial community in addressing the COVID-19 pandemic. More information: <https://www.usmd.edu/covid-taskforce/>.

Steering Committee

UMB, UMCP, UMBC, USM and UMD School of Medicine

Four Pillars of COVID Response Effort

Convene and Connect

Coordinate –Leverage capabilities, note gaps, redundancies and present/emerging opportunities

Identify Resources –Seed Grants, State/Federal Assistance, Industry partnerships

Amplify –Tell comprehensive story in sustained and purposeful manner

Strategic Purpose/Objectives

Mobilize Resources for Positive Impact

Look Long-term and Best Prepare USM to Address Future Pandemics/Crisis

Build awareness of USM's research and development projects centered on COVID-19

Foster Collaboration, both internal and external to USM



Pandemic Response and Resiliency

USM COVID Research & Innovation Task Force -- Review

Previous Activities

- **USM COVID App Challenge:** Encouraged and rewarded student and faculty mobile app innovations that addressed pandemic impacts. With support and engagement with AWS and IBM and sponsorship by the Alex Brown Center at UMBC. <https://www.usmd.edu/covid-taskforce/app-challenge-winners>
- **USM Public Health Communication Challenge:** Encouraged and rewarded the USM community to create pandemic-related public health communication materials: <https://www.usmd.edu/covid-taskforce/public-health-challenge-winners>

Ongoing Initiatives

- **USM Long-Term Pandemic Research & Innovation Strategy Workshop:** Results of two-session internal/external expert discussions have been summarized and can be leveraged for specific initiatives.
- **Connected DMV Pandemic Center Response Initiative Partnership:** USM is lead academic partner in regional strategic planning and federal funding pursuit effort.
- **Pandemic Preparedness, Bioproduction and Vaccine Development Strategy:** Working with the Governor's Life Science Advisory Board (LSAB), MD Commerce and MD Tech Council on strategy to develop MD's post-pandemic opportunities and related workforce capacity needs.



Pandemic Response and Resiliency

USM COVID Research & Innovation Task Force -- Updates

Innovation Acceleration: In September, with support from the U.S. Economic Development Administration, UMCP will offer an educational workshop series about federal funding (SBIR) that can further innovations related to pandemic response, recovery, and resiliency.

Montgomery/Maryland Life Sciences Education and Innovation Partnership:

- Created in June via MOU among Montgomery County, the University System of Maryland and Montgomery College:
https://www2.montgomerycountymd.gov/mcgportalapps/Press_Detail.aspx?Item_ID=36516
- The global COVID-19 pandemic reinforced our collective leadership role in future evolution of life and regulatory sciences. There is a need to proactively work together to drive inclusive, innovation-led economic growth and meet the needs of our nation amidst the dramatic new opportunities and challenges to address moving forward due to the impacts of the pandemic.
- Goal: Facilitate collaboration among industry and the academic partners on cutting-edge research and allow students from across Maryland opportunities to gain work experience and conduct translational research with Montgomery County's industry leaders.



Pandemic Response and Resiliency

Federal Opportunities

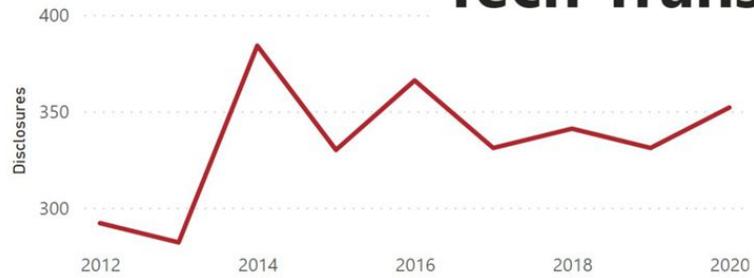
The **American Rescue Plan** has generated several opportunities for economic development.

- USM institutions may be important partners for efforts supported by American Rescue Plan funding provided directly to states and cities.
- The U.S. Economic Development Administration has several opportunities available (<https://eda.gov/arpa/>), including a program that will award 20-30 regional coalitions \$25 million to \$75 million, and up to \$100 million, to implement projects that grow new regional industry clusters or scale existing ones through planning, **infrastructure, innovation and entrepreneurship, workforce development, access to capital**, and more.

