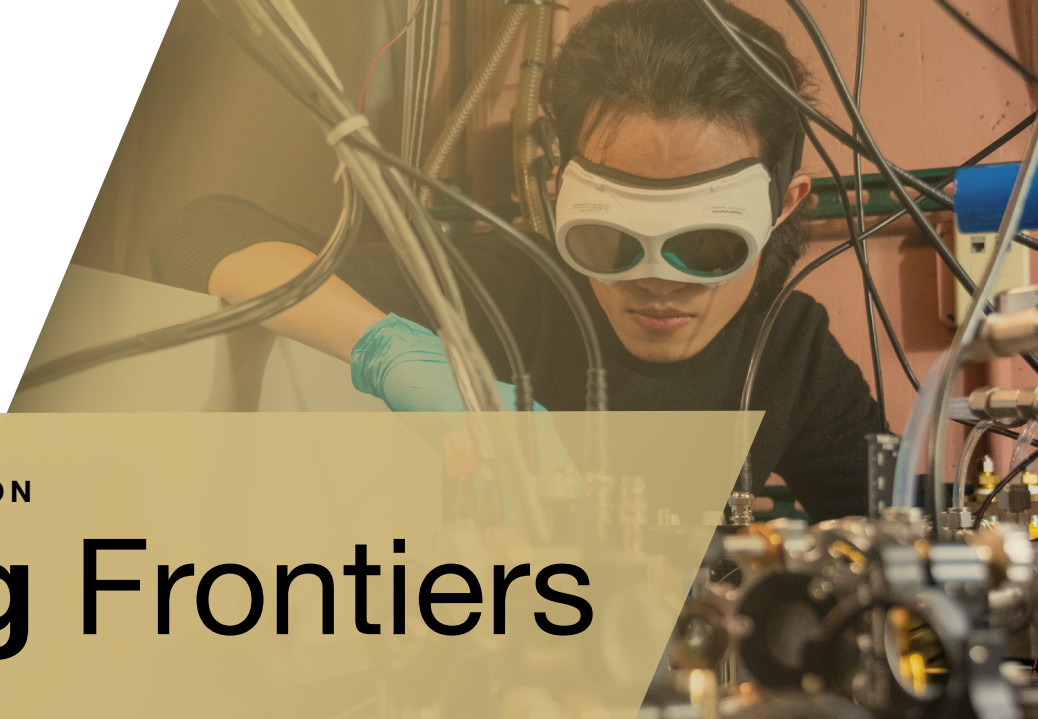




Venture Partners

UNIVERSITY OF COLORADO **BOULDER**



TRANSLATING INNOVATION

# Shaping Frontiers

2023 ANNUAL REPORT



# Supporting a Groundbreaking Innovation Pipeline

## Measuring Impact in Fiscal Year 2022-2023

**\$504M**  
CAPITAL RAISED BY  
PORTFOLIO COMPANIES

**68** LICENSE AND  
OPTION AGREEMENTS

**10** NEW STARTUPS  
CREATED

**79** NSF I-CORPS  
TEAMS TRAINED

**18** STARTUP EXITS  
SINCE 2000

**INNOVATION IS AT THE HEART OF CU BOULDER'S VALUES AND MISSION.** One of the ways we innovate is by translating our research into new solutions to improve life across the globe. At Venture Partners at CU Boulder, we provide the resources, guidance and partnerships to bring the promise of university breakthrough discoveries to fruition. In this report, we are proud to share highlights from the past year's exciting and challenging work of building new ventures, training our innovators and growing the entrepreneurial ecosystem in our region.

After years of building a comprehensive array of resources to help our researchers establish and accelerate new startups, CU Boulder was recognized in 2023 as a leading university for startup creation. The most recent national data from AUTM (the leading global organization for recording data on university commercialization) showed that CU's startup production was fifth among all U.S. universities—a strong indicator that the university has arrived among national leaders. This is an amazing achievement for the university. CU Boulder's tailored startup programming, which helped to achieve this milestone recognition, includes the Lab Venture Challenge (LVC) and National Science Foundation (NSF) I-Corps™ Hub West, each highlighted in this report.

