



Agenda

Elevating Our Reputation Through Innovation

- Welcome & State of the College
- Workshop: Elevating Our Reputation
- Lunch with Chancellor Schwartz
- Quantum Engineering
- Workshop: Innovation & Entrepreneurship
- Executive Session



Engineering Advisory Council

Purpose:

- Advise the college on programs and policies
- Encourage and advocate for resource development
- Develop and guide education, outreach, and research programs
- Recognize achievements of alumni and other supporters in publicity and public relations

Meeting Expectations:

- Provide candid assessment to help us improve
- Speak and listen for understanding



Since Our Last EAC Meeting

- Measured Engineering Connections and Lattice Scholars impacts
- Progressed Professional MS programs
- Designed Integrated Bus+Eng (IBE) degree
- Implemented training for 100 leaders
- Adjusted EAC meeting format
 - Added two 90-min. workshops
 - Adding student activities for spring



Welcome New Members

- **Karen Furlani** *Worley*
- **Terry Hogan** *NCWIT*
- **Jiong Ma** *Chavant Capital*
- **Mina McCullom** *SynEnergy*
- **Dennis Pretti** *Micron*
- **Steven Smith** *BAE*



Karen Furlani



Terry Hogan



Jiong Ma



Mina McCullom



Dennis Pretti



Steven Smith



Nomination Opportunities

- Alumni Nominations (Nov 15)
 - Distinguished Engineering Alumni Awards
 - EAC volunteers for DEAA committee
- Engineering Advisory Council (Feb 1)



Current State of U.S. Higher Education

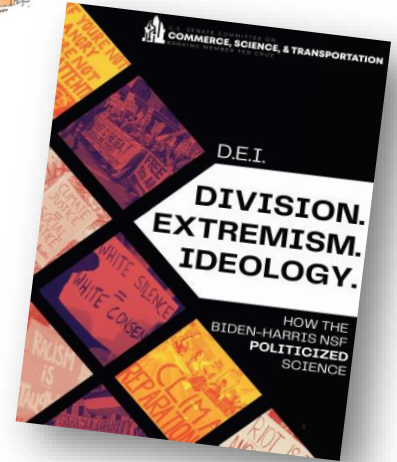
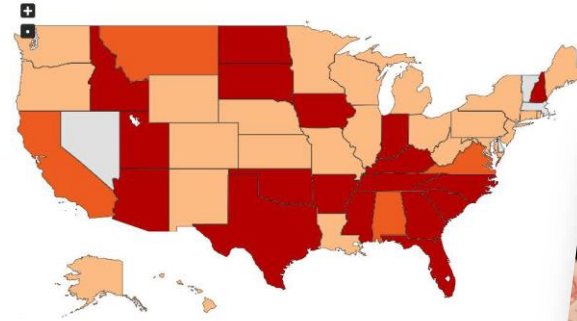
- Enrollment cliff
- Increasing cost of attendance
- Erosion of public confidence
- Attacks on DEI programs
- Gen Z attitudes
- Impact of AI



Current State of DEI Programs

- Universities are closing DEI offices and terminating staff
- Identity-based scholarships are being eliminated
- Identity-based K-12 STEM programs are closing their doors

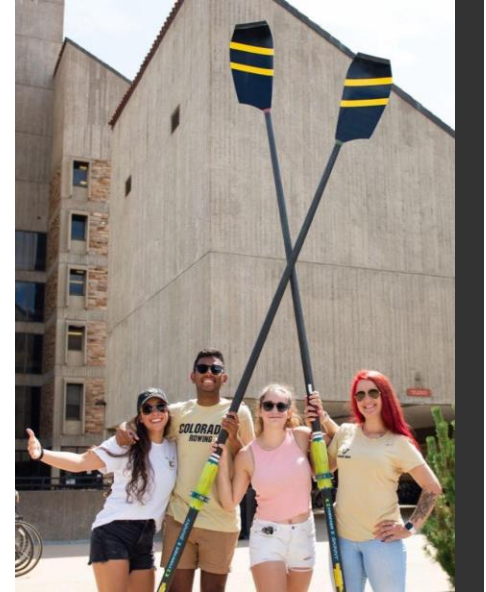
Educational Gag Orders, 2021-2023



Current State of DEI Programs Cont'd

Small group discussion questions:

- How does the higher education experience track with what is happening in your organization?
- Have you found innovative approaches to building a diverse engineering workforce?



Driving our Strategy Forward



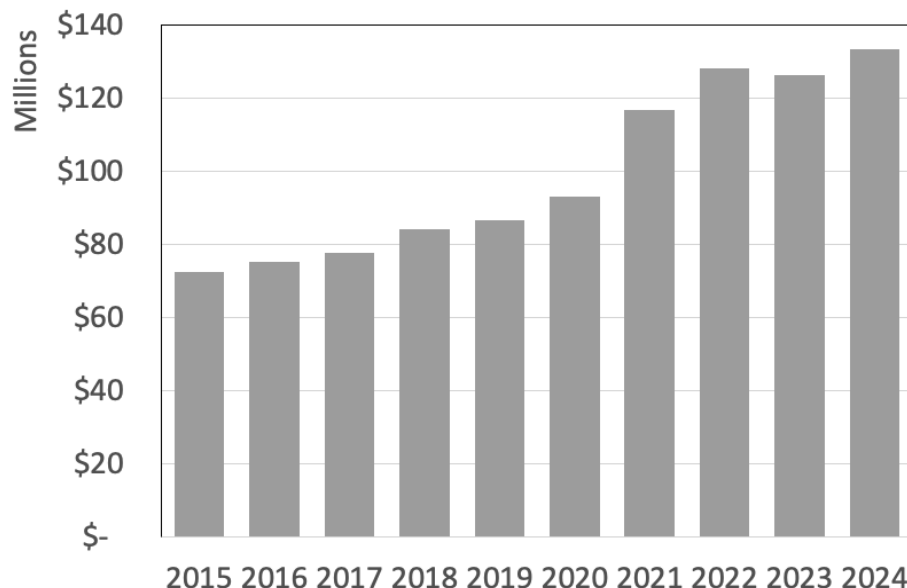
College of Engineering & Applied Science
UNIVERSITY OF COLORADO BOULDER

Be confident. Be inspired. Be a leader.
Be Boulder.

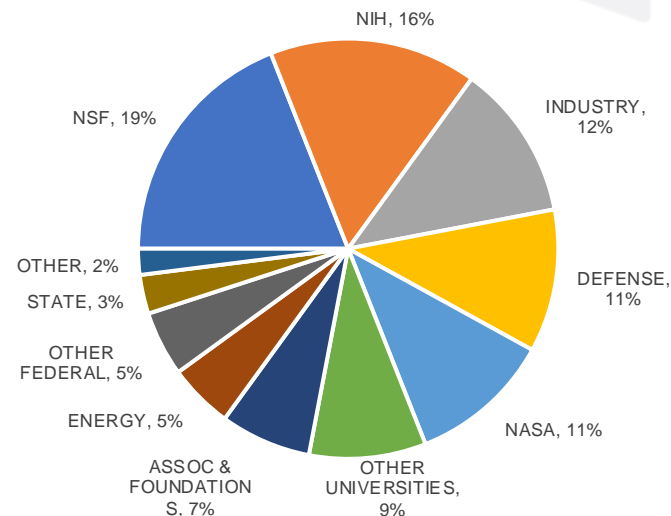
Research Funding & Expenditures



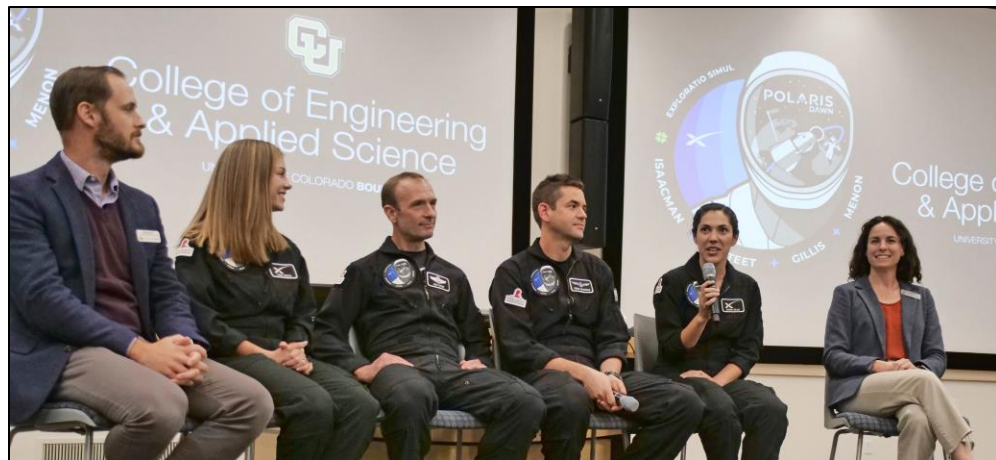
CEAS Annual Total Research Expenditures



Funding Sources FY24



CEAS astronaut and researchers integral to SpaceX's Polaris Dawn mission



CU Boulder aerospace engineers Torin Clark, left, and Allie Hayman, right, sit with the crew of Polaris Dawn during an event on campus in 2022.

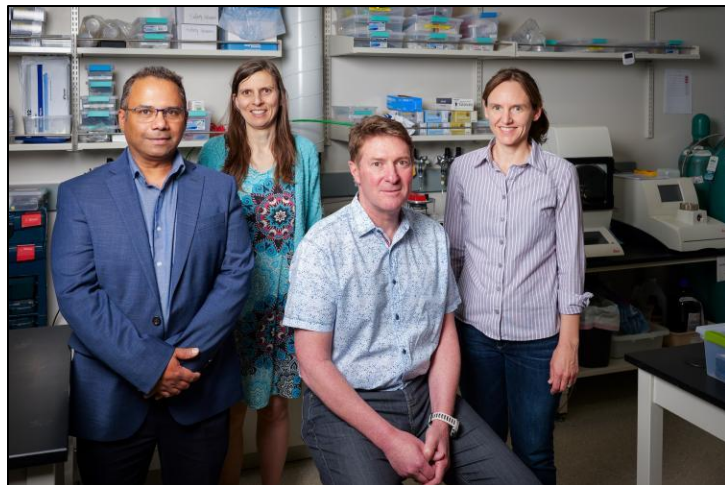


Triggerfish "smart" contact lenses monitor changes to astronauts' eyes on SpaceX's Polaris Dawn mission in September 2024.



SpaceX astronaut Sarah Gillis, a CEAS grad, plays the violin and becomes the youngest person to participate in a spacewalk.

\$20M NSF National Quantum Nanofab



Wil Srubar named Deming A-Dean for I&E



Innovation & Entrepreneurship Opportunities

Translational and Commercialization Funding

Department of Energy America/Work Challenges

Bring your vision, ideas, background, and skills. Work with the U.S. Department of Energy and industry to build new ideas, create game-changing technologies, develop your proof of concept, test and validate a prototype, advance your solutions toward commercial products, build business, and create jobs.

E-SCRAP Prize
Prize Pool: \$1.5M million in prizes
Open to New Applicants, Submission Deadline: 09/04/2024

Baker Prize Round II
Prize Pool: \$1.2M million in prizes
Open to New Applicants, Submission Deadline: 09/26/2024

UCF Open Venture Call
Prize Pool: \$1.1 million in prizes
Open to New Applicants, Submission Deadline: 10/03/2024

Re & Behave Recycling Prize
Prize Pool: \$1.8 million in prizes
Open to New Applicants, Submission Deadline: 10/22/2024

Science Synthesize Prize
Prize Pool: \$1.2M in prizes
Open to New Applicants, Submission Deadline: 11/02/2024

Framing the Future: Industrial Technology Photo Contest
Prize Pool: \$27K in prizes
Open to New Applicants, Submission Deadline: 11/21/2024

Lab Venture Challenge
Friday, April 13, 11:00 a.m.
Apply for the regional priority to access the 2024 application, do not select "Lab Venture Challenge 2024" from the menu bar

NRF Small Business Technology Transfer (STTR) Pilot Program (STTR-2024-FR-FR)

Prize pool of \$1.5 million in prizes
Funding opportunities (max award of \$1.5 million) for small businesses to engage in research and development with the potential for commercialization, funding innovation and technological advancements

Technology Commercialization Fund (TCF) Voucher Call
Submissions are due Thursday, Oct 3
Inventors can receive up to \$100,000 for testing, validation, and other needs at participating National Laboratories, facilitating the commercialization of technology breakthroughs

NRF Regional Resilience Innovation Initiative (RRII)
Deadline is Monday, Dec. 16
Supports collaborative, community-engaged initiatives to develop and implement scalable solutions to climate-related challenges by fostering research research advancements in climate and Earth system science into practical applications

Advanced Industries Accelerator Programs applications open
Deadline: May
Promoting growth and sustainability in Colorado's advanced industries that increase the state's global competitiveness

Entrepreneurship Workshops & Events
All of our office hours
Work very through Fall 2024 | Sign up to attend

Are you a CU Boulder member or graduate student interested in launching a new commercial venture? Are you wondering where to begin? Are you curious about college and campus resources that will guide you on your entrepreneurial journey? From 2023 to the present, we have the Emerging Accelerator Clinic for Innovation & Entrepreneurship (EACE) to provide personalized advice and support for navigating the innovation and entrepreneurship ecosystem at CU Boulder

Starting Blocks Customer Discovery Roundtable
Application Deadline is Friday, Oct. 19
Do you have an innovation that could make a difference? Whether a researcher, entrepreneur, inventor or problem solver, the Starting Blocks Customer Discovery Roundtable at Venture Partners, CU Boulder can help you transform your concept into a successful venture.