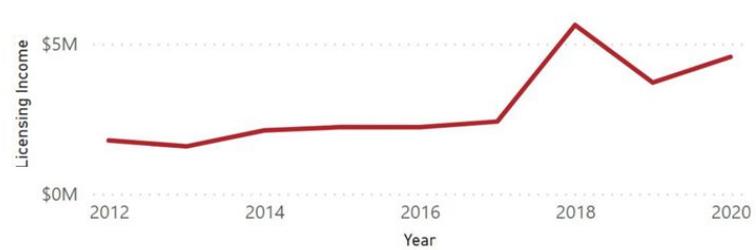
Tech Transfer Key Indicators



Disclosures by Year



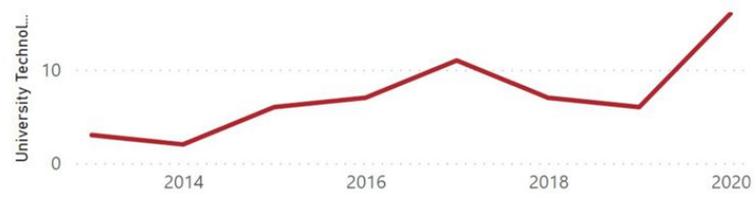
Licensing Income by Year



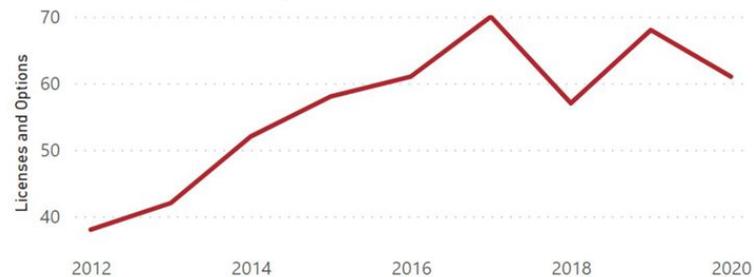
US Patents by Year



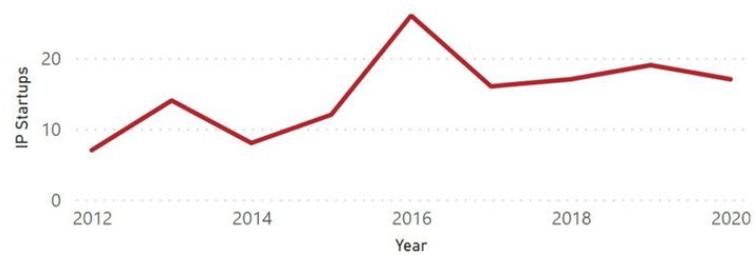
University Technologies Entering the Market by Year



Licenses and Options by Year



IP Startups by Year





Technology Transfer Key Indicators

Takeaways

Participation of Women: For UMCP and UMB, about 50% of disclosures and applications had at least one woman inventor, much better than an estimated 22% U.S.-wide at the end of 2019.

Institutional Dynamics: We report at USM to the national body, the Association of University Technology Managers. However, institutional metrics are tracked, and each has different strengths and challenges. Currently, UMCP, UMB, and UMBC report. Additional USM institutions are currently enhancing tech transfer capacity.

Benchmarking:

- Despite budget and staffing challenges, USM tech transfer offices continue to keep pace in most areas.
- USM overperforms in the area of IP startup formation. Startup formation contributes to the translation of university technology into the market and to economic development through job creation. However, working with startups can be laborious, which can reduce outcomes in terms of licenses/options executed.
- USM licensing income is increasing. It is typically a more volatile metrics, with “big hits” that can skew benchmarking data.



Venture Development Activity & Resources Report

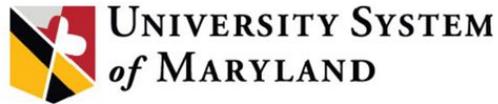
Review

Establishment: Reporting began in 2012 as a way to catalog the new ventures spinning out of USM, and/or coming to USM to join incubators and receiving mentoring.