Venture Partners' extensive programming saw a new addition in 2023: the Embark Deep Tech Startup Creator. Embark addresses the unrealized potential of many university technologies by pairing them with experienced community entrepreneurs and seed funding to launch new companies. In its inaugural cohort, Embark created 10 startups, each commercializing a technology born in a CU Boulder research

lab. The new ventures spanned various disciplines, including quantum sciences, biotechnology, sustainable biofuels and advanced materials. Embark was an incredible success in spinning out university innovation while providing new opportunities for the business community to partner with CU Boulder in entrepreneurial collaboration.

We were delighted to see the January announcement from NSF that the Colorado-Wyoming Climate Resilience Engine—a regional grant proposal for innovation and economic development co-led by CU Boulder—was chosen for an award worth up to \$160 million. Venture Partners played the lead role in designing the pillar of the Engine to commercialize new climate innovations and will be an integral partner within the Engine for years to come. This unprecedented opportunity will directly tackle regional challenges like drought and wildfire while driving new company creation and growth.

On behalf of our entire team at Venture Partners, we'd like to thank our many collaborators—startups, investors, accelerators and, most of all, our groundbreaking faculty, student and staff innovators—for an incredible 2023. We hope you enjoy this year's report.



**Bryn Rees**  
Associate Vice Chancellor for Research and Innovation;  
Managing Director of Venture Partners at CU Boulder



**Massimo Ruzzene**  
Vice Chancellor for Research and Innovation;  
Dean of the Institutes

*Shown on cover (from top): Qizhong Liang, PhD candidate (JILA, Physics), demonstrating how a laser-based breathalyzer works, in the Ye lab at JILA; Joelle Westcott and Morgan Ulrich attach a sensor to a 400 g-ton centrifuge in the Center for Infrastructure, Energy, and Space Testing; an instrument engineer at the Laboratory for Atmospheric and Space Physics (LASP) aligns a light in a vacuum chamber used for calibrating and testing flight hardware.*

## Venture Partners at CU Boulder translates breakthrough research into economic and societal impact.

We equip researchers to commercialize lab discoveries with real-world insights. Our programs and processes move at a rapid pace to bring world-changing innovations from CU Boulder to the market.

**#5**

CU SYSTEM RANKING  
NATIONALLY IN STARTUP  
CREATION (AUTM)

Of the 25 reported startups spun out of the University of Colorado, 20 came through Venture Partners. One included Prometheus Materials, from the labs of Wil Srubar, Mija Hubler and Sherri Cook and Jeff Cameron to eliminate most if not all carbon emissions associated with traditional concrete-based building materials.

**More:** [colorado.edu/venturepartners/5](https://colorado.edu/venturepartners/5)

**#14**

CU SYSTEM RANKING  
NATIONALLY FOR PATENT  
ACTIVITY (NATIONAL  
ACADEMY OF INVENTORS)

Of the 115 reported utility patents granted, CU Boulder contributed over half as Venture Partners helps researchers commercialize their discoveries. One notable startup, Bactria Pharmaceuticals, co-founded by Corrie Detweiler (pictured), focuses on combating antibiotic-resistant bacteria.

**More:** [colorado.edu/venturepartners/14](https://colorado.edu/venturepartners/14)



# Growing Results

We empower the people behind the headline-making breakthroughs. Our approach supports long-term commercial success. The proof is in our results.

More: [colorado.edu/venturepartners/impact-22](https://colorado.edu/venturepartners/impact-22)

## FY 2023

**162**  
INVENTIONS  
DISCLOSED

**68**  
LICENSES  
& OPTS.

**10**  
STARTUPS  
LAUNCHED

## FY 2022

**145**  
INVENTIONS

**87**  
LICENSES & OPTS.

**12**  
STARTUPS

## FY 2021

**130**  
INVENTIONS

**65**  
LICENSES & OPTS.

**20**  
STARTUPS

## FY 2020

**175**  
INVENTIONS

**59**  
LICENSES & OPTS.

**12**  
STARTUPS

## FY 2019

**144**  
INVENTIONS

**46**  
LICENSES & OPTS.

**6**  
STARTUPS

## FY 2018

**187**  
INVENTIONS

**52**  
LICENSES & OPTS.

**7**  
STARTUPS

## FY 2017

**124**  
INVENTIONS

**49**  
LICENSES & OPTS.

**9**  
STARTUPS

## FY 2012-2016 (AVERAGE)

**109**  
INVENTIONS

**33**  
LICENSES & OPTS.

**5**  
STARTUPS

# Celebrating Success

## New NSF Engines grant and Quantum Hub designation land CU Boulder at center of national innovation

Two federal recognitions—celebrating Colorado as an innovation engine and a quantum hub—built on CU Boulder’s technological and entrepreneurial leadership.