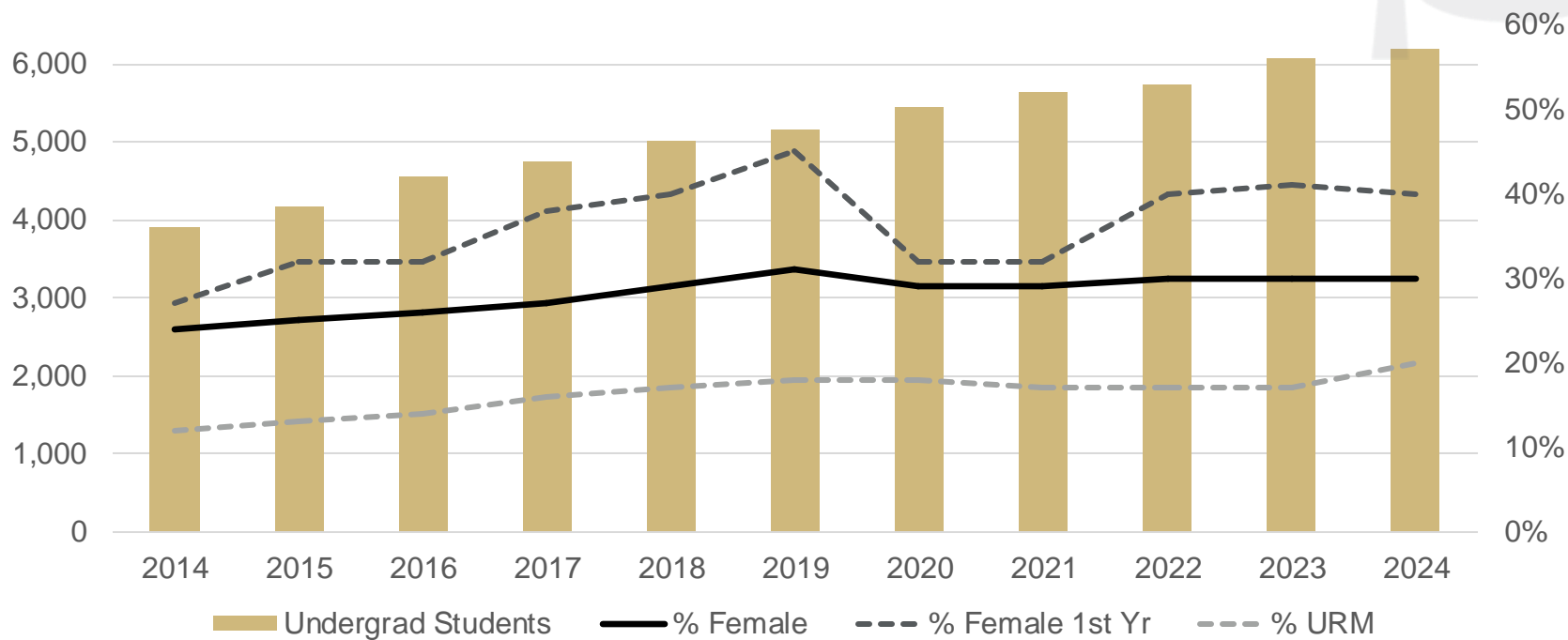
WEILL Lab-Growth Entrepreneurship Program (LGEIP) applications are open
Deadline to apply is Wednesday, Sept. 4
Starting and growing a business is a challenging journey, and we are ready to start with you. We are looking for innovators to commercialize! This program was designed for early-stage small businesses, inventors and entrepreneurs whose culture will benefit the American economy and transform clean energy at a global level. If you're the chance.

Technaria Accelerator Programs
Building application
Empowering entrepreneurs by providing access to mentorship, capital and a global network to help them succeed and scale their startups

Startup Velocity Show
Register by April 15
The Velocity Show series, among the best ways to engage with Colorado's Front Range entrepreneurial community. Meet to connect your Velocity Show visitors together for the startup scene. CU Boulder, innovators from the Federal Labs, as well as technologists from incubator technology companies.

Fostering a culture of innovation and entrepreneurship among faculty, postdocs, and graduate students

Undergraduate Enrollment



Retention and Transfer Initiatives



Engineering Connections



Lattice Scholars™



Associate of Engineering Sciences



Colorado Community College Pathways

- Arapahoe Community College
- Colorado Mountain College
- Community College of Aurora
- Community College of Denver
- Front Range Community College
- Pikes Peak State College
- Red Rocks Community College



Engineering Connections

1st Cohort Results

- 90% returned to CEAS for 2nd year – highest ever
- 94% returned to CU for 2nd year – also highest ever
- Students reported highest overall belonging and satisfaction with making friends across campus



Lattice Scholars™ Program

Debt-Free First-Generation Education

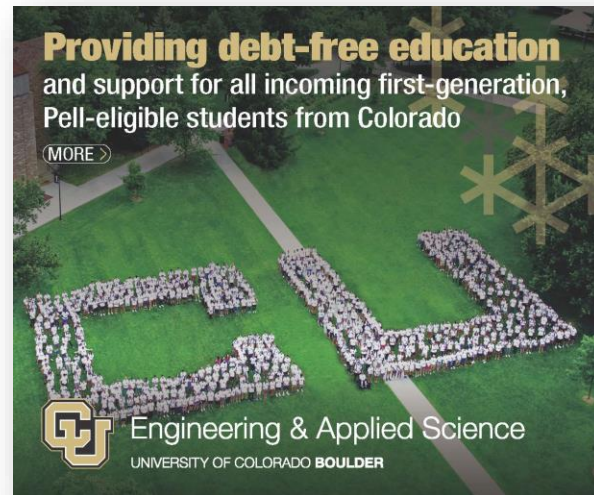


Closing the gap

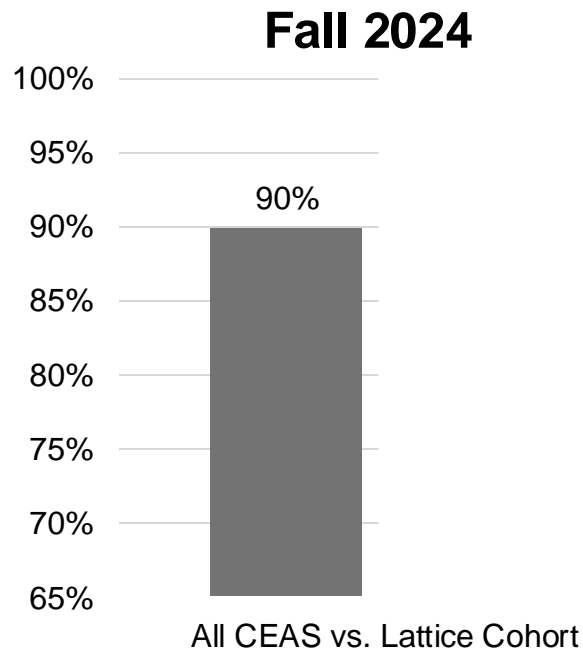
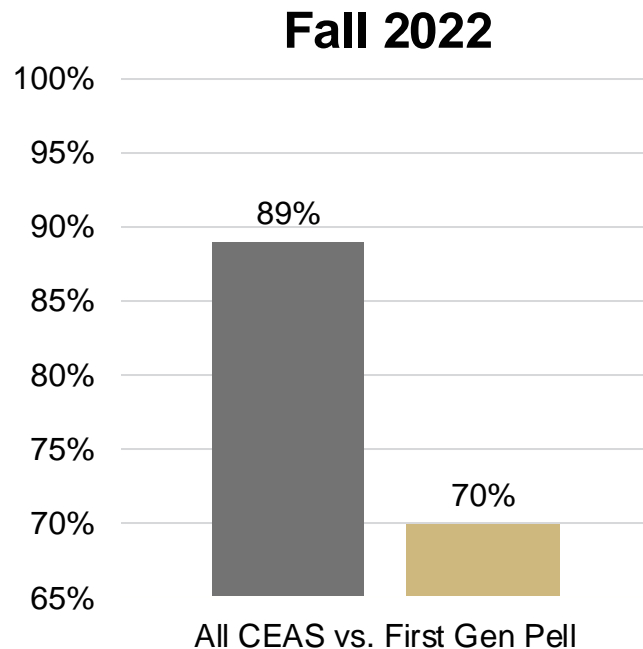
- 100% cost of attendance Pell-eligible, first-generation, Colorado students

Programming

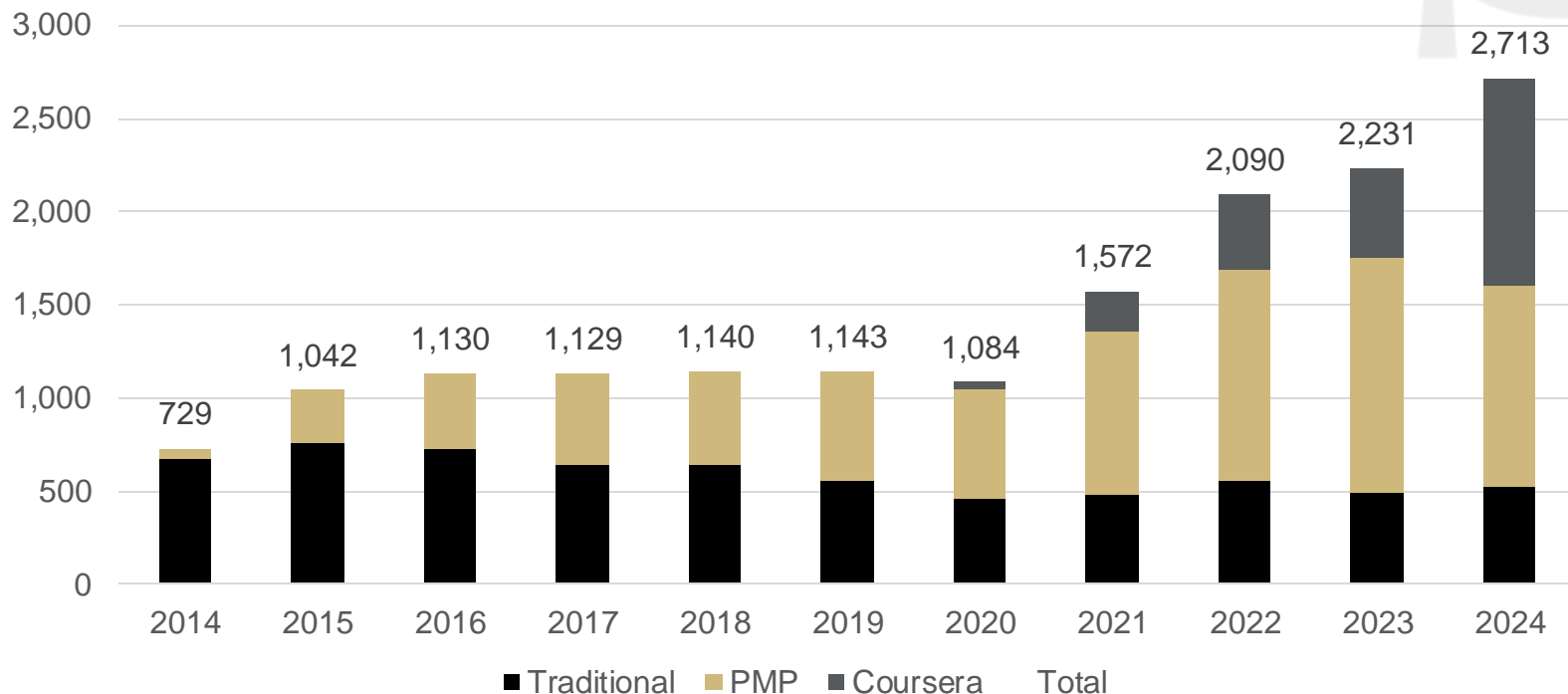
- Money
- Math
- Mattering



Lattice Scholars™ Retention Results



MS Enrollment



Graduate Education

Growing our Coursera Offerings

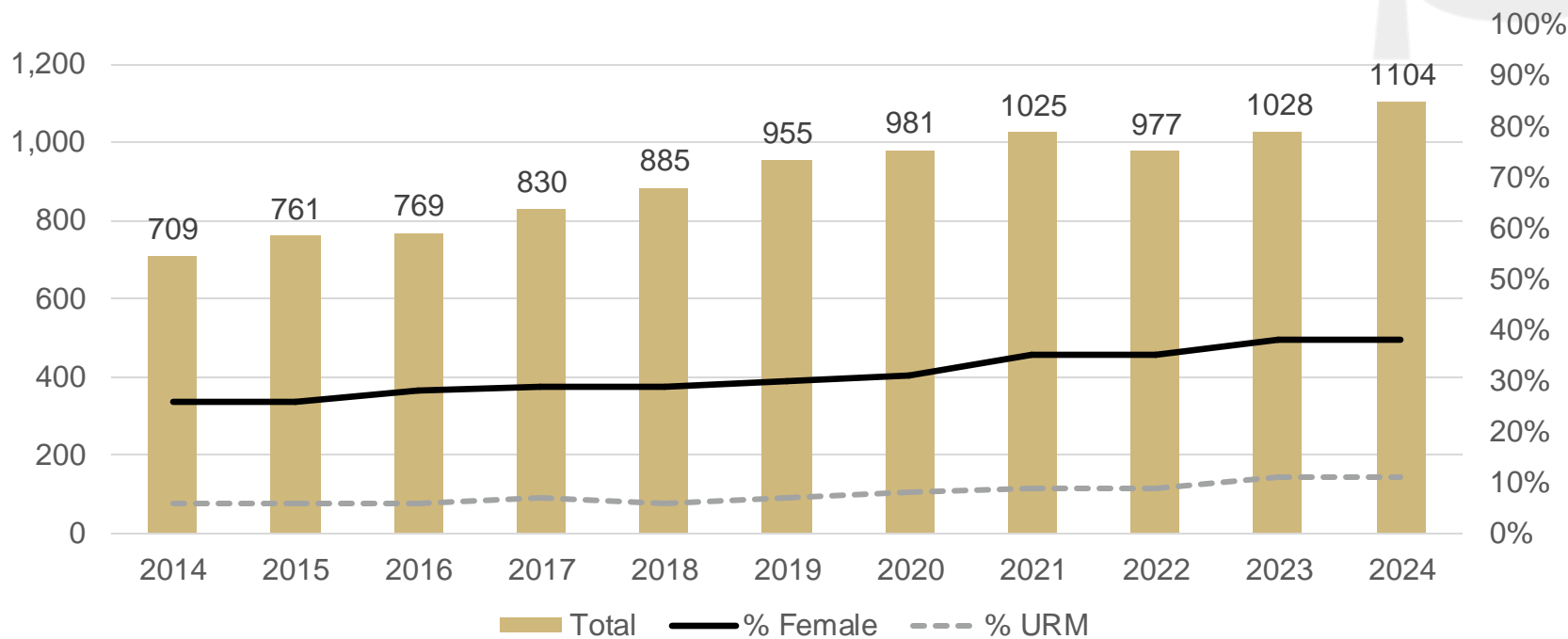
- Engineering Management
- Electrical Engineering
- Computer Science
- Data Science
- AI *(coming soon)*