Revision: In June of 2018, reporting was revised to include the multitude of venture types and resource types that had emerged, including capital.

Uses: In addition to reporting to the Board of Regents EDTC Committee, the underlying database serves as a resource to USMO, its institutions, and partners in better supporting for-profit and non-profit ventures.

Future: This reporting process continues to evolve. In this cycle, we will be reaching out to ventures for optional self-identification into different demographic groups, toward diversity and equity goals.

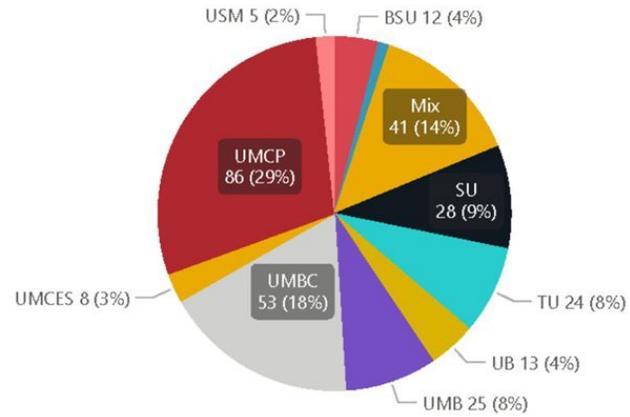


Ventures Supported

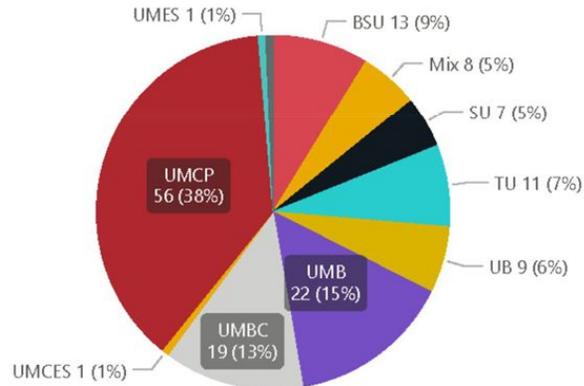
June 2018 through June 2021

272
 # Distinct Ventures

All Ventures Assisted - By Supporting Institution



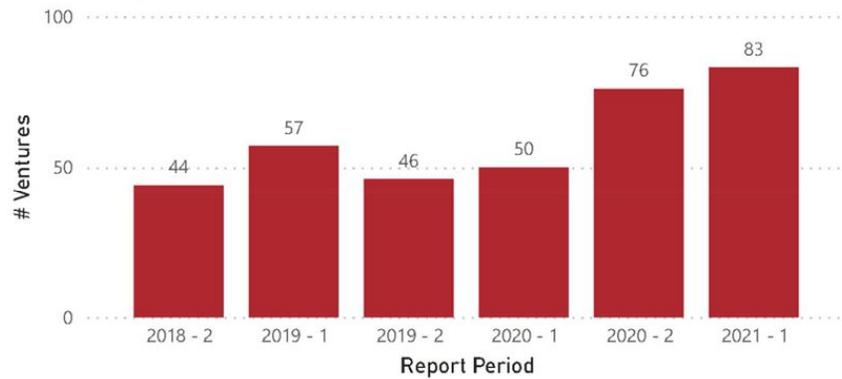
"Spinout" Ventures Assisted - By Spinout Institution