Earlier this year, the National Science Foundation announced that the Colorado-Wyoming Climate Resilience Engine (CO-WY Engine) had earned a spot in its inaugural Regional Innovation Engines program. The prestigious award means up to \$160 million in funding over 10 years and puts the CO-WY Engine at the forefront of the nation’s environmental and climate technology initiatives.

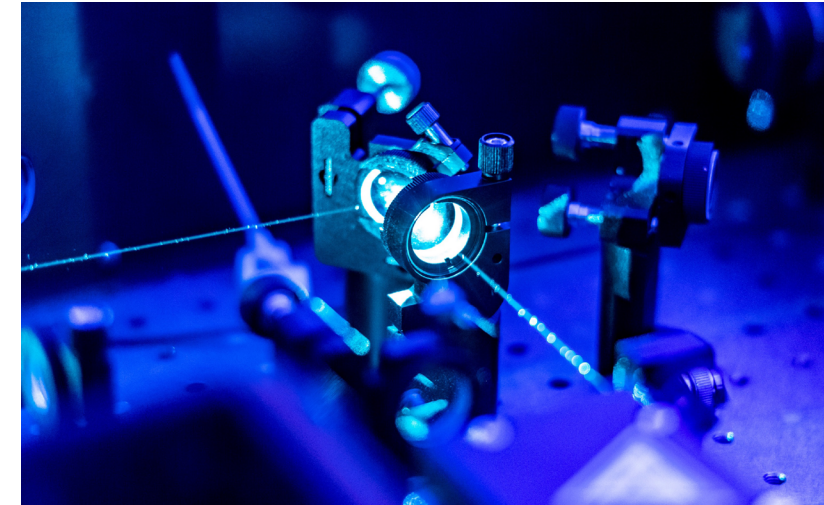
As a key university partner, CU Boulder will play a role in the leadership and governance of the CO-WY Engine. The university will focus on building community resilience and economic vitality by applying expertise in data analysis, monitoring technologies and predictive analytics to develop trustworthy decision support systems to advance climate solutions while mitigating environmental and economic impacts.

The federal grant also empowers partner universities to engage more fully in technology transfer and commercialization efforts crucial to translating academic research into tangible, market-ready innovations that address critical climate challenges. As part of that push, Venture Partners at CU Boulder will continue partnering with campus innovators to bring ideas and technologies to market.

### An ideal quantum state

Effective commercialization at CU Boulder is also taking center stage in new quantum industries. In the fall of 2023, the U.S. Economic Development Administration designated parts of Colorado as a Regional Technology and Innovation Hub (Tech Hub) for quantum technology. As a global hub for quantum computing, Colorado is projected to generate more than \$1 billion in economic impact statewide and create an estimated 10,000 jobs.

Thanks to globally recognized discoveries at CU Boulder, Colorado is already a global quantum research and innovation leader. Since the 1990s, CU Boulder researchers have won four Nobel Prizes for quantum-related insights. “Thanks to our partnership with the state, the University of Colorado Boulder and our fellow research institutions will be able to translate cutting-edge quantum research from the lab into a positive impact on Colorado’s people and economy,” said Massimo Ruzzene, CU Boulder vice chancellor for research and innovation and dean of the institutes. “Together, we are translating quantum research into an economic and workforce engine.”



CU Boulder is a key player in Elevate Quantum, a consortium of more than 70 organizations, including other higher education institutions, state and local governments, federal labs and private companies. Elevate Quantum pursued and won the designation and is now competing with other states for up to \$70 million in additional federal funding to continue developing a quantum technology ecosystem.

To maximize the state’s competitiveness, the Colorado legislature introduced the Quantum Tax Credit bill in February, which aims to strengthen the state’s economy by incentivizing quantum ventures to do business in the state. It promises additional capital investment, greater collaboration between businesses and researchers, and tax credits. Of that additional investment, \$29 million will be available specifically to build a University Quantum Incubator led by CU Boulder and its fellow Colorado research universities, along with industry partners and co-located with the Elevate Quantum Lab/Fab.