coursera



PhD Enrollment Growth



PhD Enrollment Overview

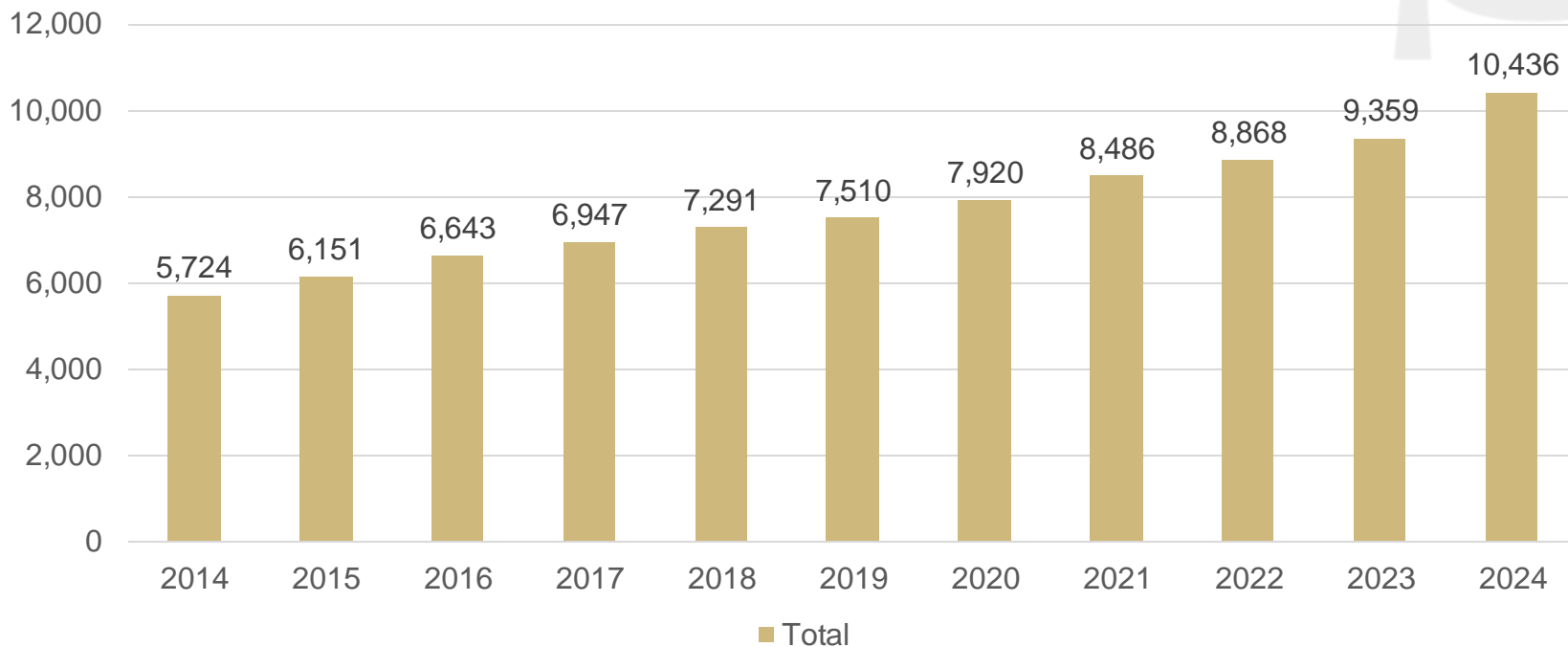
Fall 2024 Highlights

- Largest ever with 242 new students
- Top in PhD gender parity among large publics
- 7th nationwide in NSF GRFP recipients
- Inaugural Engineering Ed and Robotics classes



Overall College Enrollment Growth

(w/ Coursera, Postbacc and Partnerships)



Shared Equity Leadership Model



SHARED EQUITY LEADERSHIP

Is a framework for:

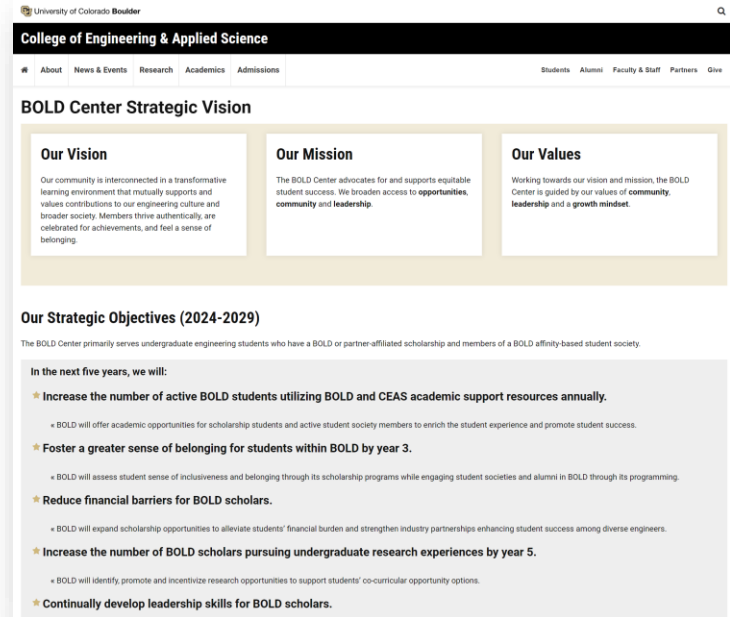
- A critical mass of people who are committed to undertaking a personal journey toward critical consciousness
- Who share equity-focused values
- Enact specific practices to promote more just and equitable outcomes.



New BOLD Center Strategic Vision and Scope

Renewed Student Focus

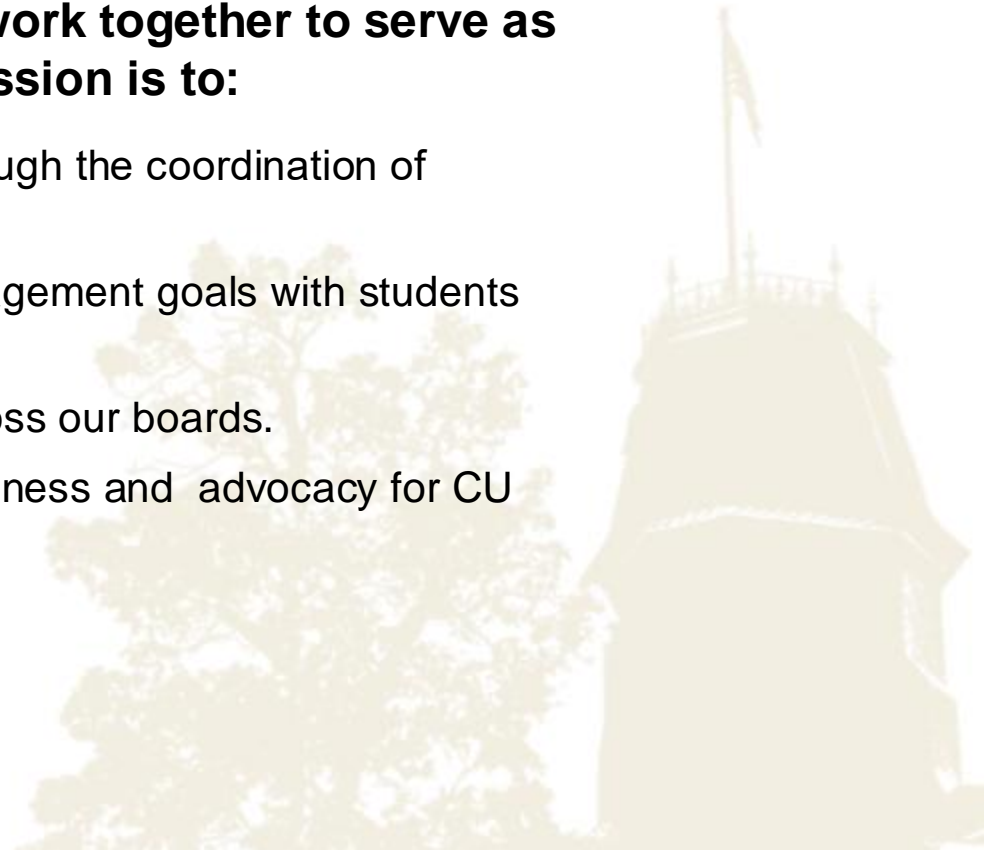
- Focusing on student success and closing the equity gap
- Broadening access to opportunities, community and leadership
- Home for affinity-based student societies



Council of Advisory Boards Charter

The Council of Advisory Boards will work together to serve as a resource for CU Boulder. CAB's mission is to:

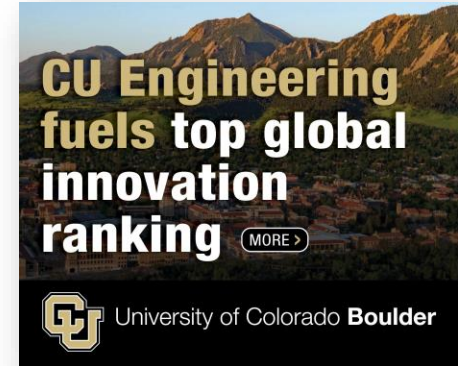
- Accelerate the Chancellor's priorities through the coordination of activities across our boards.
- Partner with Advancement to further engagement goals with students and alumni.
- Share information and best practices across our boards.
- Encourage board actions that build awareness and advocacy for CU Boulder across the global community.



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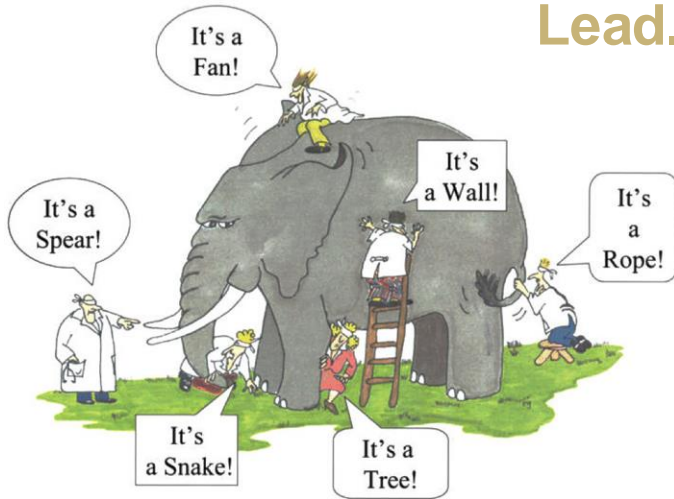
Promise vs. Experience: CU Boulder Integrated Marketing and Communications

College of Engineering and Applied Science Advisory Board
October 25, 2024

Strategic Relations and Communications (SRC)

SRC leads campuswide communications that support successful outcomes at CU Boulder and inspire affinity for our university.

Lead. Innovate. Impact.

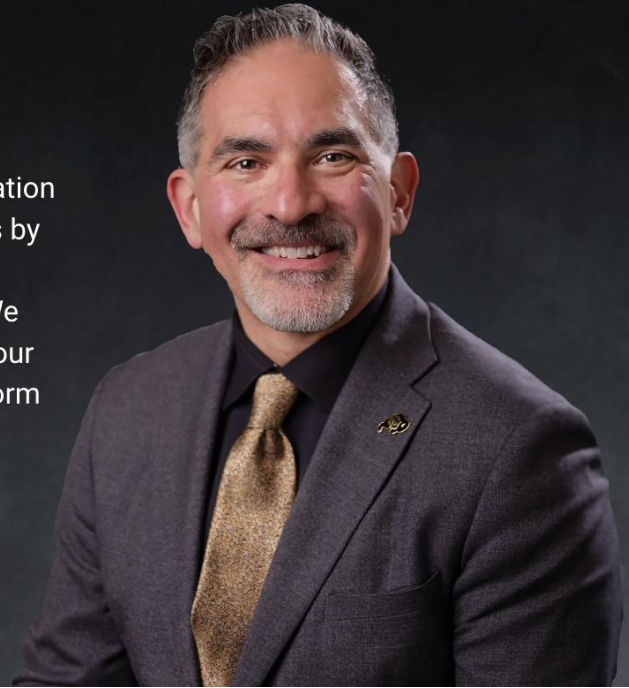


The Whole Buffalo

Be Boulder.

"The **University of Colorado Boulder** is a global research and education leader that transforms lives. We transform the lives of our students by enabling leadership, innovation and impact. We transform human experiences through comprehensive research and creative work. We transform communities in Colorado and across the globe through our faculty research partnerships and alumni networks. And we transform ourselves **in service to a sustainable, inclusive and just world.**"

[More About Dr. Justin Schwartz](#)

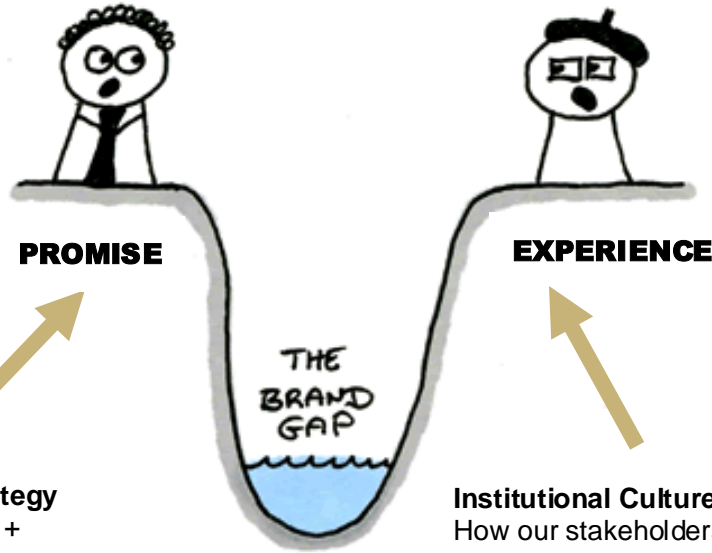


Be Boulder.