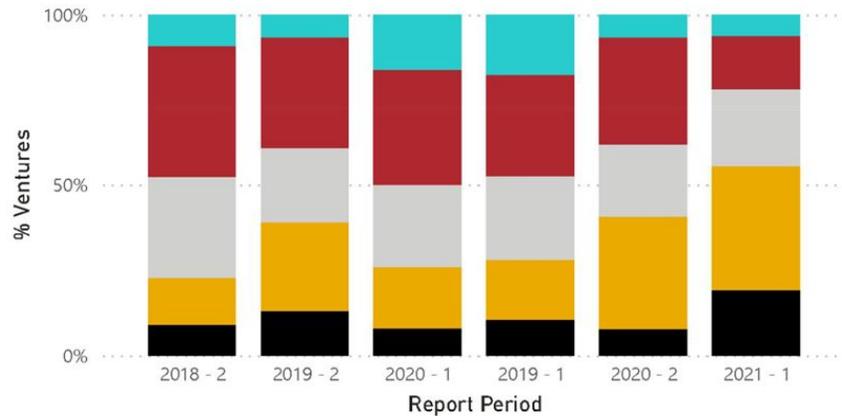


Ventures Supported *(New to USM)*

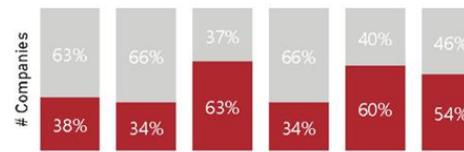
USM Status ● NEW TO USM



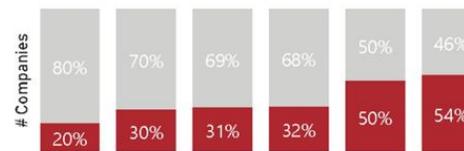
Industry ● Consulting & ... ● Consumer ... ● Information ... ● Life Science ● Sustainabili...



% Minority Owned (Red)



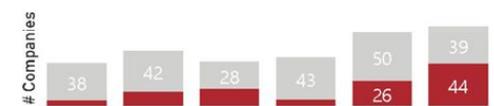
% Woman Owned (Red)



USM Founders (Red)



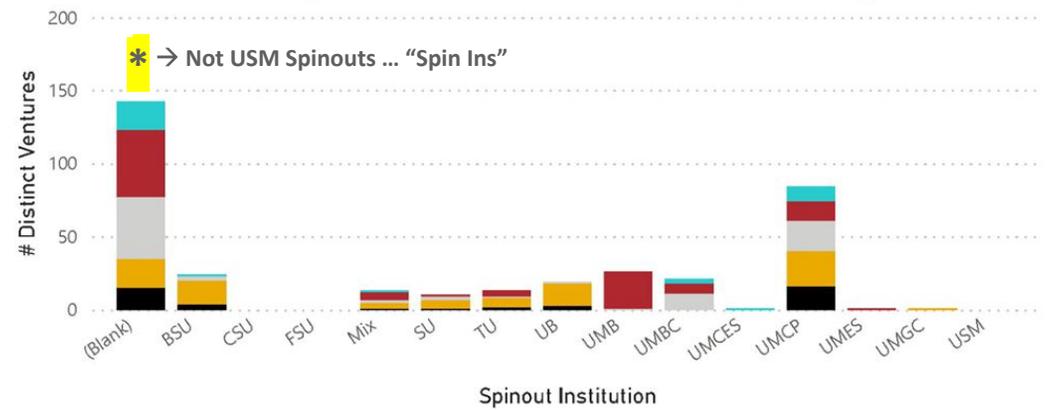
Student Founders (Red)



USM IP (Red)



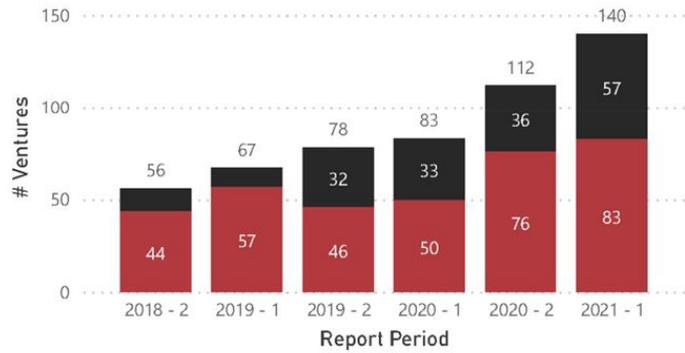
Industry ● Consulting & Other ● Consumer & Food ● Information Technol... ● Life Science ● Sustainability & ...