### Charting a new course for global innovation

With both designations, CU Boulder will continue blazing trails to stimulate and commercialize new research discoveries and to educate the technology workforce of the future. That momentum will help Colorado continue to lead the way as an innovation engine and quantum hub, creating jobs and solving real-world problems.

More: [colorado.edu/venturepartners/24-Engine](https://colorado.edu/venturepartners/24-Engine)  
[colorado.edu/venturepartners/23-Quantum](https://colorado.edu/venturepartners/23-Quantum)

# Developing Real-World Readiness

Venture Partners goes beyond the traditional technology transfer model to support researchers-turned-founders in scaling successful, sustainable businesses.

## New Approaches to Launching Companies



### Embark Deep Tech Startup Creator

With myriad CU Boulder technologies ready to make a real-world impact, Embark connects them to motivated entrepreneurs ready to launch new companies. The program provides IP rights, salary support, grant funds and investor introductions to selected entrepreneurs.

In 2023, 12 entrepreneurs and 10 groundbreaking innovations took center stage at the inaugural Embark Showcase to share progress on startups spanning diverse sectors.

#### SUPPORT

Exclusive license options, funding, team building, mentorship

#### INDUSTRIES

Biotech, quantum, environment and sustainability, advanced materials, aerospace

More: [colorado.edu/venturepartners/embark](https://colorado.edu/venturepartners/embark)

### Ascent Deep Tech Accelerator

Deep tech startups are a huge opportunity for impact. Yet, they face unique challenges like a need for more funding and longer lead times to bring products to market. The Ascent accelerator created for CU Boulder deep tech innovators addresses these hurdles.

In the first two Ascent cohorts, a combined 19 teams spent five months forming their ventures, paving paths to market, learning entrepreneurial finance and preparing for fundraising. These ventures have gone on to join nationally-recognized accelerator programs and raise both grant and venture capital funding to scale their ventures.

#### TOPICS COVERED

Company formation, team building, paths to market, finance, accounting and fundraising

#### SPECIALIZED CONTENT

Biotech, quantum, environment and sustainability

More: [colorado.edu/venturepartners/ascent](https://colorado.edu/venturepartners/ascent)

### Buff Venture Fund

Launched in 2022, the Buff Venture Fund is a private venture capital fund that invests in startup companies connected to CU Boulder. Venture Partners has a formal partnership with Buff Gold Ventures to grow startup companies and identify investment opportunities collaboratively.



**Current investments:** Tynt Technologies, Vitro3D, LongPath Technologies, VitriVax, Think BioSciences, Polaris Electro-Optics, SinusLogic

More: [colorado.edu/venturepartners/buff-venture](https://colorado.edu/venturepartners/buff-venture)

*“Our investments showcase disruptive improvements in climate tech, advanced manufacturing and chips, and drug discovery or delivery. Through our investments and the 100+ companies we’ve advised, we are proud to partner with Venture Partners to build a vibrant, supportive ecosystem for CU and the next generation of inventors and founders.”*

—Sally Hatcher and Mark Lupa, Co-Founders and General Partners of Buff Gold Ventures

## Transforming Innovators into Entrepreneurs



A \$15 million National Science Foundation (NSF) award cultivates inventions and ventures in deep technology at research universities in the western United States through the I-Corps™ Hub West. CU Boulder’s leadership has brought nationally-recognized instructors, business mentors and further new entrepreneurial opportunities into the state of Colorado.

### PROGRAM LEADERSHIP AND AFFILIATES

Led by the University of Southern California, in partnership with the University of Colorado Boulder and the University of California Los Angeles affiliated with the University of California Santa Barbara, California Institute of Technology, Colorado School of Mines, Colorado State University, University of New Mexico, University of Utah, University of California Riverside

### Starting Blocks Customer Discovery Workshop

A three-day workshop with customer interviews designed to help scientists and engineers find a market for their innovations.

#### APPROACH

This is the shortest, “introductory” version of NSF’s I-Corps methodology, which helps inventors build a customer discovery toolkit and learn to talk to industry and business funders about their technologies.

#### READINESS

Participants understand the importance of market discovery, are well-versed in basic business terminology, experience interviewing industry contacts and are prepared to accelerate the commercialization of their invention.