University of Colorado **Boulder**

Promise (strategy) vs. experience (culture) = our brand



Institutional Strategy
Our daily mission +
strategic vision/
values/priorities

Institutional Culture
How our stakeholders
feel about their
relationships
with CU Boulder

“A brand is a person’s gut feeling
about a product, service or company”

Marty Neumeier,
The Brand Gap

+



“Culture eats
strategy for
breakfast”

Peter Drucker

Be Boulder.



University of Colorado **Boulder**

We have aligned SRC to support our institutional strategy & bolster our brand.



Be Boulder.

REPUTATION

Pop Quiz

Among the following Colorado universities, which institution has the highest overall public awareness level as measured by our most recent statewide perception survey?

- a) Colorado State University
- b) University of Denver
- c) University of Colorado Boulder
- d) Colorado School of Mines



Be Boulder.



REPUTATION

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- d) Colorado School of Mines



Be Boulder.



REPUTATION

Pop Quiz

1. Among a cohort of 772 worldwide peers, where does CU Boulder rank in global university visibility?
 - a) Top 25%
 - b) Top 50%
 - c) Bottom 50%
 - d) Top 5%

American Caldwell Global University Rankings 2024 - 2025

To rank these universities by global brand visibility, the researchers evaluated numerous data points across several key categories to determine the most visible university brands. (March 2023 - March 2024)

Metrics Used

1. News Mentions
2. Public Interest (search)
3. Social Media
4. Website Visitors
5. Web References
6. Online Footprint
7. Video Views

<https://americancaldwell.com/guv-rankings>

REPUTATION

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CU Boulder currently ranks #45 globally out of 772 universities measured (#31 in the U.S.)

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<https://americancaldwell.com/guv-rankings>

REPUTATION

Pop Quiz

Does this count as CU Boulder awareness?

- a) Yes
- b) No

On3
@On3sports

UPDATED: On3 NIL Valuation Top 10 🏆

NIL 100: on3.com/nil/rankings/p...



ON3 NIL VALUATION TOP 10
NIL 100

1	SHEDEUR SANDERS	CU	\$5.1M
2	LIVVY DUNNE	BYU	\$4M
3	TRAVIS HUNTER	CU	\$3.1M
4	ARCH MANNING	Texas	\$3.1M
5	QUINN EWERS	Texas	\$2.2M
6	JALEN MILROE	Alabama	\$2.2M
7	JAXSON DART	LSU	\$2.1M
8	CAM WARD	UConn	\$1.9M
9	CARSON BECK	Georgia	\$1.9M
10	NICO IMALEAVA	Tennessee	\$1.9M

9/18/2024

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Be Boulder.

REPUTATION

Pop Quiz

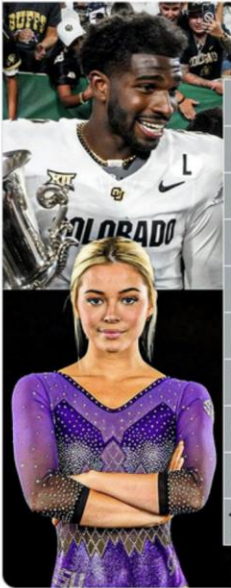
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







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Be Boulder.



University of Colorado **Boulder**

We have reasonably strong baseline awareness, but...

**“We need to do a better job
of telling our ~~story.~~”**

stories



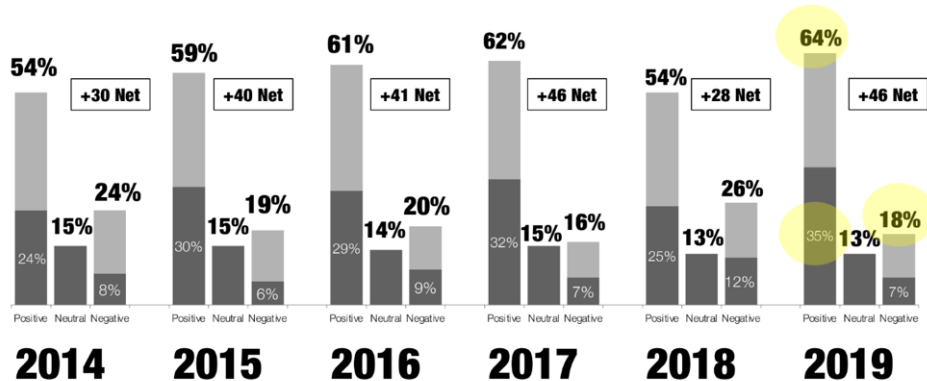
REPUTATION

Historical Metrics: Statewide Perception

Tracking statewide perception, 2019

After a significant decrease in favorability last year, CU Boulder's reputation in the state has rebounded. This marked the largest number of voters with a very positive opinion (35%), the highest with a positive opinion overall (64%) and tied for the biggest net-favorability (+46).

Changes to CU Boulder's Reputation Over Time



Pandemic

New survey conducted this spring... first time since pre-pandemic



University of Colorado Boulder



Be Boulder.

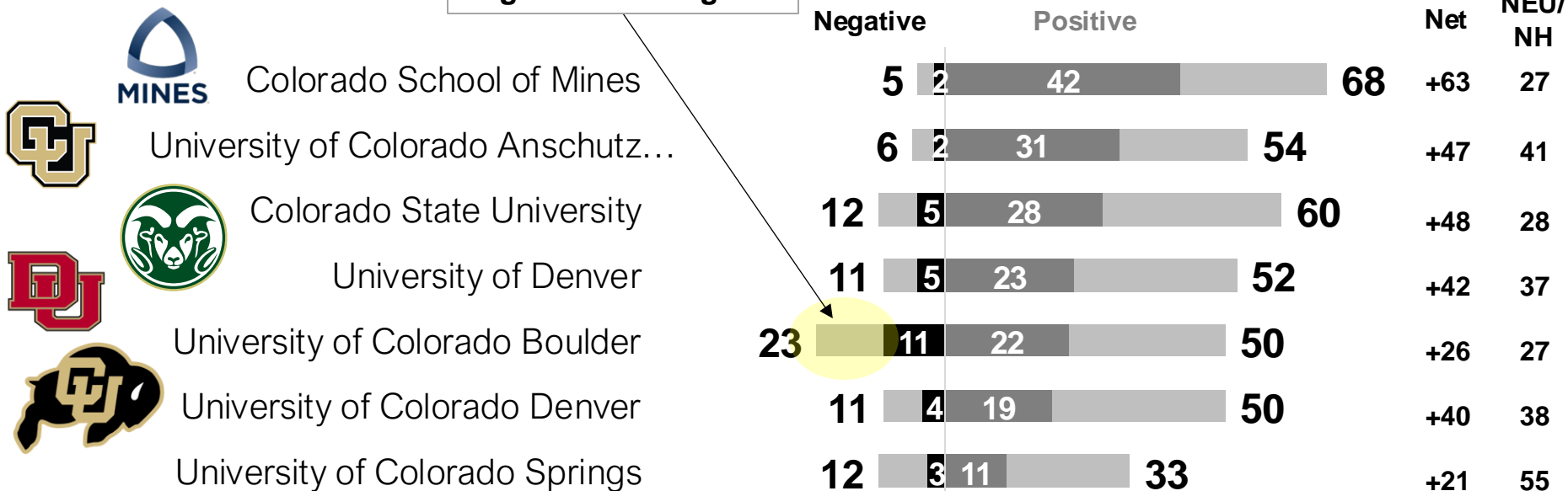


University of Colorado Boulder

CO Favorability – Spring 2024

CU Boulder sits in the middle of the pack, and a majority of voters hold positive views towards the university. Compared to past data, all of the colleges have lost some support, with more voters becoming neutral towards them – potentially a sample issue but more likely the result of current conversations around college education and political ideology.

Why do you think this negative is so high?

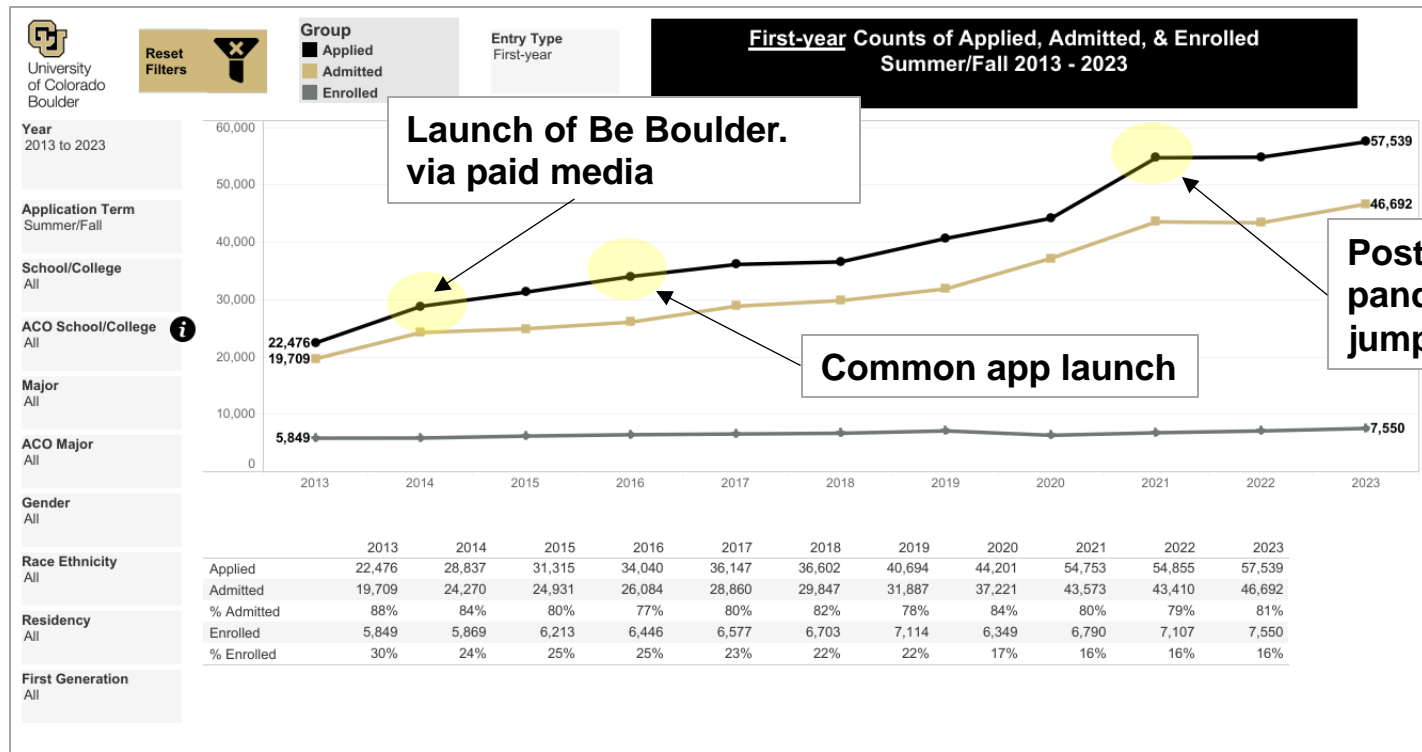


Q4. Now I'd like to ask you about some institutions. For each, please tell me whether you have very positive feelings, somewhat positive feelings, somewhat negative feelings, or very negative feelings about that institution.

* Darker colors indicate intensity

STUDENT RECRUITMENT

Historical Metrics: Total Admission Applications



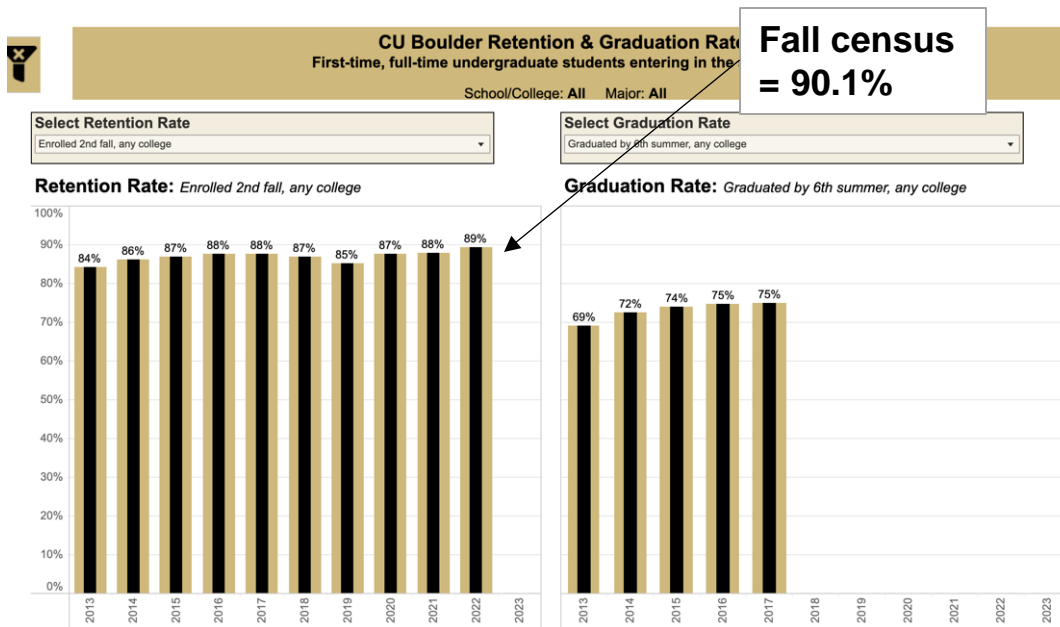
Be Boulder.