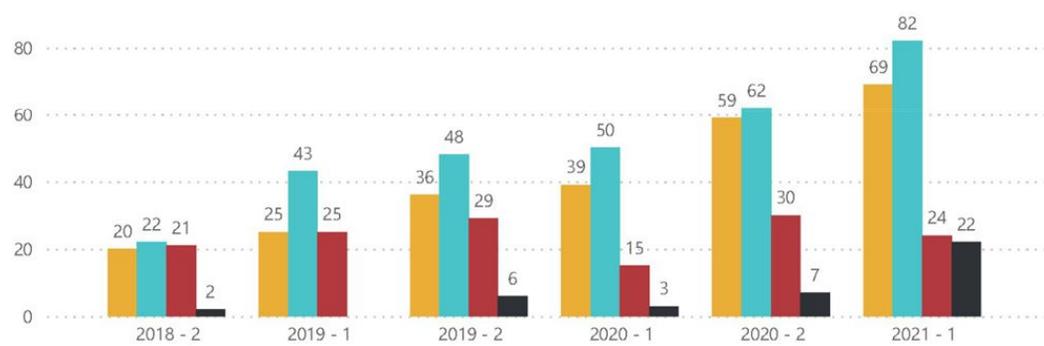
Ventures Supported

USM Status ● NEW TO USM ● RE-ENGAGED



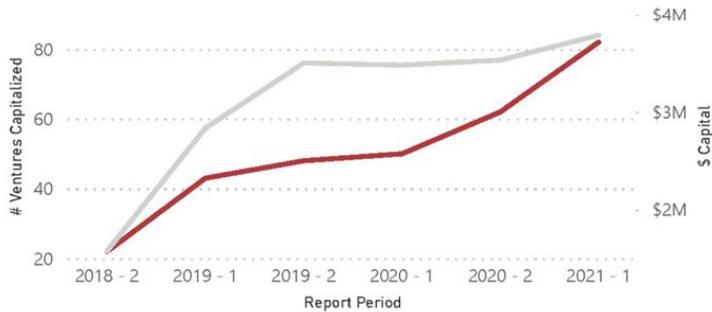
Support by Type

● Programming & Mentoring ● Capital (In-Kind and Cash) ● Incubator and/or Physical Space ● Talent Assistance



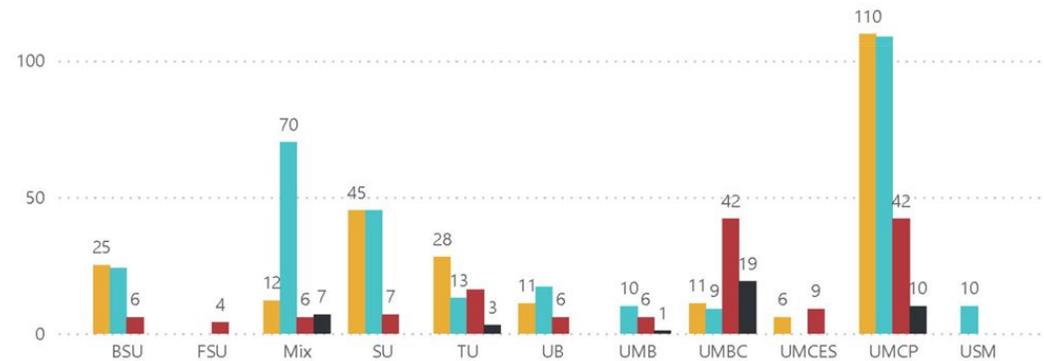
Capital Support

● # Ventures Capitalized ● \$ Capital



Support by Type and Institution

● Programming & Mentoring ● Capital (In-Kind and Cash) ● Incubator and/or Physical Space ● Talent Assistance



MARYLAND TECHNOLOGY INTERNSHIP PROGRAM 

IN REVIEW (2020 – 2021)