More: [colorado.edu/venturepartners/starting-blocks](https://colorado.edu/venturepartners/starting-blocks)

### Research-to-Market (R2M) Customer Discovery Program

The four-week program walks technologists through the customer discovery process and pushes them to think about how their innovations can be adopted in markets in consultation with experienced mentors and advisors.

#### APPROACH

As part of NSF’s I-Corps Program, R2M leverages the nationally-recognized Lean Startup and Business Model Canvas methodologies.

#### READINESS

Innovators and technologists are prepared to compete in the Lab Venture Challenge, collaborate with industry partners and secure grants and investments.

More: [colorado.edu/venturepartners/r2m](https://colorado.edu/venturepartners/r2m)

## Moving at Market Speed



### Lab Venture Challenge

CU Boulder’s most commercially promising technologies compete to win a share of \$1.5 million in grants. Competitors are encouraged to participate in I-Corps™ customer discovery programs, participate in a pitch academy and work with Venture Partners Entrepreneurs in Residence, staff and mentors before competing. Finalists compete in a live pitch competition with a community audience.

#### FY23 GRANTS TO WINNING INNOVATORS

12 teams won funding for their biosciences and physical sciences innovations; two received full \$132,505 awards, and 10 received \$125,000.

#### KEY PARTNER

Colorado Office of Economic Development and International Trade (OEDIT)

More: [colorado.edu/venturepartners/lvc](https://colorado.edu/venturepartners/lvc)

### Destination Startup

The fifth annual and largest-ever Destination Startup® event attracted 21 startups from nine different institutions across the Intermountain West in 2023. Participants pitched to investors and strategic partners from around the world.

#### INSTITUTIONS REPRESENTED

Colorado School of Mines, Colorado State University, University of Arizona, University of Colorado Anschutz Medical Campus, University of Colorado Boulder, University of Denver, University of Nebraska - Lincoln, University of Nebraska Medical Center, University of New Mexico

#### 2018-2023 RESULTS

900+ investors, business leaders and innovators from across the continent have attended; 97+ new startup companies have been launched; \$700+ million has been collectively raised by startups in venture, angel, strategic and grant funding.

More: [colorado.edu/venturepartners/ds](https://colorado.edu/venturepartners/ds)

# World-Changing Companies

CU Boulder technology has launched more than 180 startups. Here are just a few.

More: [colorado.edu/venturepartners/portfolios](https://colorado.edu/venturepartners/portfolios)

Startup Exits in 2023: **HeapSi LLC**  **ION**  
CLEAN ENERGY



**FACULTY FOUNDER:** Albin Gasiewski, PhD (Electrical, Computer & Energy Engineering)

**FOCUS:** Weather data as a service platform, delivering real-time weather information and predictions

**CEO:** Michael Hurowitz (prev. Electrical Computer & Energy Engineering)

**RECENT RESULTS**

- Awarded \$5M contracts by NASA for NOAA
- Awarded \$1.7M Space Force SBIR Phase II



**FOUNDERS:** Sristy Agrawal (JILA); Juniper Pollock, PhD (alum '22)

**FOCUS:** Chip scale atomic clocks

**CEO:** Sristy Agrawal

**RECENT RESULTS**

- \$250K funding from HAX
- 2023 Lab Venture Challenge winner



**FACULTY FOUNDER:** Zoya Popovic, PhD, (Electrical, Computer and Energy Engineering)

**FOCUS:** Non-invasive core body thermometer

**CEO:** Jim Pollock

**RECENT RESULTS**

- Awarded \$1M SBIR Phase II grant
- Partnerships for Innovation (PFI) grant



**FOUNDER AND CEO:** Poolad Imany, PhD (NIST)

**FOCUS:** Efficient and reliable quantum light generation

**RECENT RESULTS**

- \$50K CU Boulder Translational Quantum Research Seed Grant Awardee
- Graduate of the 2023 Duality Quantum Accelerator

# Groundbreaking Discoveries

CU Boulder has signed over 550 license and option agreements with a portfolio of over 1,340 inventions.