University of Colorado **Boulder**

RETENTION/ENGAGEMENT

Historical Metrics: 1st Year Retention / Grad Rates



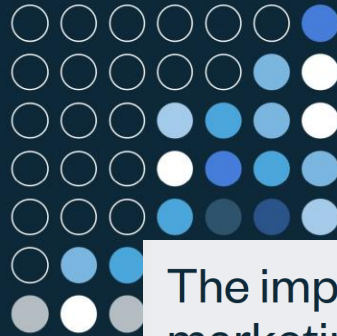
Gaps in Student Success Outcomes by Demographic Groups

- Overall, all-time highs in since 2021
- Troubling gaps in success outcomes among historically marginalized student groups
- CU Boulder typically retains / graduates historically marginalized students at a higher rate than Colorado peer institutions
- CU Boulder trails most AAU public peers in these outcomes and is committed to improving them

The Changing Landscape of Marketing and Communications

SimpsonScarborough
Matt McFadden, SVP and Partner

University of Colorado Boulder 2024



The importance of marketing within higher education has never been more pronounced.

Our industry continues to grapple with low levels of public confidence, financial instability, shifting demographics, and increased competition.

14

American Confidence in Higher Ed Hits Historic Low

A Gallup poll shows only 38 percent of respondents "agree/strongly agree" with the statement "the value of a college degree is worth the cost."

by Gallup

Trend No. 2: The value of the degree undergoes further questioning

The perceived value of higher education has fallen as the skills needed to keep up in a job constantly change and learners have better consumer information on outcomes.

EDUCATION

A growing number of Americans are questioning the value of going to college

July 26, 2022 - 5:27 PM ET

By Priya Sahota

NEWS EXCLUSIVE | U.S.

Americans Are Losing Faith in College Education, WSJ-NORC Poll Finds

Confidence in value of a degree plummeted among women and senior citizens during pandemic

State ballot measures could cut CU funding by up to \$120 million

Analysis: Students could see up to 25% increase in tuition rates if measures pass

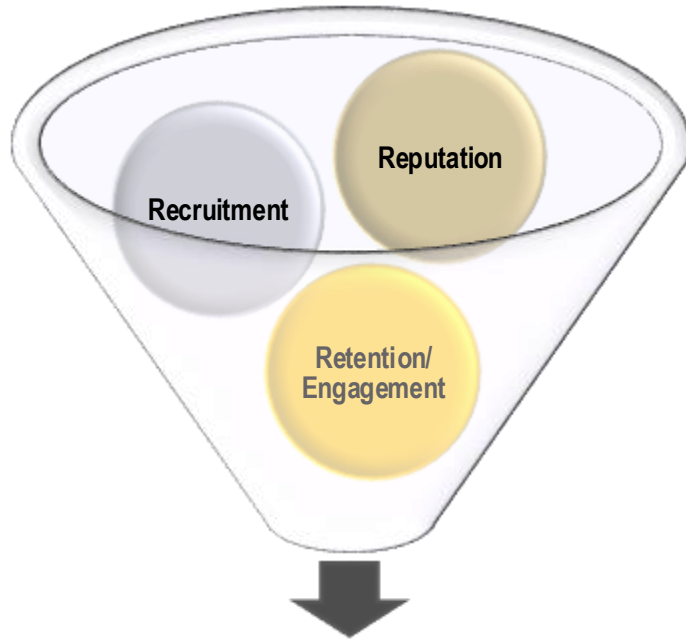
Simpson
Scarborough

Be Boulder.



University of Colorado **Boulder**

Integrated Marketing and Communications Plan (IMCP)

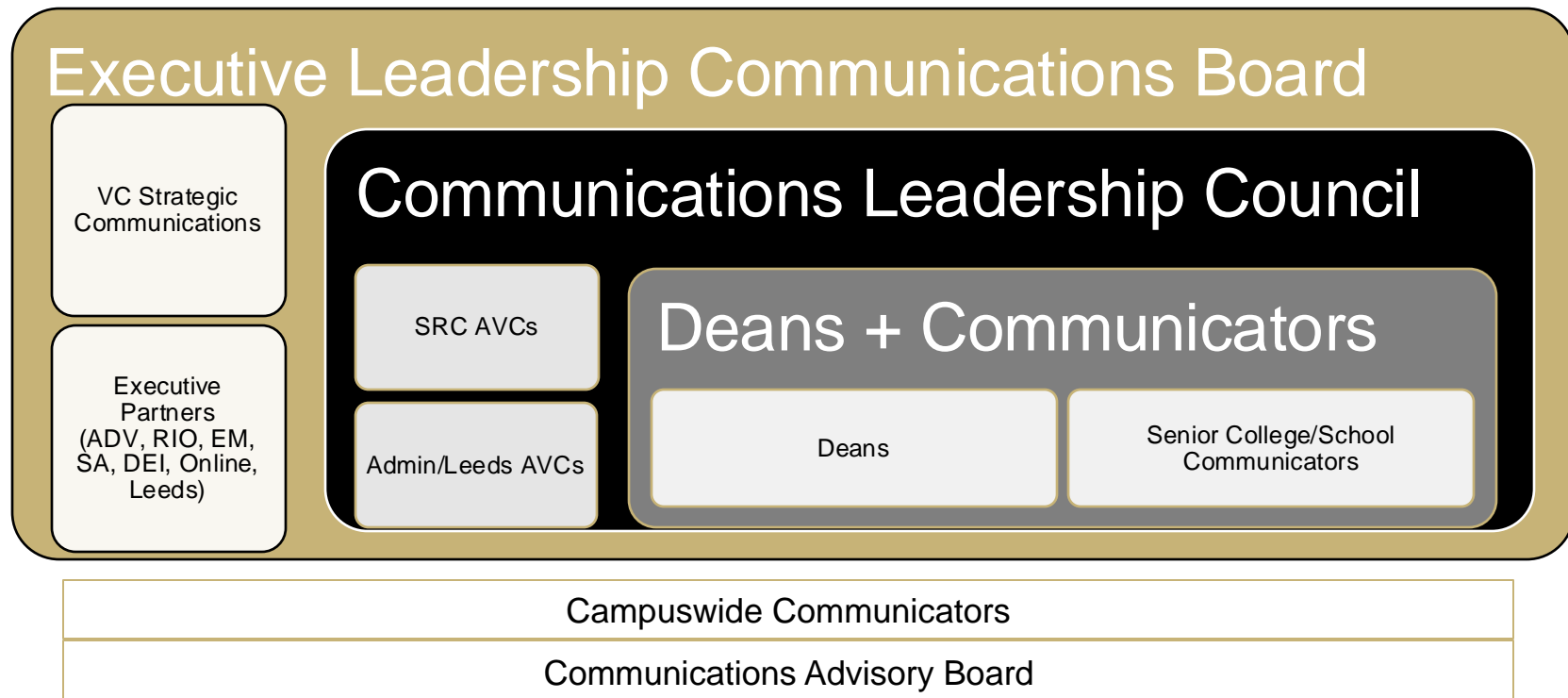


Annual Goals/Metrics

“a comprehensive strategy that combines different marketing communication elements such as advertising, public relations, direct marketing, sales promotion, and digital marketing to achieve... objectives.”

<https://www.linkedin.com/pulse/what-imc-plan-steps-develop-integrated-marketing-communications>

Communications Co-ownership Model



Integrated Marketing and Communications Plan

2. Next steps will include updated policies, guidelines, processes, trainings, tools and dashboards for communicator use as we move forward.



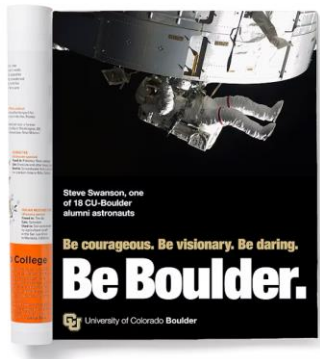
*In conversations with Human Resources leadership re: employee recruitment and retention/engagement as future additions to the plan.

University of Colorado **Boulder**

CONSTITUENT LIFECYCLE MESSAGING EXAMPLES

Be Boulder. to Buff Identity to Forever Buffs

REPUTATION → RECRUITMENT → RETENTION/ENGAGEMENT



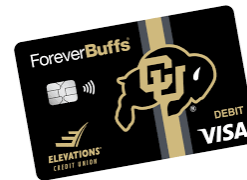
Be a part of the **Mortenson Center in Global Engineering**, which aims to train engineers to create sustainable, scalable, evidence-based and multidisciplinary solutions to global development problems

We're here to connect Forever Buffs to the university and each other



Engineering Buffs

We're proud of our alumni! We encourage you to keep in touch with us and share your stories.



Awareness

Understanding

Consideration

Action

Loyalty

Be Boulder.



University of Colorado **Boulder**

BLACK	GOLD	GRAY
Jeff Gustavson	Ed Crawley	Bhavna Chhabra
Terry Hogan	Karen Furlani	John Donatelli
Jiong Ma	Mike Gazarik	Jon Goldsmith
Robert Sawaya	Amy Kramer	Mina McCullom
Susie See	Dennis Pretti	Paul Rady
Ed Ward	Ann Smead	Steve Smith



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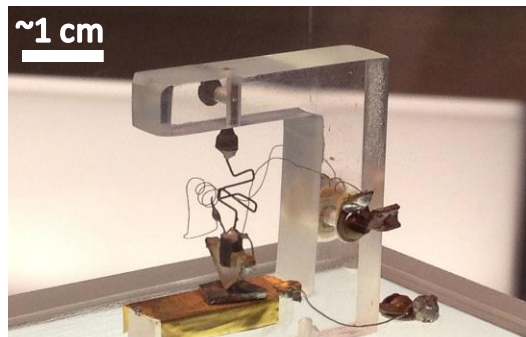


Justin Schwartz



The potential and the challenges in quantum

Electronic integration

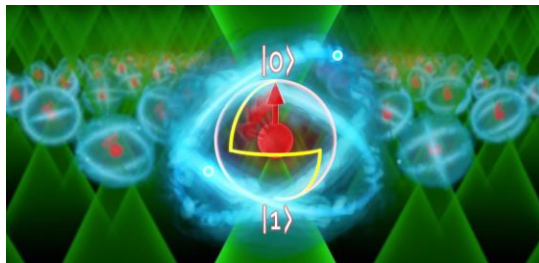


1 transistor (Bell Labs 1947)

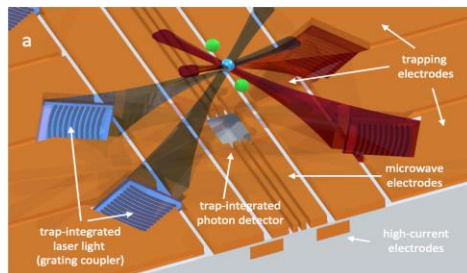


16 billion transistors (Apple 2023)

Quantum integration



Entangled atoms (2020)



Manufacturable atom qubits

- Controlling quantum systems at the atomic level brings revolutionary power to computing, sensing and communications
- Challenge: We don't yet know how to build the integrated quantum devices to fully realize this potential
- Quantum engineering is central to this endeavor

Quantum Tech Hub

**Tech Hub
Phase 2**
implementation
award from the
Department of
Commerce

Leverages CU
Boulder legacy to
**establish
Mountain West**
as a global
leader for
quantum
innovation

Unlocked
**more than
\$127 million**
in new federal
and state
funding

Consortium is
**Elevate
Quantum**, in
which CU
Boulder is a
key partner

Colorado: The Future of Quantum is *Here*

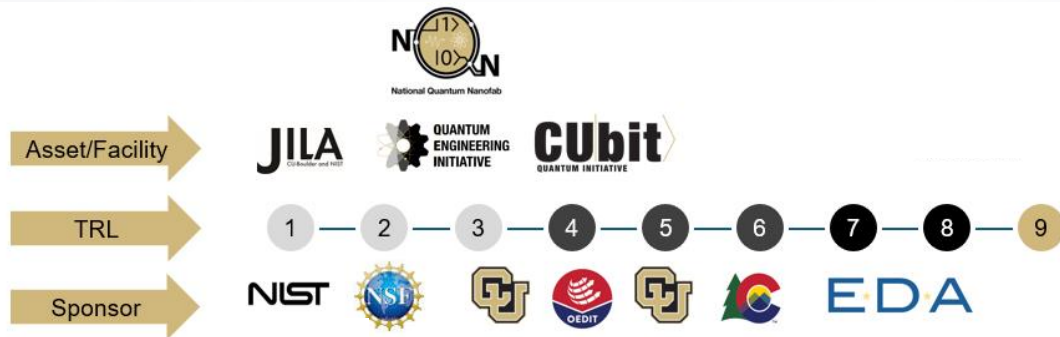
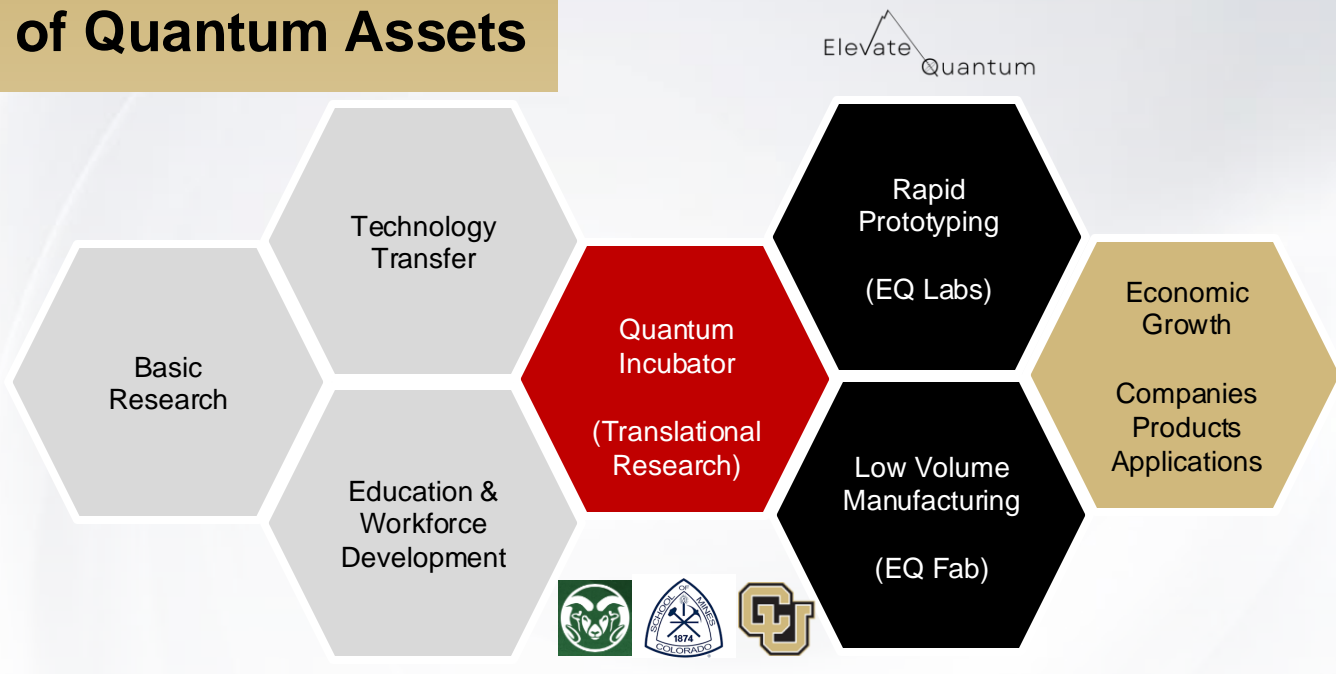