Other State-Wide Venture Support from USM

92 Organizations | 241 Internships Funded
10 Maryland Counties Represented|

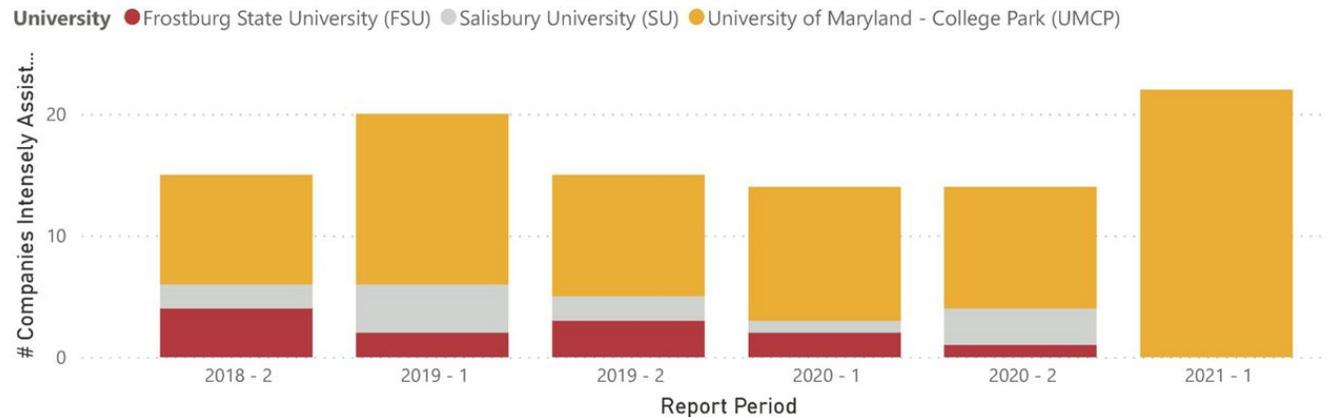
- 50% of employers reported that MTIP provided the financial incentive to create a new internship program.
- 73% of participants are small businesses less than 150 employees
- 66% of students were either hired by their internship site or were invited to intern again.
- 85% of students indicated that they plan to stay in Maryland post graduation for their first career.

--> About 30% of which are USM-affiliated!



The Maryland Small Business Development Center (SBDC) is a public-private partnership between the U.S. Small Business Administration, the State of Maryland and UMCP. The Maryland network hosts entrepreneurial assistance programs at a number of USM institutions. In FY2020, the SBDC network supported over 53,000 Maryland jobs, provided direct assistance to more than 9,000 businesses, helped entrepreneurs start 270 business ventures statewide, and helped small businesses secure \$148 million in investments and loans.

Companies Assisted Through USM Small Business Development Centers



*2021 – 1 is preliminary. University of Maryland includes specialty counselors, a new CARES ACT-Funded Business Sustainability Center, Howard County, Anne Arundel County, Corridor Export Center (Baltimore City West), Baltimore City, Prince Georges, Montgomery, Frederick County (moved from Frostburg – Western).



Venture Development Activity & Resources Report

Takeaways

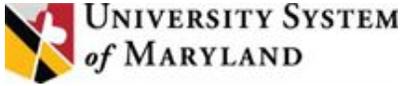
GOOD NEWS! A key state-wide programmatic resource (I-Corps) just received continued support from the National Science Foundation, with UMD leading the \$15M, 9-university [Mid-Atlantic Hub](#).

Venture Support Grows: Despite the pandemic, support for ventures across USM continues to grow. Some growth may also reflect more broad inclusion in reporting, which is particularly true for ventures re-engaged.

Institutional Variation: Across the USM, the types of ventures spinning out of and supported by different institutions varies. Resource types and scales also vary.

Institutional Cross-Talk: Numerous resources combine support from different institutions, and some ventures have ties to more than one institution via their founders or intellectual property.

Internal and External Value: USM entrepreneurial support very often extends to ventures that do NOT have a USM-affiliated founder or university-owned intellectual property. In this way, university strengths are leveraged for greater community and economic development.