More: [colorado.edu/venturepartners/portfolios](https://colorado.edu/venturepartners/portfolios)

**PEG10 for ALS**

New therapeutic target for treating ALS by Alexandra Whiteley, PhD (Biochemistry)

**HIGHLIGHT SUPPORT:** Funding, ALS Association

**RECENT RESULTS:** Demonstrated PEG10 accumulation in neural tissues of ALS patient and identified that approved drug Ritonavir acts as a PEG10 inhibitor

BIOTECH, THERAPEUTICS



**FOUNDERS:** Noel Clark, PhD; Joe MacLennan, PhD; Matt Glaser, PhD; David Walba (all, Physics)

**FOCUS:** Using ferroelectric nematic liquid crystals to offer faster, energy efficient integrated photonics products

**CEO:** Jason Sickler

**RECENT RESULTS**

- \$3M Seed round
- 2021 Lab Venture Challenge winner



**FOUNDERS:** James Weltz, PhD (alum '19); Alex Rosay; with IP from Joel Kaar, PhD and Daniel K. Schwartz (both, Chemical and Biological Engineering)

**FOCUS:** Enzyme immobilization for sustainable production of chemicals

**CEO:** Alex Rosay

**RECENT RESULTS**

- \$2.6M raised in Pre-Seed round
- Finalist in Hello Tomorrow Global Challenge 'Industrial Biotech and New Materials'



**FACULTY FOUNDER:** Chunmei Ban, PhD (Paul M. Rady Mechanical Engineering)

**FOCUS:** Sodium battery technology for grid and electric vehicle storage

**CEO:** Tyler Evans, PhD (alum '15)

**RECENT RESULTS**

- 2023 Lab Venture Challenge winner



**FACULTY FOUNDER:** Wil Srubar, PhD (Civil, Environmental and Architectural Engineering)

**FOCUS:** Using algae to grow limestone for use in green concrete production

**CEO:** Sarah Williams, PhD (alum '22)

**RECENT RESULTS**

- 2020 Lab Venture Challenge winner
- \$500K Breakthrough Energy Explorer Grant
- \$500K from JLL Foundation



**FACULTY FOUNDER:** Robert Erickson, PhD (Electrical, Computer, and Energy Engineering)

**FOCUS:** Efficient power electronics for home, electric vehicle and solar applications

**CEO:** Sreenivas Cherukuri

**RECENT RESULTS**

- \$1.1M DOE SBIR Phase II grant



**FOUNDERS:** Simon Julien (alum '22), Zachary Jacobs (alum '21), Tristan Liu (alum '21)

**FOCUS:** Automatic generation control software for grid-scale solar utilities

**CEO:** Simon Julien (alum '22)

**RECENT RESULTS**

- \$575K Grand Prize winner of the DOE American-Made Solar Prize

**Cancer therapeutics targeting tangocytosis**

New cancer therapeutics targeting a novel mechanism of cancer metastasis called tangocytosis by Xuedong Liu, PhD (Biochemistry)

**HIGHLIGHT SUPPORT:** Funding, National Institutes of Health (NIH)

**RECENT RESULT:** High throughput screening and identification of hits that inhibit tangocytosis

BIOTECH, THERAPEUTICS

**Nanolancet device for cell therapy manufacturing**

Improved efficiency of cell therapy manufacturing by delivering DNA/RNA directly to the cell nucleus by Xiaoyun Ding, PhD (Mechanical Engineering)

**RECENT RESULT:** High efficiency knockout after delivery of CRISPR in human primary T-Cells

BIOTECH, MANUFACTURING

**Membrane for CO<sub>2</sub> removal in gas and oil**

Membrane material that resists aging and can save replacement costs in separating CO<sub>2</sub> and other light gases in gas streams, particularly suitable for gas and oil operations, by Rich Noble, PhD (Chemistry)

ADVANCED MATERIALS, ENVIRONMENT AND SUSTAINABILITY, CLEANTECH

**UAV mounted NO<sub>2</sub> detector to improve air quality**

An ideal instrument for assessing NO<sub>2</sub> pollution near populated areas by Caroline Womack, PhD (Cooperative Institute for Research in Environmental Sciences (CIRES)) in conjunction with National Oceanic and Atmospheric Administration (NOAA)

ENVIRONMENT AND SUSTAINABILITY, CLEANTECH, HARDWARE AND INSTRUMENTATION

**'Click' thermoplastics for consumer products**

A simpler and more efficient method to make robust thermoplastics that may be easily 'reconfigured' and/or recycled by Chris Bowman, PhD (Chemical Engineering)