Governor Polis signs HB1325 bill strengthening quantum in Colorado at JILA

- **CU Boulder, Elevate Quantum partners garner a \$127M regional quantum boost**
 - ✓ \$40.5M TechHub EDA
 - ✓ \$30M State of CO Loan Guarantee (HB1325)
 - ✓ \$44M State of CO Tax Credits (HB1325)
 - ✓ \$3M State of CO Matching
 - ✓ \$10M State of NM
- **CU Boulder set to release a quantum workforce roadmap** to train, prepare and inspire the next generation of quantum workers and the public



Continuum of Quantum Assets

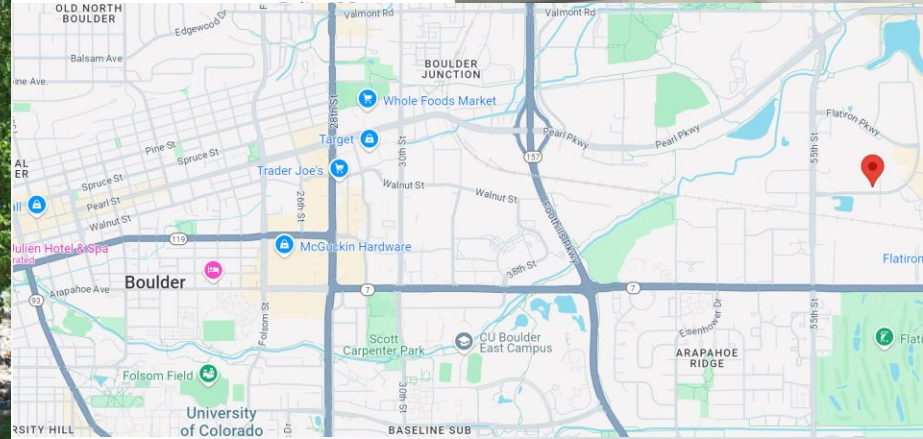
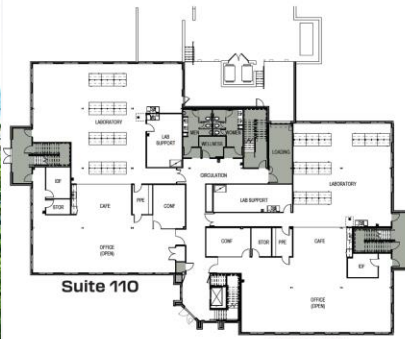


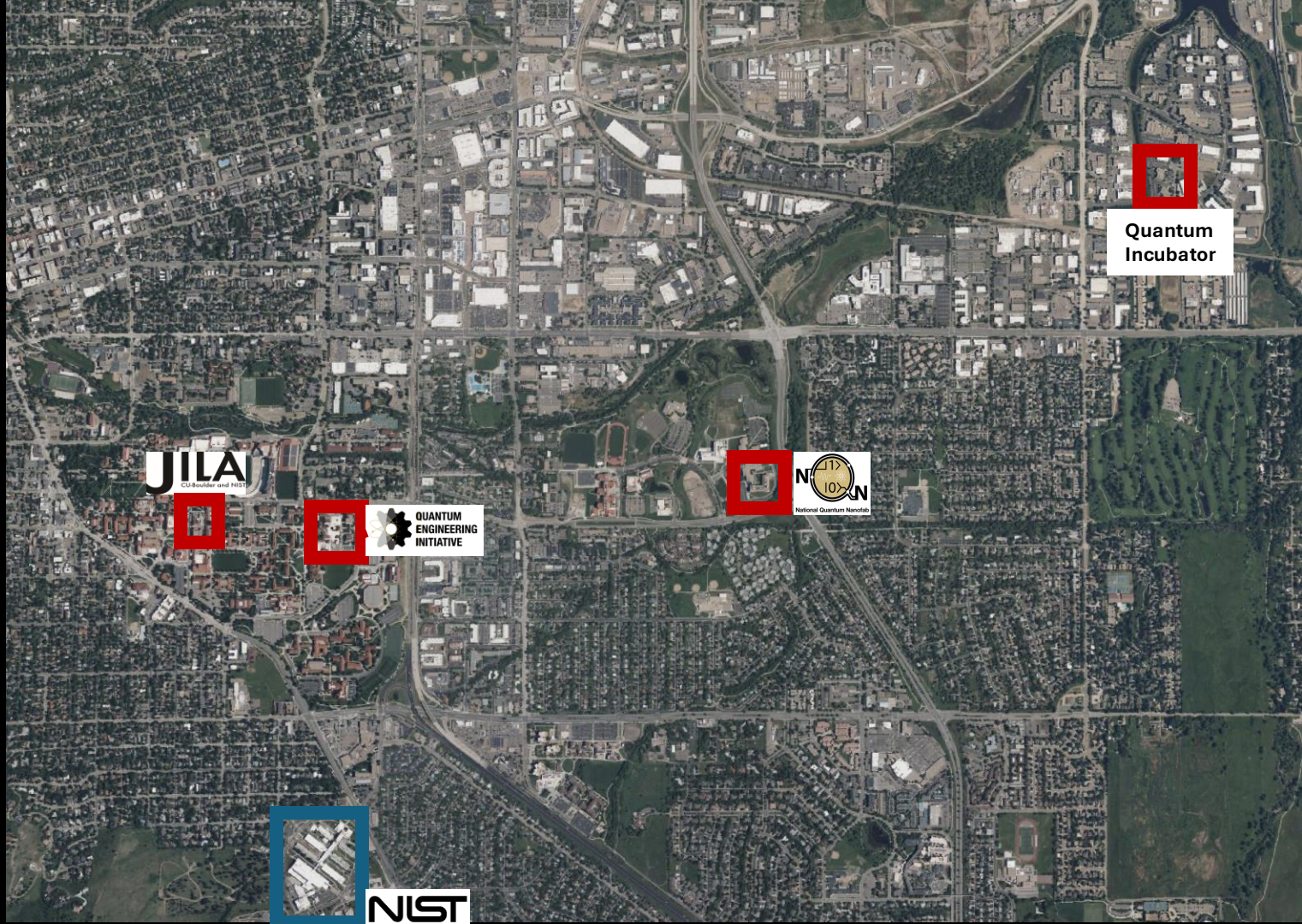
The Quantum Incubator: Boulder, CO



1st Floor
Suite 100
6,177 RSF

Suite 110
6,298 RSF





Quantum
Incubator

JILA
CU Boulder and NIST



QUANTUM
ENGINEERING
INITIATIVE



NIST
National Quantum Nanotechnology Center



NIST

Goals:

- Creating impact for quantum science through translational research
- Building a quantum engineering workforce
- Strengthening connections to local and regional partners



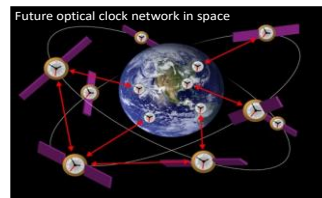
New Facilities:



New Faculty & Collaborations:

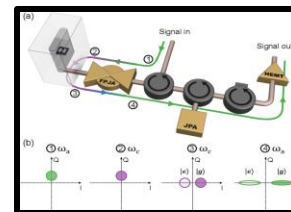
- 3 recent hires in quantum + new endowed chair
- 5 adjoint faculty appointments for NIST researchers in ECEE and other CEAS departments

New Research:



Quantum Sensing

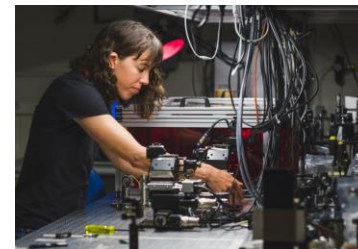
Quantum
Networks



Quantum
Computing

New Curriculum:

- Quantum engineering minor
- Quantum engineering MS (coming soon)
- Connections to our quantum industry



The National Quantum Nanofab (NQN)

The NSF has granted \$20M for a new quantum nanofabrication facility at CU Boulder

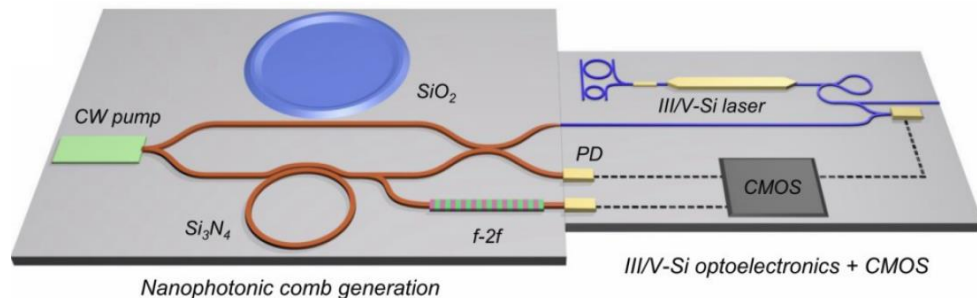


- 2900 sq ft ISO 5/6 clean room with 600 sq ft mechanical room + contained equipment
- New construction addition to existing building on CU East Campus
- Adjacent to existing COSINC cleanroom facilities
- Started: July 2024, Estimated completion: June 2029

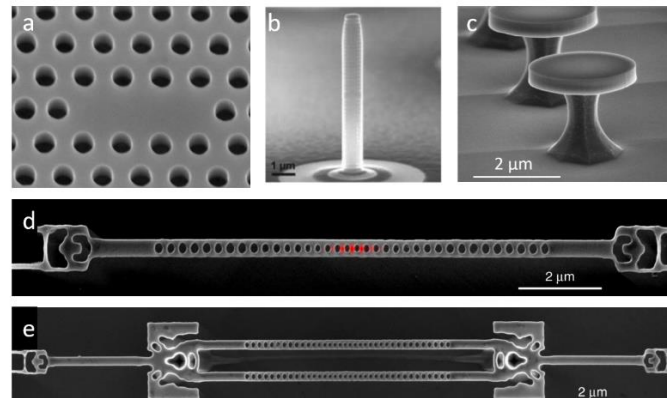
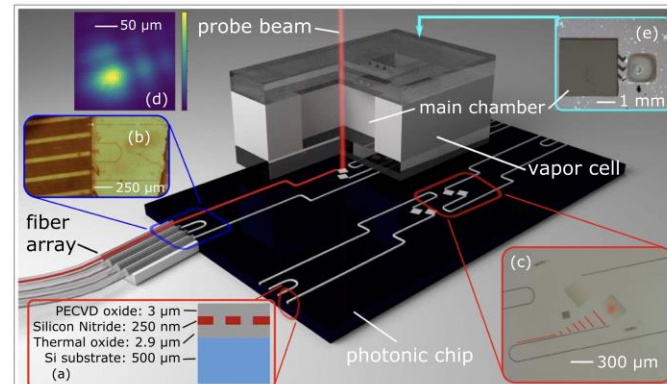
The National Quantum Nanofab (NQN)

“Quantum Machine Shop” of the 21st Century

- Unique process development for the most challenging nano-integration of atomic-photonic quantum devices and materials in challenging environments and packages
- 30 state-of-the-art processing tools
- World-leading community of AMO scientists, engineers & industrialists to develop fabrication and integration protocols
- Fully open access for users around the country, including for other microfabrication needs of value to multiple communities



Integration of dissimilar active and passive materials



The impact: a unique quantum ecosystem

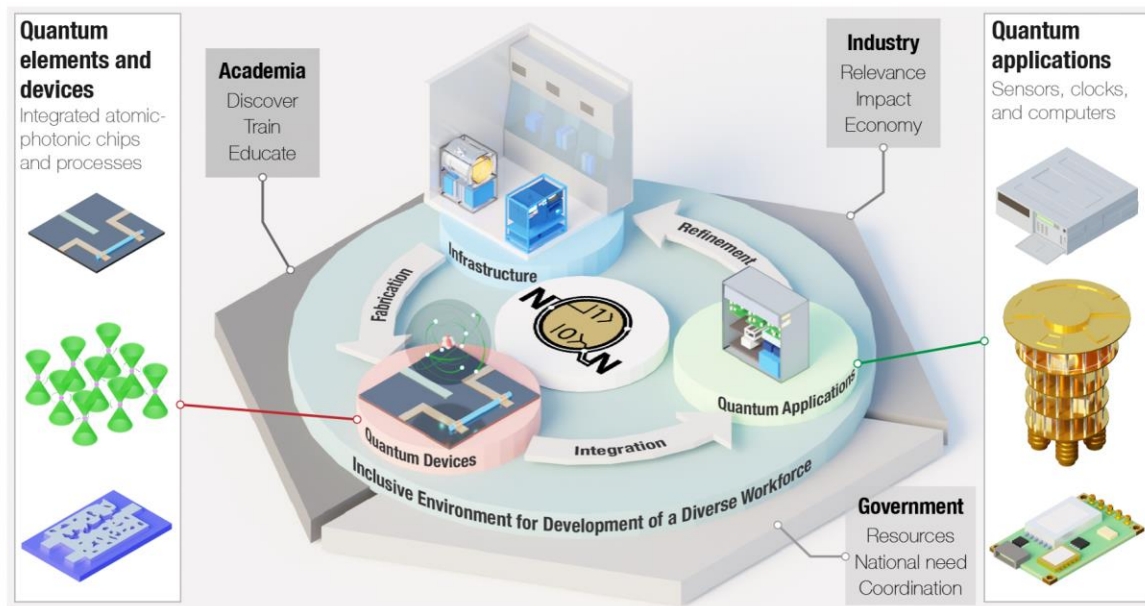
Leverage Boulder's

- Best-in-world expertise in quantum science with photons, atoms and ions
- Unique combination of academia, industry and government
- Entrepreneurial quantum environment

for Impact by ...