BOARD OF REGENTS

SUMMARY OF ITEM FOR ACTION
INFORMATION OR **DISCUSSION**

TOPIC: New Early-stage Resource(s) Feasibility

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Thursday, September 2, 2021

SUMMARY:

In 2016, with support from the Board of Regents, USM launched the Maryland Momentum Fund (MMF) with a \$10 million commitment to invest in USM-affiliated companies to support entrepreneurship, catalyze outside investment in early-stage startups, and foster economic development and technology commercialization. As seed-stage investment fund, the MMF helps promising early-stage companies bridge from grant funding and angel investment to a Series A round of investment.

At an earlier stage than the MMF, across the USM, numerous other resources support more than 100 new ventures each year with capital and other assistance, from business plan competitions to accelerators, incubators, mentoring programs, and more. They support students, faculty, and community entrepreneurs and cultivate and develop more entrepreneurs. However, gaps remain at this earlier stage across a wide range of USM-affiliated ventures.

Therefore, it could be valuable to develop an additional resource(s) that can support entrepreneurial endeavors across USM at an early stage. This resource(s) should have clearly defined goals, address current gaps/challenges in the ecosystem toward obtaining the goals, and include an initial design, business model (including potential funding sources outside USM), and implementation plan that can achieve the goals. The resource(s) will need to balance focus with flexibility, considering the dynamic nature of supporting early-stage entrepreneurial endeavors. The resource(s) should equitably support a diversity of entrepreneurs and ventures. Design should be informed by people from the groups of entrepreneurs and/or ventures that are to be supported.

The Economic Development and Technology Commercialization Committee could encourage USM to study the feasibility of developing a resource(s) that could be actualized in fiscal year 2023.

ALTERNATIVE(S): The Committee could choose to not evaluate the feasibility of an earlier-stage resource(s).

FISCAL IMPACT: There is no fiscal impact.

CHANCELLOR'S RECOMMENDATION: n/a

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Lindsay Ryan 410-409-2236

lryan@usmd.edu



Supporting Early-Stage Entrepreneurship Across USM

Overview

USM provides portfolio of resources to promote and support entrepreneurship among its student, faculty, and community. However, gaps remain, and some potential is untapped.

With the Momentum Fund, USM addressed a specific gap in capital access for venture-backable startups. Looking to earlier points in the process, USM may be able to help develop an additional multi-institution resource(s) to promote and support entrepreneurial success.

Supporting Early-Stage Entrepreneurship Across USM *Study and Development Process*

The following elements are part of resource development and need to cohesively align:

- **Goal Development.** Multiple goals can be accomplished at the same time, and some may inherently conflict. It will be important to identify the most important key goals. Examples include:
 - **Internal USM Impacts:** Recruit, retain and/or enhance access for students; Retain faculty; Develop talent; Advance academic innovation; Demonstrate Systemness
 - **External Impacts:** Further develop the innovation ecosystem; Enhance partnerships with industry; Enhance research impact; Enhanced community impact; Create jobs; Generate societal impact
- **Gap Analysis and Design.** For greatest impact, seek to develop solutions that address current gaps/challenges in the ecosystem toward obtaining the desired goals. Determine eligibility and monetary and/or non-monetary resources provided.
- **Business Model and Implementation Plan.** Consider funding source (*including potential sources outside USM*), partners, potential revenue in the case of investing, logistics.

If participation across all USM institutions is desired, then all USM institutions should be involved from the beginning.

Appendix





Supporting Early-Stage Entrepreneurship Across USM

Examples

Across USM there are examples of models that could be scaled, all the way from:

The REEF program, which works with STEM students curious about entrepreneurship and can result in a seed grant to a newly formed startup

to

The Towson University accelerator, which provides \$10k, mentoring, office space, and a peer group to help ventures accelerate as they are about to enter the market.

Example models external to USM include:

- Funding for and directed by students (dilutive, non-dilutive)
- General pre-seed investment (various terms); with and without additional mentoring
- Startup studio models; providing many resources in-kind
- Various programs to support specific types of entrepreneurs

There are no shortage of ideas; prioritization is required!