ADVANCED MATERIALS, ENVIRONMENT AND SUSTAINABILITY, CLEANTECH

**Thermoelectric devices based on nanophononic metamaterials**

Solid state material capable of recycling waste heat energy into electricity with high efficiency by Mahmoud Hussein, PhD (Ann and H.J. Smead Aerospace Engineering Sciences)

**HIGHLIGHT SUPPORT:** \$2.5M ARPA-E award, 2020 Lab Venture Challenge winner

**RECENT RESULT:** Demonstrated a theoretical ZT value of 2.5

ADVANCED MATERIALS

**Phononic subsurfaces for flow control**

Material that reduces force on an object and in aerodynamics it reduces drag, by Mahmoud Hussein, PhD (Ann and H.J. Smead Aerospace Engineering Sciences)

**HIGHLIGHT SUPPORT:** National Science Foundation (NSF), Boeing

**RECENT RESULTS**

- U.S. Air Force Research Lab is currently validating

AEROSPACE

**Robust obfuscation of encrypted DNS traffic**

A cybersecurity tool that can be used by clients, such as with a browser extension, to hide their internet data by Alireza Vahid, PhD (CU Denver Electrical Engineering)

**RECENT RESULTS** Current attack techniques can decode internet traffic with an accuracy of over 95%; this technology reduces that accuracy to 8%.

CYBERSECURITY

**Methods for chemical degradation of polyester polymers**

A cost-effective, low-energy method for chemically recycling plastic without the use of highly corrosive materials by Oana Luca, PhD (Chemistry)

ENVIRONMENT AND SUSTAINABILITY

# Celebrating Success

## Inaugural cohort of the Embark Deep Tech Startup Creator launches groundbreaking innovations

Launched in 2023, the Embark Deep Tech Startup Creator pairs seasoned entrepreneurs with university technologies to bring those breakthroughs to market. Every year, dozens of breakthrough inventions emerge from CU Boulder's research labs. While some are spun into startups by their creators, others are poised to partner with entrepreneurs beyond university walls.

Enter Embark. "These were some of our top technologies that we believe could be, and should be a startup," said Marta Zgagacz, senior director at Venture Partners and founding co-leader of Embark.

Initially, over 100 entrepreneurs applied to Embark. After exploring a curated portfolio of 50 CU Boulder technologies and completing an intensive, two-month program on commercializing university technology, applicants pitched commercialization plans to land a six-month position, including a part-time salary and up to \$100,000 for technology development.

"I don't know of another university that actively and directly recruits entrepreneurs to lead their laboratory startups," said Stephen Miller, director of venture development at Venture Partners and founding co-leader of Embark.

In just six months, the selected dozen new Embark Entrepreneurs in Residence (EIRs) took 10 groundbreaking CU Boulder innovations and launched new companies

spanning diverse sectors like biotechnology, quantum science, advanced materials and aerospace.

This first cohort has risen to each challenge as they work with Venture Partners to hit market speed, said Zgagacz. "It's an all-hands-on-deck approach, how we support our startups," she said.

The ongoing support of entrepreneurs that Embark provides is unique to CU Boulder, said Miller. "Most institutions, once the startup is formed and 'out the door,' are typically hands-off. We continue to support them in a multitude of ways," he said.

What also stands out about Embark's EIRs is that they worked together from the beginning and committed to each other's success. "Startup creation is a team sport," EIR and FLARI founder Eva Yao said, "and deep tech commercialization is no exception. I could not and would not be able to bring this technology to market by myself. I feel uber lucky to be embedded in a community where people are very open and generous with their time and ideas."

The final Embark Showcase was the pinnacle of the program's first year, as the entrepreneurs pitched their new companies and shared recent victories and future plans with the business community and investors. Even as these new startups break into the market, Venture Partners is looking ahead to its second cohort in fall 2024.

**More:** [colorado.edu/venturepartners/embark](https://colorado.edu/venturepartners/embark)

## 2023 Embark Entrepreneurs in Residence

**NATE ASHTON—REGYN BIO:** An efficient and scalable microwave-based pyrolysis system invented by Zoya Popovic (Electrical, Computer & Energy Engineering).

**MATTHEW BAUER—CLICK:** A small ear device invented by Tam Vu (Computer Science) that provides hands-free computer control that allows users to communicate by "typing" on their teeth.

**DAVID BEITZ AND CARL KALIN—BIOSENSOR SOLUTIONS:** A biodegradable 2D printed soil sensor invented by Gregory Whiting (Mechanical Engineering) that provides real-time measurement data of soil health directly at the source in the field.