- Rapid cycling “from lab to fab”
- Attracting and training the next generation diverse quantum workforce
- Sharing knowledge openly
- Accelerating innovation that is critical to our national and economic security

National Impact Propelled by Boulder's Quantum Ecosystem





Innovation & Entrepreneurship

College of Engineering and Applied Science

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*Professor, Civil, Environmental, and Architectural Engineering
Deming Associate Dean for Innovation & Entrepreneurship*

Karen Crofton

*Stephen M. Dunn Director of Engineering Entrepreneurship & ESCEND®
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Mike Gooseff, PhD.

*Professor, Civil, Environmental, and Architectural Engineering & INSTAAR
Associate Dean for Research*



Engineering & Applied Science

UNIVERSITY OF COLORADO **BOULDER**

I&E Workshop Agenda

1. Introductions, Goals, and Outcome (5 Minutes)

2. I&E Vision & Ecosystem Overview Presentation (15 Minutes)

- CEAS I&E Vision, Metrics, and Current Ecosystem
- Potential Engagement Program Examples

3. Breakout Sessions (40 Minutes)

- Undergraduate Students: **Where do we invest?**
- Graduate Students & Postdocs: **Where do we invest?**
- Faculty: **Where do we invest?**
- Alumni & Industry Partners: **How do we partner?**

4. Report Out & Discussion (30 Minutes)



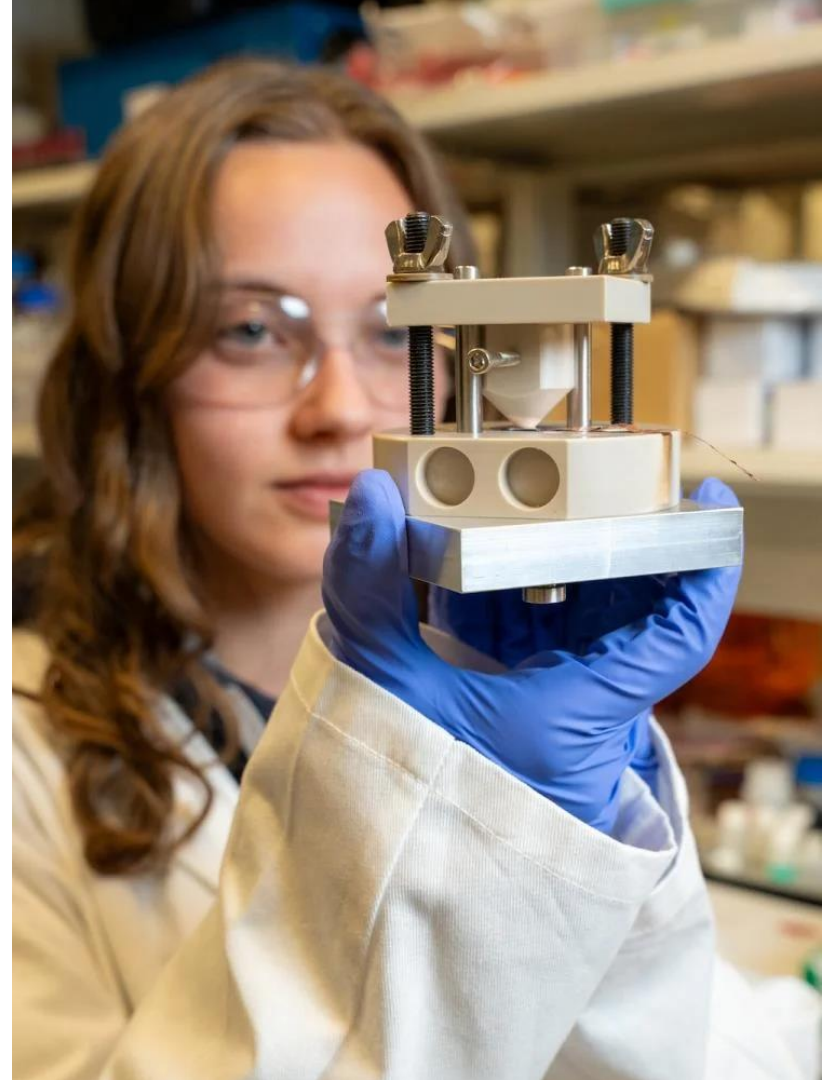
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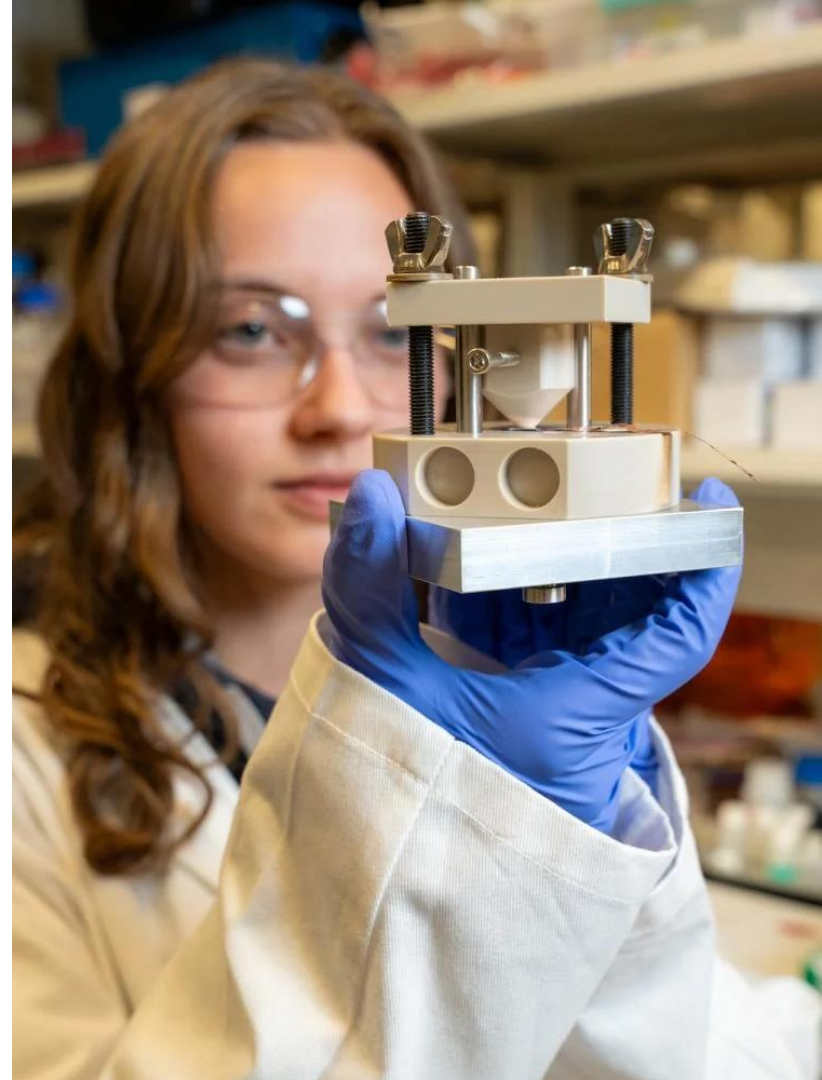
CEAS I&E Vision

Research and Innovation. CU Engineering is a comprehensive research college that generates sustainable solutions **to pressing societal challenges.**



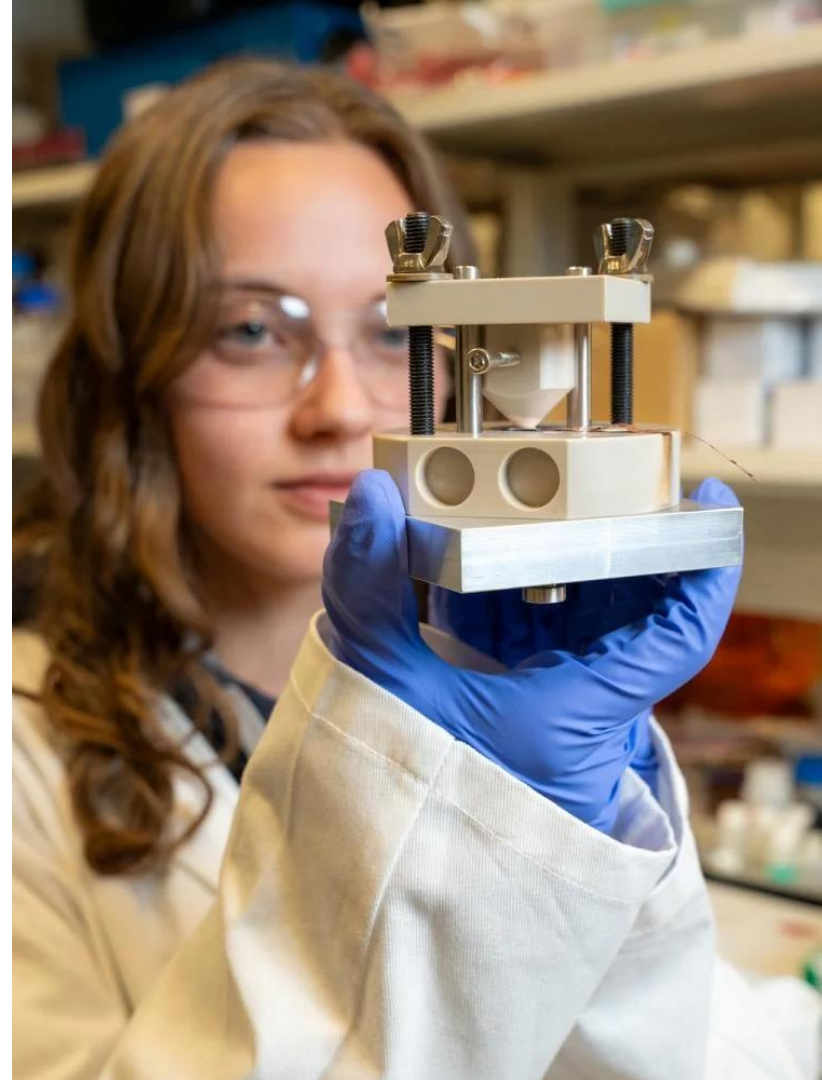
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Research and Innovation. CU Engineering is a comprehensive research college that generates sustainable solutions **to pressing societal challenges**. We are home to nationally recognized faculty and a place for all faculty to grow **throughout their academic careers**. CU Engineering is the destination of top doctoral students. We are a cultivator of research curiosity at all levels of training and education. Our world-class facilities support fundamental and applied discoveries at the research frontier. **CU Engineering is an incubator of entrepreneurs who partner with government and industry to drive our economy.**

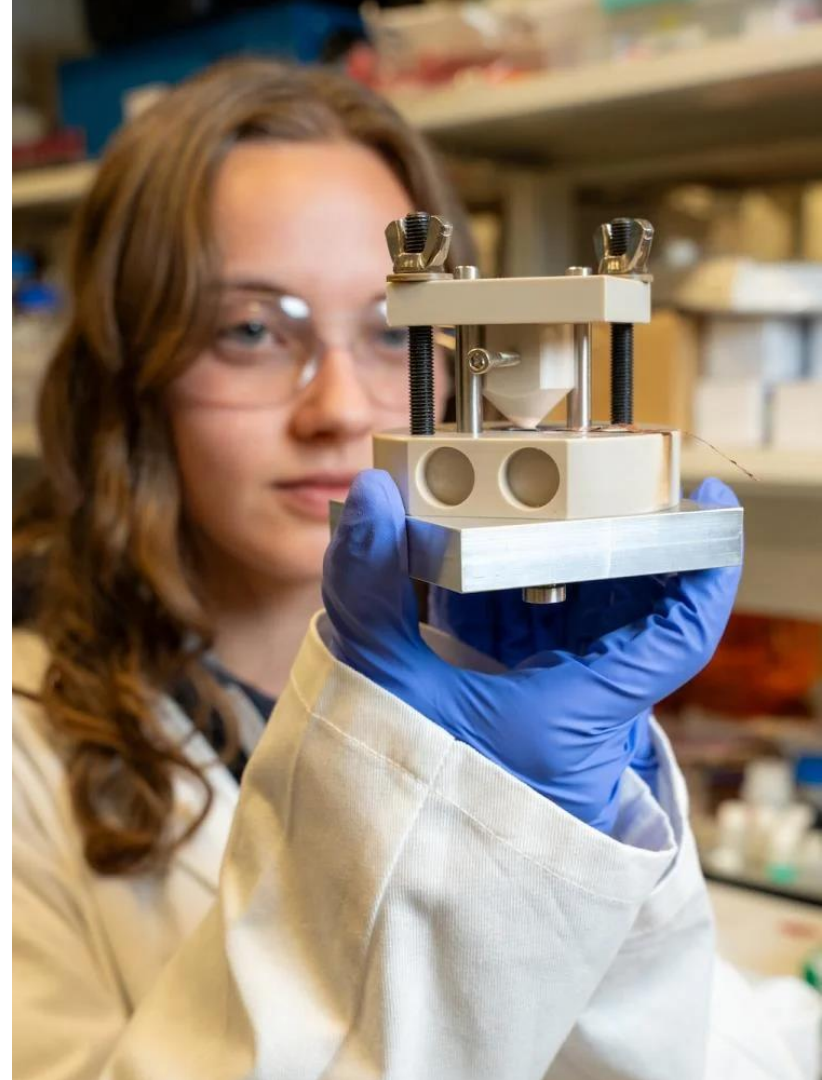


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To enable this vision, we will:

- > Invest in training and education for faculty and students to promote entrepreneurial work and the development of intellectual property (e.g., creation of new companies, patents, technology licenses, software distribution, etc.).