**BRIAN DAO—COATERRA:** A coated and tunable stent Wei Tan (Mechanical Engineering) invented to reduce blood vessel damage and induce quick healing.

**T. HINGBA AND JASON MCGOWIN—VITAWAVE TECH:** A wireless in-ear blood pressure measuring device that Tam Vu (Computer Science) invented for intermittent and continuous monitoring.

**JOHN SEMAN—ANTIBIOTIC ADJUVANTS:** New adjuvants discovered by Xiang Wang (Chemistry) for multiple drug-resistant bacteria.

**MAITHREYI GOPALAKRISHNAN—PRECISIONTERRA:** A software solution invented by Jade Morton (Aerospace) that only requires a firmware update to improve the signal strength of Global Navigation Satellite System (GNSS) receivers in urban environments.

**JONATHAN TEAFORD AND JON JONIS—GREEN STEEL ENVIRONMENTAL:** Sustainable additives that can revolutionize the wastewater recovery industry discovered by Mark Hernandez (Environmental Engineering).


**GALEN WILLIAMS—WHISPER ENERGY:** A wireless sensor platform invented by Gregor Henze (Civil, Environmental and Architectural Engineering) for home and commercial building energy management.

**EVA YAO—FLARI:** A breathalyzer capable of detecting molecules in breath or air samples invented by Jun Ye (Physics) for fast detection of diseases and contaminants.

# Working with Us


Our team builds connections to commercialize world-changing breakthroughs. We support up-and-coming innovators and develop relationships with industry leaders and investors from across the country.


## Leadership

 **Bryn Rees**  
Associate Vice Chancellor for Research and Innovation;  
Managing Director of Venture Partners at CU Boulder


## Venture Development


 **Jeanne Barthold**  
Director of the Center for Translational Research


 **Emily Vogt**  
Director of Venture Development


 **Stephen S. Miller**  
Director of Venture Development

 **Daniel Marshall**  
Program Manager of I-Corps™ Hub West


 **Nicole (Forsberg) Sheppard**  
Business Development Executive

 **Tim Morrissey**  
Co-Director, Ascent Deep Tech Accelerator

 **Erica Fagan**  
Program Coordinator of I-Corps™ Hub West


 **Justin Stitzlein**  
Venture Analyst


## Entrepreneurs in Residence (EIRs)


 **Susan Strong**


## IP & Licensing


 **Marta Zgagacz**  
Senior Director

 **Amy Dodenhoff**  
Assistant Director of Licensing, Physical Sciences and Engineering; Director of the Lab Venture Challenge

 **Kate Havey**  
Assistant Director of Licensing, Physical Sciences and Engineering


 **Annalissa Philbin**  
Senior Associate University Counsel


 **Hannah Nelson**  
Associate Director of Licensing, Biosciences


 **Joshua Bennett**  
Senior Licensing Manager, Physical Sciences and Engineering


 **Jonathan Marenus**  
Licensing Analyst

## Administration, Communications & IT

 **Nathan Chen**  
Senior ERA Application Administrator

 **Joe Davidek**  
Patent Manager

 **Zamira Gleason**  
Compliance and Administrative Specialist

 **Daniel Leonard**  
Senior Marketing and Communications Specialist

 **Lynn Pae**  
Office Manager

# Supporting Startup Success

Our team works closely with innovators to commercialize cutting-edge science. Together, we shape discoveries, identify opportunities and determine how to develop the final product, service or solution to appeal to target markets.



## Intellectual Property (IP) Management

Protecting compelling and transformative innovations and technologies



## Funding Opportunities and Support

Offering translational and proof of concept grants, and helping innovators and startups obtain capital to advance technologies and startups



## Entrepreneurial Training

Providing innovators and startups with commercialization tools and resources



## Licensing and Industry Partnerships

Providing business-friendly licensing, and bringing world-class research to consumer markets



## Mentorship and Advising

Coaching innovators and startups on pathways to commercialization



PhD student Cindy Xinyi Fu in the lab of Professor Leslie Leinwand (BioFrontiers Institute & MCDB) examines beating human heart cells that she grew from adult stem cells. The DNA in these cells contains a mutation that causes inherited heart disease in some families and causes the cells to beat abnormally.



## Venture Partners

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