CU Innovation & Entrepreneurship

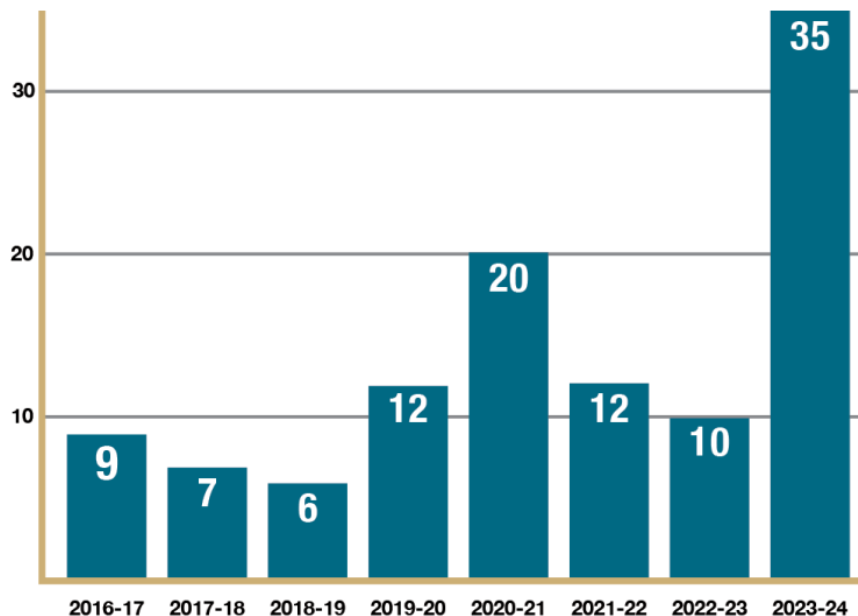
CU has emerged as a world-recognized powerhouse in innovation and entrepreneurship

FY 2023-24
\$426M Capital Raised by
Portfolio
Companies

94 License and
Option
Agreements

35 Startups Launched
through CU
Venture Partners

Startup Creation 2016-24



CU Innovation & Entrepreneurship

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Most startups in a single year

Rank	University	Fiscal Year	Startups
1	Stanford	2022	38
2	CU Boulder	2024	35
3 (tie)	Stanford	2016	32
3 (tie)	MIT	2018	32
3 (tie)	MIT	2020	32
6	University of Michigan	2020	31
7 (tie)	Columbia University	2018	29
7 (tie)	MIT	2017	29
9 (tie)	Stanford	2015	28
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Investors strongly validate startup pipeline

\$504M

Startup funding
FY23

\$426M

Startup funding
FY24

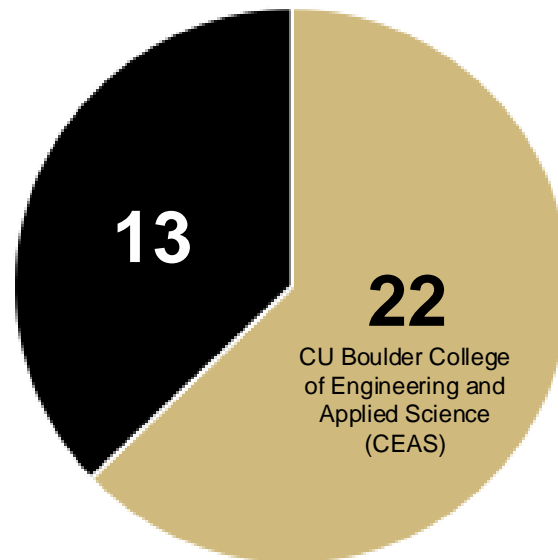
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FY 2023-24 University of Colorado Startups



CEAS I&E Ecosystem



The CEAS and CU Boulder I&E Ecosystem Provides Support for Faculty and Students from Inspiration to Impact

Undergraduate Students

- **Engineering Management (EMEN) Undergraduate Minor** in Engineering Entrepreneurship
- **CatalyzeCU**: A summer-long startup accelerator program designed for CU Boulder student- and faculty-led ventures (no CU Boulder IP):
 - 58 Teams over 10 Years (28 Still in Business; 2 Acquisitions; \$30M Raised)
 - 52% Diverse Founding Teams
- **ESCEND®** Collaborative Space
- Other campus **I&E programs**
- New **Integrated Business and Engineering (IBE) Major** (Fall 2026)

Faculty, Graduate Students, & Postdocs

- **Engineering Management (EMEN) Graduate Certificate** in Innovation & Entrepreneurship
- **Starting Blocks (NSF I-Corps™)**: Three-Week Customer Discovery Workshop
- **Research-to-Market (NSF I-Corps™)**: Four-Week Customer Discovery Program
- **Center for Translational Research (CTR)**: Proposal development support for SBIR/STTR, OEDIT, etc.
- **Lab Venture Challenge**: Competitive \$125,000 grants to CU Boulder Innovators (based on CU-Boulder IP)
- **ASCENT Deep Tech Accelerator**: Four-month accelerator program for CU Startups
- **EMBARC Deep Tech Startup Creator**: Connects (and funds) entrepreneurs to commercialize CU IP
- **Buff Venture Fund**: VC that invests in CU Boulder Startups
- **Industry-Sponsored Research**: Academic-Industry Partnerships (e.g., NSF IUCRC, NSF TIP, Direct Industry Funding)

CEAS I&E Metrics

How do we engage more members of the CEAS community in the I&E ecosystem?

39

EMEN Entrepreneurship
Minor Enrollment (2024)

1

EMEN I&E Certificate
Enrollment (2024)

6

National Academy of
Inventors (NAI Faculty)

16%

CEAS I&E Active
Faculty (2024)

58

CatalyzeCU Teams
(Since 2014)

10

I-Corps™ Starting Blocks
Participation (2024)

11

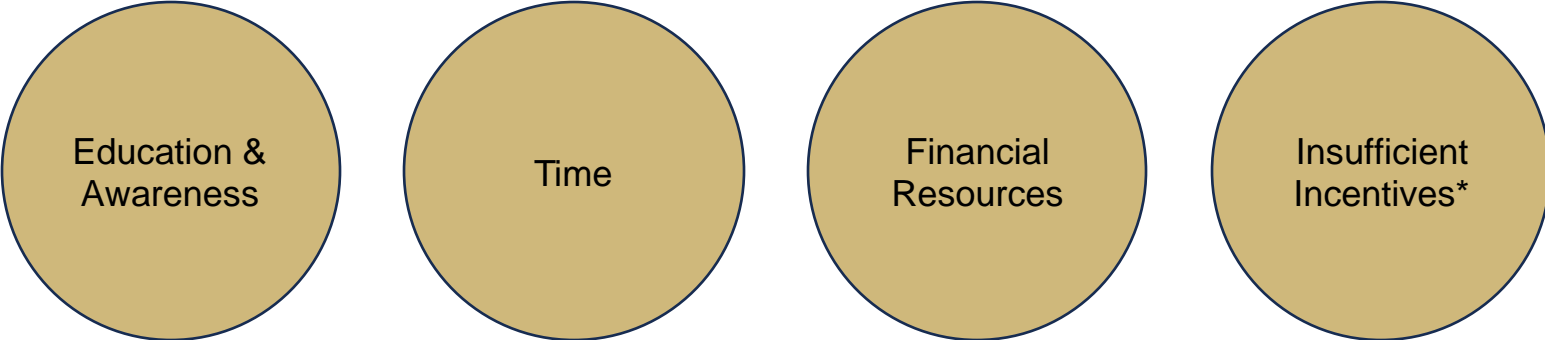
I-Corps™ R2M
Participation (2024)

3

National I-Corps™
Participation (2024)

CEAS I&E: Challenges for Engagement

Why do CEAS faculty, students, and postdocs choose not to engage?



Education &
Awareness

Time

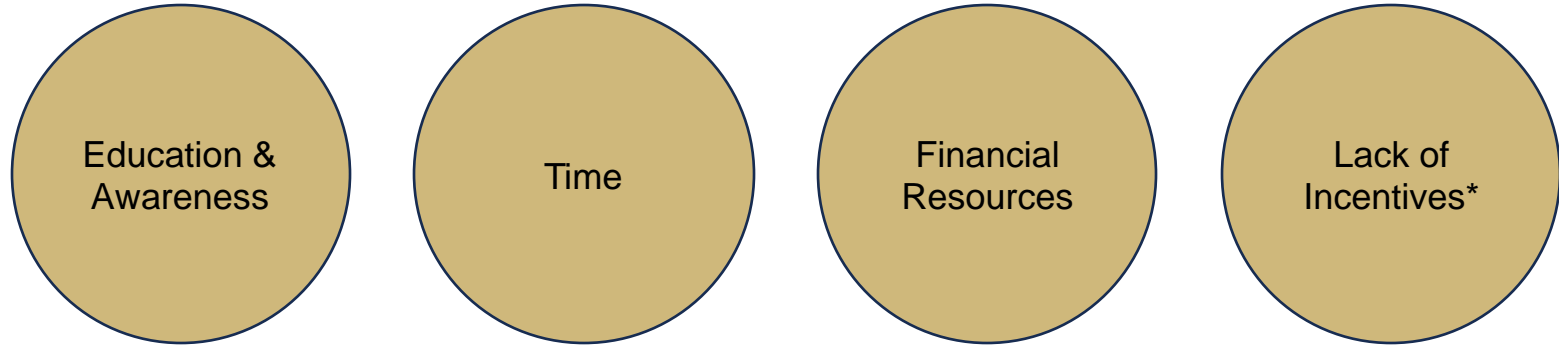
Financial
Resources

Insufficient
Incentives*

*IP Royalty Incentive Exists for Individual Inventors of CU Boulder IP

CEAS I&E: Challenges for Engagement

Why do CEAS faculty, students, and postdocs choose not to engage?



Potential Engagement Program Examples:

- Undergraduate Student Scholarships for EMEN Engineering Entrepreneurship Minor
- Graduate Student Scholarships for EMEN Innovation & Entrepreneurship Certificate
- I&E Professional Masters Program (PMP)
- Undergraduate & Graduate Student I&E Internship Program
- Faculty I&E Fellowship Program (e.g., Course Buy-Out, Summer Salary)
- Graduate Student and Postdoctoral I&E Fellowship Program (e.g., Summer Funding)
- Graduate Student and Postdoctoral Scholarships for ASCENT Deep Tech Accelerator
- Joint Industry-Academia Research and Technology Development Program

*IP Royalty Incentive Exists for Individual Inventors of CU Boulder IP

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I&E Workshop Groups

GROUP A:

CEAS Undergrad Students

Facilitator: Karen Crofton

Susie See

Jon R. Goldsmith

Mina McCullom

Dennis Pretti

Paul Rady

Robert Sawaya

GROUP B:

CEAS Grad Students & Postdocs

Facilitator: Anthony Straub

VP Rep: Bryn Rees

Bhavana Chhabra

Karen Furlani

Terry Hogan

Amy L. Kramer

GROUP C:

CEAS Faculty

Facilitator: Greg Whiting

VP Rep: Marta Zgagacz

Edward F. Crawley

Jiong Ma

Anne B. Smead

Michael Gazarik

GROUP D:

CEAS Alumni & Industry Partners

Facilitator: Mike Gooseff

Advancement Rep: Kristen

Gallagher

VP Rep: Amy Dodenhoff

John Donatelli

Jeff Gustavson

Steven Smith

Ed Ward

Daniel Ivanoff

I&E Workshop

Group A (Undergrads), B (Grad/Postdocs), and C (Faculty)

Question: How can we best incentivize the engagement of CEAS (a) undergraduate students, (b) graduate students and postdocs, or (c) faculty in the entrepreneurship education and commercialization ecosystem at CU.

Question: What are some examples of new CEAS I&E seed programs for (a) undergraduate students, (b) graduate students and postdocs, or (c) faculty that have the potential for scalability, sustainability, and long-term impact?

Group D (Alumni & Industry Partners)

I&E Workshop

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Group D (Alumni & Industry Partners)

Question: How can CEAS alumni and industry partners support and/or leverage CU Boulder's entrepreneurship education and commercialization ecosystem?

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Group D (Alumni & Industry Partners)

Question: How can CEAS alumni and industry partners support and/or leverage CU Boulder's entrepreneurship education and commercialization ecosystem?

THINK*

On Your Own

~5 Minutes

PAIR

Discuss With a Partner

~10 Minutes

SHARE**

With the Group

~25 Minutes

*Write Each Unique Idea on ONE Sticky Note

**Identify the top ~2-3 Emerging Ideas

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Report Out & Discussion

Next Steps



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Engineering & Applied Science
UNIVERSITY OF COLORADO BOULDER

Thank You!

Agenda

Elevating Our Reputation Through Innovation

- Welcome & State of the College
- Workshop: Elevating Our Reputation
- Lunch with Chancellor Schwartz
- Quantum Engineering
- Workshop: Innovation & Entrepreneurship
- Executive Session

